



Forest Stewardship Plan

FOR

Lillooet TSA

Cascades Natural Resource District

Thompson/Okanagan Forest Region

Submitted January 8th, 2018
Amendments Submitted July 26, 2018
Amendment submitted 2022

FSP Term: 5 Years (2018 – 2023)

FSP ID # 379

Commencing: August 7, 2018

A handwritten signature in blue ink, appearing to read 'Trevor Ball', is positioned above a horizontal line.

Trevor Ball, RPF

Date: July 26th, 2018

"I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work"

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1 Interpretation

1.1 Definitions

In this *FSP*, unless this *FSP* specifies otherwise:

“**Act**” means the *Forest and Range Practices Act* S.B.C. 2002, c.69;

“**Agreement**” means a licence listed in Paragraph 2.1, unless this *FSP* no longer applies to that licence;

“**Agreement Holder**” means an individual holder of a licence listed in Paragraph 2.1, or any successor or assignee of that holder of a licence, unless this *FSP* no longer applies to that holder of a licence;

“**Applicable SAR Notice**” means:

- (a) a notice issued under *FPPR* section 7(2) entitled “*NOTICE – INDICATORS OF THE AMOUNT, DISTRIBUTION AND ATTRIBUTES OF WILDLIFE HABITAT REQUIRED FOR THE SURVIVAL OF SPECIES AT RISK IN THE CASCADES FOREST DISTRICT*” dated December 30, 2004;

“**BEC**” means Biogeoclimatic Ecosystem Classification;

“**CP**” means a cutting permit;

“**Current**” means, in the context of a *FSP*, timber sale licence, *CP* or *RP*, an approved document that has not expired or been replaced;

“**Cutblock**” means an area:

- (a) in which a holder of a licence has harvested timber under a *CP* or timber sale licence; or
- (b) in which a holder of a licence is authorized to harvest but the harvesting has not occurred;
- (c) identified in a *Current FSP* as an area to which section 196(1)(a) of the *Act* applies;

“**Damaged Timber**” means timber that has been affected by insects, disease, wind, fire, or other similar agents and is in danger of being significantly reduced in value, lost, destroyed, or poses risk to adjacent timber.

“**Date of Submission**” means January 8, 2018, which is the date this *FSP* was submitted for approval;

“Development project in the governments interest” means a project undertaken by government, or authorized by government, for a purpose, including but not limited to, such as constructing or improving a utility, highway, fence, mine, recreation site or recreation area.

“Established Cutblock” means a *Cutblock* that, before the earlier of the date a *Cutblock* or road is included within a *CP* or *RP* to which this *FSP* applies or is included within a declared area under this *FSP*, has been:

- (a) harvested under a licence to which this *FSP* applies;
- (b) declared under this *FSP*;
- (c) included within a *Current CP* issued under a licence to which this *FSP* applies but which *CP* will not be subject to this *FSP*; or
- (d) identified spatially in the BC Geographic Warehouse as a *Cutblock*:
 - (i) harvested under a timber sale licence or major licence to which this *FSP* does not apply;
 - (ii) included in a *Current CP* issued under a licence to which this *FSP* does not apply or in a timber sale licence;
 - (iii) shown in another *Current FSP* as an area to which section 196(1)(a) of the *Act* applies;

“Established Road” means a road that, before the earlier of the date a *Cutblock* or road is included within a *CP* or *RP* to which this *FSP* applies or is included within a declared area under this *FSP*, has been:

- (a) constructed by a *Holder of this FSP*;
- (b) included within a *Current CP* or *RP* issued under or associated with a licence to which this *FSP* applies but to which *CP* or *RP* will not be subject to this *FSP*; or
- (c) identified in an inventory or notice provided by government as an area:
 - (i) constructed by a person other than the *Holder of this FSP*;
 - (ii) included in a *Current CP* or *RP* issued under a licence to which this *FSP* does not apply or in a timber sale licence;
 - (iii) shown in a previous Forest Development Plan pertaining to a licence to which this *FSP* does not apply as an area to which section 22(2)(b) of the Operational and Site Planning Regulation as it was at the time of its repeal applies; or

- (iv) shown in another *Current FSP* as an area to which section 196(1)(b) of the *Act* applies;

“**FDU**” means a forest development unit;

“**Forest Act**” means the *Forest Act* R.S.B.C. 1996, c.157;

“**Forested Area**” means a polygon identified in the *VRI* as contributing to the forest management land base, as indicated by the Forest Management Land base Indicator attribute. This attribute indicates whether a polygon is forested or has been forested and is capable of producing a stand of trees. Polygons classified as lakes, rock, alpine, shrub and wetland are not considered *Forested Area*.

“**FPC**” means the Forest Practices Code of British Columbia Act R.S.B.C. 1996, c. 159 and all regulations thereunder;

“**FPPR**” means the Forest Planning and Practices Regulation B.C. Reg. 14/2004;

“**FRPA**” means the *Act* and the regulations thereunder;

“**FSP**” means a forest stewardship plan;

“**Holder of this FSP**” means, for each licence specified in Paragraph 2.1, the holder of that licence as indicated in that Paragraph, or any successor or assignee of that holder; “Holder” has the same meaning; and “**Holders of this FSP**” means all of those holders of those licences or any successor or assignee to those holders;

“**Legislated Planning Date**” means:

- (a) subject to clause (b), the date 4 months before the *Date of Submission*; or
- (b) if an enactment or an objective set by government requires that a date different than the date referred to in clause (a) be applied under this *FSP*, then that different date;

“**LU**” means Landscape Unit;

“**Minister**” means the minister responsible for the *Forest Act*;

“**MFLNRORD**” means the Ministry of Forests, Lands and Natural Resource Operations and Rural Development;

“**OGMA**” means Old Growth Management Area;

“**Qualified Professional**”(QP) means a registered member in good standing with a professional association whose training, ability and experience makes the member professionally competent in the relevant area of practice;

“**Range Tenure**” means a grazing tenure held by a *Range Agreement Holder* and issued under the Range Act or Land Act. Spatial and attribute data for Range Tenures are housed in the BC Geographic Warehouse;

“**Road**” means an access structure built within 35 metres either side of a centerline location and includes the area cleared of timber for any right-of-way, borrow pit, turnout, landing or to alleviate a safety hazard;

“**RP**” means a road permit;

“**Term**” means the period specified in Paragraph 3.1;

“**THLB**” ” means Timber Harvesting Land Base as defined in the Timber Supply Review document for the Timber Supply Areas applicable to this *FSP*;

“**TSA**” means a timber supply area;

“**VRI**” means Vegetation Resource Inventory, the photo-based inventory of the BC provincial forest. *VRI* data is housed in the BC Geographic Warehouse. For the purposes of *FSP* results or strategies, *VRI* data is considered current to a point in time not less than 18 months prior to cutting authority application or amendment;

1.2 Relevant Date for Legislation and Objective References

In this *FSP*, unless this *FSP* specifies otherwise, a reference to legislation, an established objective, a notice under section 7(2) of the *FPPR*, a designation of a species to which such a notice or established objective applies, an establishment of an area referred to in section 14(3)(a) to (i) of the *FPPR* or an order made by government means that legislation, established objective, notice, designation, area or order as it was on the *Legislated Planning Date*.

1.3 Definitions from Legislation

In this *FSP*, unless this *FSP* specifies otherwise, words and phrases defined in the *FPPR*, *FRPA* or the *Forest Act* as of the *Legislated Planning Date* have the same meaning as those definitions.

1.4 Changes to Legislation

Subject to Paragraph 1.2, if legislation referred to in this *FSP* is renamed or a provision of legislation referred to in this *FSP* is renumbered, the reference in this *FSP* is to be construed as a reference to the provision as renamed or renumbered, as the case may be.

1.5 Expressions Inclusive

In this *FSP*, unless this *FSP* specifies, or the context requires, otherwise:

- (a) the singular includes the plural and the plural includes the singular;
- (b) the masculine, the feminine and the neuter are interchangeable and each includes the body corporate.

1.6 Organization

This *FSP* is divided into parts, paragraphs, subparagraphs, clauses and sub-clauses, illustrated as follows:

- 1. Part;
 - 1.1 to 1.1.1.1 Paragraph;
 - (a) Subparagraph;
 - (i) Clause;
 - (A) Sub clause;
 - (I) Section;
 - (1) Subsection,

and a reference to a subparagraph, clause, sub clause, section or subsection is to be construed as a reference to a subparagraph, clause, sub clause, section or subsection of the paragraph, subparagraph, clause or section, as the case may be, in which the reference occurs.

1.7 Headings and Information about Objectives

The headings and the provisions titled “Information about applicable objective” including the contents thereof, are for ease of reference only and are not to be construed as part of, or to serve as an aid to interpreting, this *FSP*.

1.8 Appendices Part of *FSP*

The Appendices to this *FSP* are a part of this *FSP* and any reference in this *FSP* to this *FSP* includes a reference to the Appendices.

1.9 Conditional Exemptions under sections (ss.) 12.2 to 12.5 of the *FPPR*

The following Paragraphs are included in this *FSP* for the purpose of obtaining an exemption under sections 12.2 to 12.5 of the *FPPR* from the following sections of the *FPPR*:

Paragraph in this <i>FSP</i>	Section of <i>FPPR</i> under which Exemption Provided	Sections of the <i>FPPR</i> to which Exemption Applies
5.2.1.2	12.2	35(1), 35(3), 35(5), and 36
5.2.1.3	12.2	35(4)
5.2.1.4	12.2	35(6), 35(7)
5.2.3.2	12.3	47(4) to (6), 48(3) to (5), 49(2), 49(3), 50 (1), 51(1) & (3), 52(2), 53
5.2.4.1	12.4	64(1), 65(2)
5.2.5.2 & 5.2.5.3	12.5(1)	66(1), 66(2), 66(3)
5.2.5.4	12.5(2)	67
5.2.7.2	12.32	59, 60(2) and 61 as they pertain to cumulative hydrological effects on water quality affecting human health in community watersheds

Sections of the *FPPR* identified in orange text have been adopted as a result or strategy. All other sections as listed in the *FPPR* and all other legislation continue to apply. Sections of the *FPPR* identified in black text have a unique result or strategy which deviates from the default practice requirements in the *FPPR*.

1.10 Development Project in the government’s interest

Without limiting any other provision in this *FSP*, this *FSP* does not apply to a *Development Project in the Government’s Interest*. All primary forest activities will be conducted consistent with any conditions imposed by government and may be different from the requirements of this *FSP*.

1.11 *FPPR* Section 12(7) Exemption

Upon the determination by the *Minister* that it is not practicable, given the circumstances or conditions, including *Damaged Timber*, applicable to a particular area, to specify a result or strategy consistent with an established objective, a *Holder of this FSP* is exempt from that requirement. The result or strategy in this *FSP* will not apply for that area. Any conditions imposed by the *Minister* will be followed as well as any specific alternative results or strategies found in the *FSP* relating to this kind of exemption.

2 Application

2.1 Agreements (*Act s.3(4)*)

This *FSP* applies to the following licences and Forest Development Units:

APPLICABLE <i>FSP</i>	<i>FDU</i>	TENURE	LICENCE	Associated Road Permit	Holder of Licence as of the <i>Date of Submission</i>
Aspen Planers Ltd.	A	FL	A18700	R06128	Aspen Planers Ltd. - 0866740 BC Ltd
Aspen Planers Ltd.	A	FL	A81042	R10028	Aspen Planers Ltd. - 0866740 BC Ltd
Aspen Planers Ltd.	A	FL	A81043	R10028	Aspen Planers Ltd. - 0866740 BC Ltd
Aspen Planers Ltd.	A	FL	A18701	R06129	Aspen Planers Ltd.
Aspen Planers Ltd.	A	FL	A84766		Cook's Ferry First Nation
Aspen Planers Ltd.	A	FL	A73249		Siska First Nation
Aspen Planers Ltd.	A	FL	A86951		STH Biomass Limited Partnership
Aspen Planers Ltd.	A	FL	A92028		STH Biomass Limited Partnership

3 Term

3.1 Term (*Act s.6(1)(a)*)

The term of this *FSP* is 5 years, commencing on the date specified in Paragraph 3.2 unless:

- (a) the *Holder of this FSP* elect to replace it with another approved *FSP*; or
- (b) it is extended pursuant to *FRPA*.

3.2 Commencement of Term (*Act s.6(1)(b)*)

The term of this *FSP* commences on August 7, 2018.

4 Forest Development Units

4.1 Forest Development Units (*Act s.5(1)(a)(ii)* and *FPPR s.14(1)(a)*)

The map in Appendix B to this *FSP* shows the boundary of *FDU A* under this *FSP*.

Due to administrative and operational discrepancies that are small in scale (i.e. GPS inaccuracies, map sensitivity refinement, line work updates), the outer *FDU* boundary may be extended approximately 30 metres into neighboring *TSA*s. This is to prevent timber alienation and to ensure responsible forest management.

4.2 Land Use Designations and Other Things to be Identified (*FPPR ss.14(2) and (3)*)

The maps in Appendix B to this *FSP* identify the things referred to in section 14(3) of the *FPPR* that are within the *FDU* and in effect as of the *Legislated Planning Date*. The exception to this is the area in which commercial harvesting is prohibited by another enactment, which cannot be shown completely on the maps due to the lack of availability of a dataset displaying private land boundaries. Any area that holds the status of Private Ownership according to the provincial “Integrated Cadastral Fabric – Private Ownership” dataset, as of the *Legislated Planning Date*, is excluded from the *FDU*, even if it is not shown on an Appendix B map.

5 Results or Strategies

5.1 Objectives Set by Government

5.1.1 Old Growth Order

Information about Applicable Objective

Objective	The Minister has issued an order under section 4 of the <i>Forest Practices Code of British Columbia Act</i> establishing Landscape Units and Old Growth Objectives. The objective is to contribute to the conservation of biodiversity by maintaining old forest by biogeoclimatic variant within each landscape unit according to the age of old forest and the percentage of old forest retention that is specified in the order.
Date in Effect	June 30, 2004.

Strategy

5.1.1.1 Definitions

In Paragraph 5.1.1.2 and 5.1.1.3

“**Old Forest Polygon**” means an area identified as an Old Forest Polygon as depicted by the most current consolidated Old Forest Polygon layer on the map housed by the *MFLNRORD* in accordance with the Cascades District Agreement for managing *OGMA* Consolidation Mapping, as approved by the DOIT committee members on July 15, 2013; and

“**Order**” means the Order Establishing Provincial Non-Spatial Old Growth Objectives that came into effect on June 30, 2004.

5.1.1.2 No Harvesting in Old Forest Polygons

Subject to Paragraph 5.1.1.3, a *Holder of this FSP* will not undertake timber harvesting to which this *FSP* applies within an *Old Forest Polygon*.

5.1.1.3 Alternative Strategies for these situations/circumstances

Paragraph 5.1.1.2 will apply only to the extent practicable where harvesting:

- (a) to facilitate road maintenance;
- (b) to eliminate a safety hazard if there is no other practicable option for addressing the hazard;
- (c) is less than 1.0 hectare, and less than 10% of the original *Old Forest Polygon* area; or

- (d) when:
 - (i) the harvest area exceeds the amount referred to in Subparagraph (c); and
 - (ii) on or before the harvest commencement for the *Cutblock*, a *Holder of this FSP* identifies a replacement forest polygon that:
 - (A) is of equal or greater size to the *Old Forest Polygon* area to be harvested;
 - (B) is within the same landscape unit (or adjacent to the harvested *Old Forest Polygon* in an adjacent landscape unit), biogeoclimatic zone, subzone and variant as the *Old Forest Polygon* to be harvested;
 - (C) contains forest cover that is consistent with one of the following:
 - (I) the age of old forest identified in Section 2 of the *Order*, as per the following table:

Natural Disturbance Type (NDT)	BEC Zone	Age of Old Forest
NDT1	CWH, ICH, ESSF, MH	>250 years
NDT2	CWH, CDF, ICH, ESSF	>250 years
NDT3	MS, ESSF, ICH, CWH	>140 years
NDT4	ICH, IDF, PP	>250 years

*Refer to Section 2 of the *Order* for further information;

- (II) in landscape units where it can be demonstrated that equal or better conservation benefits will result, stands less than the age of old, and preferably mature forest, may contribute to old forest retention, as per the table above; or
- (III) of equal or greater age class of the *Old Forest Polygon* to be harvested; and
- (D) is sent to the host (*MFLNRORD* staff) of the Consolidated *OGMA* map once per year.

5.2 Objectives Prescribed under section 149(1) of the Act
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5.2.1 Soils (FPPR s.5)	
Information about Applicable Objective	
Objective	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.
Date in Effect	This objective was established on the coming into force of the Forest Planning and Practices Regulation on January 31, 2004.

Result**5.2.1.1 Definitions**

In Paragraph 5.2.1.1 to 5.2.1.3:

“**Gross Cutblock Area**” means the total area of the *Cutblock*, which includes all roads, the net area to be reforested, internal reserves and non-productive areas.

“**Percent of Cutblock occupied in permanent access structures**” means the quotient of the area occupied by permanent access structures divided by the *Gross Cutblock area*, multiplied by 100.

“**Temporary Access Allowance**” means the percentage of a standard unit as determined from the following equation:

$$\text{temporary access allowance} = (12\%) - (\text{Percent of Cutblock occupied in permanent access structures, or } 7\%, \text{ whichever is less})$$

5.2.1.2 General Soil Conservation

Each *Holder of this FSP* adopts as a result or strategy for activities of that Holder to which this *FSP* applies sections 35(1), 35(3), 35(5) (*Soil Disturbance Limits*), and 36 (*Permanent Access Structure Limits*) of the *FPPR* as those sections were on the *Legislated Planning Date* of this *FSP*.

5.2.1.3 Exceeding Soil Disturbance Limits – Result replacing FPPR section 35(4)

A *Holder of this FSP* may cause soil disturbance that exceeds the limits specified in section 35(3) of the *FPPR*, as adopted as a result or strategy under this *FSP*, if that Holder is:

- (a) removing infected stumps or salvaging wind throw and the additional disturbance is the minimum necessary;
- (b) constructing a temporary access structure in an area not referred to in Subparagraph (c) and both of the following apply:

- (i) the limit set out in section 35(3) of the *FPPR*, as adopted as a result or strategy under this *FSP*, is not exceeded by more than the *Temporary Access Allowance*, for standard units not comprised of predominantly sensitive soils, and not exceeded by more than 5% for standard units with predominantly sensitive soils, excluding the area covered by a roadside work area; and
 - (ii) before the regeneration date, a sufficient amount of the area within the standards unit is rehabilitated such that the Holder is in compliance with the limits set out in section 35(3) of the *FPPR*, as adopted as a result or strategy under this *FSP*; or
- (c) constructing a temporary access structure:
- (i) within a standard unit with a net area to be reforested that is less than 5 ha;
 - (ii) within a standard unit that is not predominantly comprised of sensitive soils; and
 - (iii) before the regeneration date, a sufficient amount of the area within the standards unit is rehabilitated such that the Holder is in compliance with the limits set out in section 35(3) of the *FPPR*, as adopted as a result or strategy under this *FSP*.

5.2.1.4 Work Related to Rehabilitation - Result replacing *FPPR* section 35(6) and 35(7)

A *Holder of this FSP* who rehabilitates an area under Paragraph 5.2.1.3 or section 35(5) (*Soil Disturbance Limits*) of the *FPPR*, as adopted as a result or strategy under this *FSP*, 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;
- (c) return displaced surface soils, retrievable side-cast and berm materials; and
- (d) where erosion of exposed soil from the area would cause sediment to enter a stream, wetland, or lake, or cause a material adverse effect in relation to one or more of the subjects listed in section 149(1) of the *Act*, the Holder, unless placing debris or revegetation would not materially reduce the likelihood of erosion, must:
 - (i) place woody debris on the exposed soils; or
 - (ii) revegetate the exposed mineral soils.

5.2.2 Wildlife (FPPR s.7)	
Information about Applicable Objective	
Objective	The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient habitat in terms of amount of area, distribution of areas and attributes of those areas, for the survival of specified species, regionally important wildlife, and the winter survival of specified ungulate species, which, in the case of this <i>FSP</i> are: <ul style="list-style-type: none"> ➤ Moose; ➤ Coastal Tailed Frog; ➤ Flammulated Owl; ➤ “Great Basin” Gopher Snake; ➤ Spotted Bat; ➤ Grizzly Bear; ➤ Ungulate Winter Range (Mule Deer, Bighorn Sheep and Elk); ➤ Mountain Goat.
Date in Effect	Notices triggering the objective for the species addressed in this <i>FSP</i> were given under Section 7(2) of the Forest Planning and Practices Regulation on December 30, 2004.

5.2.2.1 Moose	
Information about the Notice	
Amount	A maximum of 88,383 ha for the Lillooet <i>TSA</i> , with no impact to the timber supply and consistent with the most recent Timber Supply Review.
Distribution	Winter range foraging habitat and cover is to be distributed proportionately within moose winter ranges, located in forest types at the elevation and on slope aspects typical of ungulate winter ranges for moose in south eastern BC according to the attributes below.
Attributes	<ul style="list-style-type: none"> • Provide security and thermal cover and manage high value moose habitat • Protect forage and shelter values in moose winter range and provide for early seral stages of shrubs • Within moose winter ranges provide and maintain adequate browse of palatable species (e.g. willow, birch, aspen, red-osier dogwood) approaching a natural distribution

Strategy

5.2.2.1.1 Definitions

In Paragraphs 5.2.2.1.1 and 5.2.2.1.2:

“**Extended Use Roads**” means roads developed under the authority of a Road Permit as it relates to this *FSP*;

“**Moose Forage**” means palatable species of plants that are a food source for moose, including willow (*Salix spp.*), aspen (*Populus spp.*), birch (*Betula spp.*) and red-osier dogwood (*Cornus stolonifera*);

“**Draft Moose Management Units**” means areas identified as key moose habitat for *Moose Forage* and *Thermal Cover* (including the areas surrounding ponds/lakes/meadows/swamps, wetlands, and non-productive brush areas (that consist of brush and/or burned areas)) that occur within *Moose Winter Range*. Note these are draft and may be replaceable or may be unsuitable for reason with a rationale in the Site Plan;

“**Moose Winter Range**” means habitat as described in the *Ungulate Winter Range Notice* and shown on the map in Appendix B;

“**Thermal Cover**” means mature coniferous leading stands with a height of 15m (where they exist) and moderate or high crown closure used by Moose to regulate body temperature. *Thermal Cover* is assumed to also provide adequate security cover;

“**Total Habitat Required**” means the total amount of habitat specified in the *Ungulate Winter Range Notice* for this species;

“**Ungulate Winter Range Notice**” means the Notice for the Lillooet Timber Supply Area dated December 30, 2004 and issued to the *Holder of this FSP* by the *Date of Submission* pursuant to section 7(2) of the *FPPR*;

“**Visual Screening**” means vegetation equal to or greater than 4m in height and/or topography providing visual obstruction that makes it difficult to see into adjacent areas from the roadbed. *Visual Screening* is assumed to also provide adequate security cover.

5.2.2.1.2 Lillooet TSA Moose Strategy

Within an area in the *FDU* that is subject to the *Ungulate Winter Range Notice*, when a *Holder of this FSP* conducts primary forest activities, a Holder will comply with the objectives set by government for the winter survival of ungulates as described in the *Ungulate Winter Range Notice*. Specifically, in *Moose Winter Range*, a *Holder of this FSP* will:

- (a) manage security cover by retaining equal to or greater than 67% of the forested area in each **Draft Moose Management Unit** equal to or greater than 5 metres in height, subject to not preventing harvest to recover timber damaged by fire, insects, or other similar events;
- (b) manage **Thermal Cover** by ensuring wildlife tree patches are placed strategically to meet attributes outlined in the definition above, adjacent to **Moose Forage** and/or security cover, where practicable;
- (c) where present, retain **Visual Screening** between **Extended Use Roads** and **Moose Management Units** for those **Extended Use Roads** that are located within 100 metres of a **Moose Management Unit**, unless the safe use of the road warrants otherwise;
- (d) retain or promote **Moose Forage** during silviculture activities (brushing, weeding and stand tending) in a manner devised to both retain **Moose Forage** and achieve free growing status (i.e. only cut brush within 1m of target number of crop trees); and
- (e) consider **Moose Management Units** when establishing **Wildlife Tree Retention**.

5.2.2.2 Coastal Tailed Frog	
Information about the Notice	
Amount	2793 ha for the Cascades Forest District, not exceeding an impact to the mature timber harvesting land base of 1187 ha.
Distribution	<ol style="list-style-type: none"> The amount of habitat referenced above must be distributed to provide <ul style="list-style-type: none"> areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Coastal Tailed Frog in the <i>Accounts and Measures for Managing Identified Wildlife</i> (Identified Wildlife Management Strategy Version 2004). The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Coastal Tailed Frog in the <i>Accounts and Measures for Managing Identified Wildlife</i> in the <i>Identified Wildlife Management Strategy</i> Version 2004.
Attributes	<p><u>Size:</u> Approximately 20 ha (depending on number and length of suitable stream reaches). Larger areas may be appropriate in watersheds with unstable terrain (class 4-5). Areas should include at least two streams or stream reaches (ie., S4 to S6) with previous detections of tailed frogs. The area should include a 30 m core area buffered by a 20 m management zone on both sides of occupied stream reaches.</p> <p><u>Habitat Attributes:</u> Tailed frog aquatic habitats are generally characterized by year round flow, non-fish bearing (S4-S6), intermediate gradient (>2.5%), coarse substrates (>6.4 cm), stable channel beds and forest cover (generally associated with structural stage S6 or S7). Retain 100% forest cover within the core area. Within the management zone maintain 70% basal area with appropriate structure to maintain riparian forest, important structural elements (e.g. coarse woody debris), water quality and temperature (5-18 degrees), and naturally dispersed water flows.</p> <p><u>Elevation:</u> From sea level to 2140 m.</p>

Result

5.2.2.2.1 Definitions

In Paragraphs 5.2.2.2.1 & 5.2.2.2.2:

“**Core Area**” means the area within 30 metres (slope distance) on each side of the stream at an **Occurrence Site** as measured from the edge of the stream channel bank and perpendicular to the stream axis;

“**Management Area**” means the portion of the **Tailed Frog Habitat** outside of the **Core Area**;

“**Occurrence Site**” means the location on a stream having an occurrence of coastal tailed frogs as identified:

- in the Applicable **FPPR** Section 7 Notice;

- (b) by the BC Conservation Data Centre not less than 12 months prior to cutting authority application or amendment; or
- (c) in a wildlife habitat area proposed by the ministry responsible for wildlife not less than 12 months prior to cutting authority application or amendment, and that is outside of an **Established Cutblock** or **Established Road**; and
- (d) in locations provided to the **Holder of this FSP** by a **MFLNRORD QP** prior to planning and layout of a **Cutblock** or road.

“**Tailed Frog Habitat**” means the area within 100 metres (slope distance) upstream and downstream of an **Occurrence Site**, and 50 metres (slope distance) on each side of the stream as measured from the edge of the stream channel bank and perpendicular to the stream axis.

“**Tailed Frog Habitat Crossing Assessment**” means an assessment completed by a **Qualified Professional** that evaluates the potential impacts to **Tailed Frog Habitat** at a proposed road crossing site and provides recommendations regarding crossing width, crossing structure type, sediment control measures and access control.

5.2.2.2.2 Limitations on Harvesting and Road Construction

A **Holder of this FSP** harvesting a **Cutblock** to which this **FSP** applies will:

- (a) within a **Core Area**
 - (i) minimize roads and/or stream crossings by not constructing a new road unless required for a stream crossing and no practicable alternative road location exists; and
 - (ii) not harvest timber unless the harvesting is for safety reasons;
- (b) within a **Management Area**
 - (i) not cause there to be less than 70% of the pre-harvest basal area remaining at the completion of harvest;
- (c) not employ the use of pesticides in **Tailed Frog Habitat**;
- (d) locate the **Wildlife Tree Retention** that pertains to the **Cutblock** in a **Core Area** or **Management Area** prior to harvesting a **Cutblock**, where practicable and consistent with Paragraph 5.2.5 (Wildlife and Biodiversity – Stand Level); and
- (e) where a stream crossing is required, obtain a **Tailed Frog Habitat Crossing Assessment** prior to constructing a new road within **Tailed Frog Habitat**, and construct the crossing in a manner consistent with the recommendations of the assessment and in accordance with the Water Sustainability Regulation ss. 43 & 44.

5.2.2.3 Flammulated Owl	
Information about the Notice	
Amount	4050 ha for the Cascades Forest District, not exceeding an impact to the mature timber harvesting land base of 3150 ha.
Distribution	<p>1. The amount of habitat referenced above must be distributed to provide</p> <ul style="list-style-type: none"> • areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Flammulated Owl in the <i>Accounts and Measures for Managing Identified Wildlife</i> (Identified Wildlife Management Strategy Version 2004). <p>2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Flammulated Owl in the <i>Accounts and Measures for Managing Identified Wildlife</i> in the Identified Wildlife Management Strategy Version 2004.</p>
Attributes	<p><u>Size:</u> Between 10 and 30 ha, based on estimated home range size using habitat suitability information. Should include a core area of 7-12 ha that includes key foraging, the nest site and security habitats and ~100 m management zone. Consider a WTP >4 ha where salvage does not occur and where as many suitable wildlife trees as possible are maintained or recruited over the long term (>80 yrs.).</p> <p><u>Tree Features</u> Visible woodpecker or natural cavities; understory brush or thickets, snags with cavities.</p> <p><u>Tree Species</u> Most commonly, Ponderosa pine; less commonly, Douglas-fir, trembling aspen or western larch.</p> <p><u>Nesting Habitat Features</u> Includes multi-age class stands with multiple canopy layers, including a veteran tree component for nesting or roosting. Large diameter ponderosa pine for nest trees may be critical to sustain local populations. Nest in Pileated Woodpecker and Northern Flicker cavities and it is therefore important to consider nesting requirement of these species as well. Nests are often located within and/or near foraging habitat.</p> <p><u>Foraging Habitat Features</u> Often forages within 300 m of nest during breeding season. Habitat is characterized by small forest openings (<1 ha) adjacent to Douglas-fir thickets and/or large veteran Douglas-firs or ponderosa pines with heavy branching for security. Understory structure may be important in forest openings for foraging habitat.</p> <p><u>Tree Size</u> 64-77 cm. In the absence of trees with the preferred Dbh, trees >35 cm or largest available should be retained for recruitment.</p> <p><u>Wildlife Tree Class</u> 1, 3-7</p> <p><u>Structural Stage</u> 6 (mature forest), 7 (old forest).</p> <p><u>Elevation:</u> 400-1375 m.</p>

Strategy:

The strategy for Flammulated Owl is the strategy for Old Growth in Paragraphs 5.1.1.1, 5.1.1.2, 5.1.1.3 of this **FSP**.

Result

5.2.2.4.1 Definitions

In Paragraphs 5.2.2.4.1 & 5.2.2.4.2:

“**Core Area**” means an area within 200 metres (slope distance) of an *Occurrence Site*;

“**Occurrence Site**” means the location of an occurrence of Great Basin Gopher Snake, as identified:

- (a) by the BC Conservation Data Centre not less than 12 months prior to cutting authority application or amendment; or
- (b) in a Wildlife Habitat Area proposed by the ministry responsible for Environment not less than 12 months prior to cutting authority application or amendment, that is located outside an *Established Cutblock* or *Established Road*; or
- (c) in locations provided to the *Holder of this FSP* by a *MFLNRORD QP* prior to planning and layout of a *Cutblock* or road.

“**Initial Silviculture Activities**” means the latter of site preparation, initial tree planting, or debris pile burning.

5.2.2.4.2 Limitations on Harvesting and Road Construction

A *Holder of this FSP* will within a *Core Area*:

- (a) not construct a new road unless no practicable alternative location exists;
- (b) not harvest timber unless required for safety reasons;
- (c) not employ the use of pesticides; and
- (d) when a new road is constructed within a *Core Area*, where is no other practicable option, a *Holder of the FSP* will:
 - (i) not construct a road between April and October of any given year;
 - (ii) not remove or disturb rock outcrops, talus slopes or concentrations of boulders;
 - (iii) restrict access to newly constructed temporary road within a *Core Area* to the extent that it is non-passable to a standard four-wheel drive pickup truck within one year of the completion of the *Initial Silviculture Activities* on the *Cutblock* accessed by the road; and

- (iv) where the road is a permanent road, accessing timber beyond the *Core Area*, seek advice from *MFLNRORD* staff on specific management strategies determined to be necessary, and implement those strategies.

5.2.2.5 Spotted Bat	
Information about the Notice	
Amount	16 ha for the Cascades Forest District, not exceeding an impact to the mature timber harvesting land base of 4 ha.
Distribution	<p>1. The amount of habitat referenced above must be distributed to provide</p> <ul style="list-style-type: none"> • areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Spotted Bat in the <i>Accounts and Measures for Managing Identified Wildlife</i> (Identified Wildlife Management Strategy Version 2004). <p>2. The areas described above are located within the biogeoclimatic units and preferred elevations identified in the species account for Spotted Bat in the <i>Accounts and Measures for Managing Identified Wildlife</i> in the Identified Wildlife Management Strategy Version 2004.</p>
Attributes	<p><u>Size</u> 5-10 ha; the area should be related to the size of the roost feature (i.e., cliff face) and may in some cases be larger than 10 ha. The core of the area will consist of the roost cliff and talus base; the management zone should be 100 m around the roost cliff.</p> <p><u>Roosting Habitat Features</u> Steep, high cliffs within a few kilometers of suitable feeding areas (riparian areas, marshes, fields, grasslands, and open forest) and close to a source of water are important as day roosts. These sites are typically located in crevices in steep, tall cliffs.</p> <p><u>Foraging Habitat Features</u> Grassland, parkland, forest, wetland, and riparian areas. Foraging corridors, such as lake edges, may also be used.</p> <p><u>Structural Stage Elevation</u> There are no structural stage preferences known for this species, as they roost in large cliffs and often forage well above the canopy. Variable. Typically between 300 to 900 m, although most occurrences are below 500 m. In other parts of its range, it has been found from sea level to 3300 m.</p>

Result

5.2.2.5.1 Definitions

In Paragraphs 5.2.2.5.1 & 5.2.2.5.2:

“**Core Area**” means an area not less than 5 hectares, incorporating an *Occurrence Site* and any cliff feature or talus slope within 150 metres (slope distance) of the *Occurrence Site*;

“**Management Area**” means the area located 100 metres (slope distance) from the edge of a *Core Area*; and

“**Occurrence Site**” means the mapped location of Spotted Bat where cliff features or talus slope is also present, and is identified:

- (a) in the *Applicable SAR Notice*;
- (b) by the BC Conservation Data Centre not less than 12 months prior to cutting authority application or amendment; or
- (c) in a Wildlife Habitat Area proposed by the ministry responsible for Environment not less than 12 months prior to cutting authority application or amendment, that is located outside of an *Established Cutblock* or *Established Road*; or
- (d) in locations provided to the *Holder of this FSP* by a *MFLNRORD QP* prior to planning and layout of a *Cutblock* or road.

5.2.2.5.2 Limitations on Harvesting and Road Construction

A *Holder of this FSP* harvesting a *Cutblock* to which this *FSP* applies will:

- (a) not harvest within a *Core Area* unless required for safety reasons;
- (b) employ a partial cut harvest method in the *Management Area*, retaining at least 50% of the pre-harvest basal area at the completion of harvest;
- (c) not construct a road in a *Core Area* or a *Management Area* unless there is no practicable alternative road location;
- (d) not remove rock or talus from the *Core Area* or *Management Area*;
- (e) not carry out forestry practices from one hour after sunset and one hour before sun rise between March and October in a *Management Area*; and
- (f) not use pesticides within the *Core Area* or *Management Area*.

5.2.2.6 — Grizzly Bear (<i>Ursus arctos</i>). —																																																								
Information about the Notice																																																								
Amount	Within the Lillooet timber supply area an amount of area equal to a mature THLB impact of 8000 ha.																																																							
Distribution	<p>The amount of habitat referenced above must be distributed to provide areas of suitable habitat of the size, spatial distribution and connectivity identified in the species account for Grizzly Bear in the <i>Accounts and Measures for Managing Identified Wildlife (Identified Wildlife Management Strategy Version 2004)</i>.</p> <p>The areas described above are located within biogeoclimatic units and preferred elevations identified in the species account for Grizzly Bear in the <i>Accounts and Measures for Managing Identified Wildlife</i> in the Identified Wildlife Management Strategy Version 2004 and also considering the distribution of riparian and berry producing sites:</p> <p>Distribution of Riparian Habitats in the North Cascades Grizzly Bear Population Unit.</p> <table border="1"> <thead> <tr> <th>Biogeoclimatic Subzone Variants</th> <th>Site Series</th> </tr> </thead> <tbody> <tr><td>CWHdm</td><td>07, 12, 14, 15</td></tr> <tr><td>CWHds1</td><td>07, 12</td></tr> <tr><td>CWHms1</td><td>06, 11</td></tr> <tr><td>CWHvm2</td><td>07, 08, 11</td></tr> <tr><td>CWHxm1</td><td>07, 12, 14, 15</td></tr> <tr><td>ESSFde2</td><td>08</td></tr> <tr><td>ESSFmw</td><td>08</td></tr> <tr><td>ESSFxe</td><td>08</td></tr> <tr><td>IDFdk1</td><td>06</td></tr> <tr><td>IDFdk2</td><td>06, 07</td></tr> <tr><td>IDFww</td><td>06, 07</td></tr> <tr><td>IDFxb2</td><td>08</td></tr> <tr><td>MHmm2</td><td>06, 07, 09</td></tr> <tr><td>MSdm2</td><td>07</td></tr> <tr><td>MSxk</td><td>09</td></tr> <tr><td>PPxb2</td><td>07</td></tr> </tbody> </table> <p>Distribution of High and Moderate Berry (principally <i>Vaccinium</i>) Producing Sites</p> <table border="1"> <thead> <tr> <th>Biogeoclimatic Subzone Variants</th> <th>High Berry Productivity Site Series</th> <th>Moderate Berry Productivity Site Series</th> </tr> </thead> <tbody> <tr><td>CWHdm</td><td>12</td><td></td></tr> <tr><td>CWHms1</td><td>02, 01, 05, 06, 11</td><td>03</td></tr> <tr><td>CWHvm2</td><td>03, 01, 05, 06, 07, 09, 10, 11</td><td>02, 04</td></tr> <tr><td>ESSFde2</td><td></td><td>05</td></tr> <tr><td>ESSFmw</td><td>04, 05</td><td>01, 02, 06, 07, 08</td></tr> <tr><td>MHmm2</td><td>02, 01, 04, 05, 06, 07, 08</td><td>03, 09</td></tr> </tbody> </table>	Biogeoclimatic Subzone Variants	Site Series	CWHdm	07, 12, 14, 15	CWHds1	07, 12	CWHms1	06, 11	CWHvm2	07, 08, 11	CWHxm1	07, 12, 14, 15	ESSFde2	08	ESSFmw	08	ESSFxe	08	IDFdk1	06	IDFdk2	06, 07	IDFww	06, 07	IDFxb2	08	MHmm2	06, 07, 09	MSdm2	07	MSxk	09	PPxb2	07	Biogeoclimatic Subzone Variants	High Berry Productivity Site Series	Moderate Berry Productivity Site Series	CWHdm	12		CWHms1	02, 01, 05, 06, 11	03	CWHvm2	03, 01, 05, 06, 07, 09, 10, 11	02, 04	ESSFde2		05	ESSFmw	04, 05	01, 02, 06, 07, 08	MHmm2	02, 01, 04, 05, 06, 07, 08	03, 09
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Attributes	Important Grizzly Bear Habitat Types and their Season of Use in the North Cascades Grizzly Bear Population Unit:			
	Habitat Types	Season of Use		
		Spring[*]	Summer	Fall^{**}
	Riparian areas, including wetlands	X	X	X
	Avalanche tracks and run-out zones	X	X	X
	<i>Hedysarum</i> and glacier lily complexes	X	X	
	Sub-alpine parkland meadows		X	X
Berry producing sites		X	X	

Strategy

5.2.2.6.1 — Limitations on Primary Forest Activities

A Holder of this FSP will recognize and comply with the Proposed General Wildlife Measures for Grizzly Bear Specified Area in Lillooet TSA, as included in the letter to licensees dated November 3, 2017 from *MFLNRORD* with the exception of the stocking standards presented therein; stocking standards contained in section 6.0, appendix A of this FSP will apply until such time the Government Action Regulation Order (GAR) is approved and the Thompson Okanagan Stocking Standards Working Group approves replacement stocking standards for this order. The Proposed General Wildlife Measures can be located at:

ftp://ftp.geobe.gov.bc.ca/publish/Regional/Kamloops/WHA/lillooet_Grizzly/

Upon approval of the GAR Order for Grizzly Bears for the Lillooet TSA, the *Holders of this FSP* will be exempted from the requirement to prepare a result or strategy for Grizzly Bears, and the GAR Order will replace this strategy.

5.2.2.7 Ungulate Winter Range - Mule deer (<i>Odocoileus hemionus</i>), Bighorn sheep (<i>Ovis canadensis</i>) and Elk (<i>Cervus canadensis</i>).	
Information about the Notice	
Amount	A maximum of 232,155 ha within the Lillooet <i>TSA</i> , with a net impact equivalent to 6000 ha of timber harvesting land base at 100% forest cover retention.
Distribution	Winter ranges are to be located in forested habitats within appropriate slopes, aspects and elevations typical of winter ranges in south central BC according to the attributes below. Winter range foraging habitat, security cover and snow interception cover is to be located by planning cells to provide a spatial distribution of attributes throughout the winter ranges.
Attributes	<ul style="list-style-type: none"> • Maintain adequate snow interception cover, typically comprised of Douglas fir stands with a minimum age class 8 (140 years) with 46% or greater canopy closure. • In the moderate snowpack zone (IDFdk1, IDFdk2, IDFdk3, IDFunk, MS), maintain 33% of the forested area within the capable deer winter range in stands that are suitable snow interception cover. • In the shallow snowpack zone (PP, and IDFxh2), manage 15% of the forested area within the planning cell in stands that are suitable for snow interception cover.

5.2.2.7.1 Definitions

In Paragraphs 5.2.2.7.1 and 5.2.2.7.2 :

“**Moderate Snowpack Zone**” means IDFdk1, IDFdk2, IDFdk3, IDFdk5, IDFww2, ESSFmw, IDFunk, IDF dc, IDF ww, IDF ww1, and MS Biogeoclimatic zones;

“**Non-contributing Land Base**” means all land ownerships not contributing to timber supply area harvests as described in the Timber Supply Review 3 (TSR3) for the Lillooet Timber Supply Area (March 2004);

“**Shallow Snowpack Zone**” means PP, BGxh2, BGxh3, BGxw2, IDFxh2, IDFxh2a, IDFxh3, ~~and~~ IDFfw, and IDF xc Biogeoclimatic zones;

“**Snow Interception Cover**” means mature coniferous stands ~~typically~~ comprised of > 70% Douglas fir (*Pseudotsuga menziesii*) with a minimum age class 8 (140 years) 7 (121 years) and for the Moderate Snowpack Zone, a crown closure equal to or greater than 4 (36%+) and for the Shallow Snowpack Zone, a crown closure equal to or greater than 2 (16%+) (as identified in the forest cover attributes at the time of cutting permit planning). **Snow Interception Cover** is assumed to also provide thermal cover;

“**THLB**” means the timber harvesting landbase as defined by the Timber Supply Review 3 (TSR3) for the Lillooet Timber Supply Area (March 2004);

~~“Total Habitat Required” means the total amount specified in the *Ungulate Winter Range Notice* for this species;~~

~~“Total LU Area” includes only forested areas and is net of roads, right of ways, lakes, ponds, open range, etc. For analysis the total area is net of the non-contributing land base as outlined in TSR 3. This is used to calculate the percentage of Snow Interception Cover required per LU.~~

~~“Total Timber Harvesting Landbase Impact” means the maximum amount of impact on the THLB specified in the *Ungulate Winter Range Notice* for this species;~~

“Ungulate Winter Range” means habitat as described in the *Ungulate Winter Range Notice*. As stated in the *Ungulate Winter Range Notice*, it is intended that by managing for this habitat the requirements of Mule Deer, Elk and Bighorn sheep will be addressed;

“Ungulate Winter Range Notice” means the Notice for the Lillooet Timber Supply Area dated December 30, 2004 and issued to the *Holder of this FSP* by the *Date of Submission* pursuant to section 7(2) of the *FPPR*.

5.2.2.7.2 Approach to Harvesting and Roads

Within an area in the *FDU* that is subject to the *Ungulate Winter Range Notice*, if the *Holder of this FSP* conducts primary forest activities, a Holder will comply with the objectives set by government for the winter survival of ungulates as described in the *Ungulate Winter Range Notice*. Specifically, in *Ungulate Winter Range*, a *Holder of this FSP* will use Landscape Units, ~~until such time that planning cells are developed for all of the UWR, as a proxy for planning cells, to guide the development of *Ungulate Winter Range* planning cells. Unless harvesting to recover timber damaged by fire, insects, or other similar events,~~ within each *LU* (planning cell), the Holder will retain a total of:

- (a) 33% *Snow Interception Cover* in the *Moderate Snowpack Zone*; and
- (b) 15% of the *Snow Interception Cover* in the *Shallow Snowpack Zone*.

5.2.2.8 Mountain Goat (<i>Oreamnos americanus</i>)	
Information about the Notice	
Amount	A maximum of 108,823 ha within the Lillooet <i>TSA</i> , with no impact to the timber supply and consistent with the most recent Timber Supply Review.
Distribution	Mountain Goat winter range located in habitat types at the elevation and on slope aspects typical of ungulate winter ranges for Mountain Goat in the Lillooet <i>TSA</i> according to the attributes below.
Attributes	<ol style="list-style-type: none"> 1. Escape terrain <ul style="list-style-type: none"> • Rock outcrops or cliffs that provide good visibility for vigilant goats and are sufficiently rugged to be generally inaccessible to predators • Slopes >30° and <60° 2. Accessible and abundant forage in close proximity to escape terrain Areas of low snow-loading that allow goats to access available forage: <ul style="list-style-type: none"> • Forest canopies with high snow interception characteristics in coastal or transition areas, and/or • Warm, southerly aspects with high melt and snow-shedding characteristics in coastal and transition areas, and/or high-exposure, windswept slopes in transition areas • Elevations <1200 m on the south coast, lower in northern coastal areas, no elevation preferences in transition areas • Areas that provide high quality forage, e.g., rooted forage versus litterfall 3. Evidence of winter use by mountain goats or use by mountain goats in nearby areas 4. Maintain thermal and security cover by ensuring that not more than 33% of the forested habitat within 200 m of escape terrain is in early seral (<40 years) over one rotation and at least 50% basal area of mature and old stems are retained at all times. 5. Maintain snow interception and thermal cover: Douglas-fir (<i>Pseudotsuga menziesii</i>) dominated coniferous stands at least 12 m in height with large, well-developed crowns and a canopy closure exceeding 70%.

5.2.2.8.1 Definitions

In Paragraphs 5.2.2.8.1 to 5.2.2.8.2:

“**Escape Terrain**” means rock outcrops or cliffs with slopes >58% and <174% (>30° and <60°) identified within *Mountain Goat Winter Range*;

“**Existing Reserves**” means *OGMAs*, *Wildlife Tree Retention* or other reserves established to protect additional resource values;

“**Inoperable Areas**” means those areas identified spatially by forest cover data as being not operationally feasible. Examples of *Inoperable Areas* include low productivity sites and steep inaccessible terrain;

“**Moderate or Late Seral**” means greater than 40 years of age or greater than 10.5 metres in height;

“**Mountain Goat Winter Range**” means habitat within or adjacent to areas identified as Mountain Goat Winter Range as described in the *Ungulate Winter Range Notice* and shown on the map in Appendix B;

“**Snow Interception Cover**” means mature coniferous forest with preference given to Douglas-fir (*Pseudotsuga menziesii*) leading stands equal to or greater than 12m in height with a crown closure class equal to or greater than 7. *Snow Interception Cover* is assumed to also provide adequate security cover and thermal cover;

“**Total Habitat Required**” means the total amount of habitat specified in the *Ungulate Winter Range Notice* for this species;

“**Ungulate Winter Range Notice**” means the notice for the Lillooet Timber Supply Area dated December 30, 2004 and issued to the *Holder of this FSP* by the *Date of Submission* pursuant to section 7(2) of the *FPPR*.

5.2.2.8.2 Approach to Harvesting and Roads

Within an area in the *FDU* that is subject to the *Ungulate Winter Range Notice*, if a *Holder of this FSP* conducts primary forest activities, a Holder will comply with the objectives set by government for the winter survival of ungulates as described in the *Ungulate Winter Range Notice*. Specifically, in *Mountain Goat Winter Range*, a *Holder of this FSP* will:

- (a) within 200 metres of *Escape Terrain*, utilize *Existing Reserves* and *Inoperable Areas* to retain equal to or greater than 67% of the forested area in *Moderate or Late Seral* and retain equal to or greater than 50% basal area of *Snow Interception Cover*; and
- (b) in areas currently occupied by Mountain Goats for winter use within *Mountain Goat Winter Range* refer to the *Ungulate Winter Range Notice* and/or other pertinent information for guidance during the development and implementation of strategies to conserve sufficient habitat for this species.

5.2.3 Water, Fish, Wildlife and Biodiversity within Riparian Management Areas (FPPR ss.8 and 12(3))	
Information about Applicable Objective	
Objective	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.
Date in Effect	This objective was established on the coming into force of the Forest Planning and Practices Regulation on January 31, 2004.

Result and Strategy

5.2.3.1 Definitions

In Paragraphs 5.2.3.1 to 5.2.3.6:

“**RMZ Affected Area**” means the area of Riparian Management Zone (RMZ) contained within either:

- (a) each *Cutblock* to which this *FSP* applies; or
- ~~(b)~~(a) a *Wildlife Tree Retention Area* associated with that *Cutblock* as described under Paragraph 5.2.5.2 or 5.2.5.3.

“**RMZ Retained Basal Area Equivalency**” means, for a RMZ that has been partial cut, the proportion of RMZ tree basal area retained that is equivalent to RMZ area, determined from the following equation:

$$\text{Area} = (\text{proportion of RMZ basal area retained at completion of harvest}) \times (\text{harvested RMZ area})$$

“**RMZ Retention**” means the treed proportion of the *RMZ Affected Area* retained at the completion of harvest based on a combination of RMZ area reserved from harvest and *RMZ Retained Basal Area Equivalency*, determined from the following equation:

$$\% = \frac{(\text{RMZ area reserved from harvest}) + (\text{RMZ Retained Basal Area Equivalency})}{\text{RMZ Affected Area}} \times 100$$

“**Sanitation Treatment**” means the removal of stems to control or dispose of insects, diseases, animals or abiotic factors so as to mitigate risk to forest health;

5.2.3.2 General Conservation of Values within Riparian Areas

Each *Holder of this FSP* adopts as a result or strategy for activities of that Holder to which this *FSP* applies sections 47(4) to (6) (*Stream Riparian Classes*), 48(3) to (5) (*Wetland Riparian Classes*), 49(2), 49(3) (*Lake Riparian Classes*), 50(1) (*Restrictions in a Riparian management area*), 51(1) & (3) (*Restrictions in a Riparian Reserve Zone*), 52(2) (*Restrictions in a Riparian Management Zone*) and 53 (*Temperature Sensitive Streams*) of the *FPPR* as those sections were on the *Legislated Planning Date* of this *FSP*.

5.2.3.3 Retention in a Riparian Management Zone

For the purposes of this section, the following riparian classification attributes (as summarized) apply (as outlined in the *FPPR* Division 3- Riparian Areas):

Riparian Classification Table:

Riparian Class	Size (width in m) or (area in ha)	Fish / Non-Fish	BEC Zones / Notes
S1-A stream	= or > 100 m	Fish	Any / Over 1 km
S1-B stream	20 m - < 100 m	Fish	Any
S2 stream	5 m - < 20 m	Fish	Any
S3 stream	1.5 m - < 5 m	Fish	Any
S4 stream	< 1.5 m	Fish	Any
S5 stream	> 3 m	Non-Fish	Any
S6 stream	< or = 3 m	Non-Fish	Any
L1-A	= or > 1000 ha	N/A	Any
L1-B	>5 ha - <1000 ha	N/A	Any / or as designated
L2	1 ha - 5 ha	N/A	PP/BG/IDF (xh1, xh2, xw, xm), CDF, CWH (xm1, xm2, dm, ds1)
L3	1ha - 5ha	N/A	All those not listed for L2
L4	0.25 ha - 1 ha	N/A	PP/BG/IDF (xh1, xh2, xw, xm)
L4	0.5 ha - 1 ha	N/A	CDF, CWH (xm1, xm2, dm, ds1)
W1	>5 ha	N/A	
W2	1 ha - 5 ha	N/A	PP/BG/IDF (xh1, xh2, xw, xm), CDF, CWH (xm1, xm2, dm, ds1)
W3	1 ha - 5 ha	N/A	All those not listed for W2
W4	0.25 ha - < 1 ha	N/A	PP/BG/IDF (xh1, xh2, xw, xm)
W4	0.5 ha - < 1ha	N/A	CDF, CWH (xm1, xm2, dm, ds1)
W5	Any wetland with overlapping RMA's resulting in combined area > 5 ha	N/A	Proximity rules apply as follows: a) 2 or more W1 areas within 100m of each other; b) a W1 and one or more non-W1 within 80m of each other; c) 2 or more non-W1 within 60m of each other.

A **Holder of this FSP** harvesting a **Cutblock** to which this **FSP** applies that includes a riparian management zone will not cause the **RMZ Retention**, at the completion of that harvesting, to be less than the amounts listed in the RMZ Retention Table.

Under the following circumstances or conditions, the amounts listed in the RMZ Retention Table will be achieved only to the extent it is practicable to do so. Specifically, where harvesting is:

- (a) consistent with *FPPR* sec. 50;
- (b) conducted utilizing a harvest system that precludes the achievement of the **RMZ Retention** specified in the RMZ Retention Table, and there is no other practicable harvest system alternative to harvest the **Cutblock**;
- (c) for the purpose of carrying out a **Sanitation Treatment**;
- (d) for felling and removing **Damaged Timber** if the felling and removal will not have a material adverse impact on the riparian management zone; and
- (e) for felling or modifying a tree for the purpose of establishing or maintaining an interpretive forest site, recreation site, recreation facility or recreation trail.

RMZ Retention Table:

Riparian Class	RMA (m)	RRZ (m)	RMZ (m)	RMZ Retention (%)
S1-A stream	100	0	100	50
S1-B stream	70	50	20	50
S2 stream	50	30	20	25
S3 stream	40	20	20	25
S4 stream (fish bearing)	30	0	30	30
S4 stream (non-fish bearing) within Community Watershed	30	0	30	30
S5 stream	30	0	30	30
S6 stream (≥ 1.5 m wide, harvest method is ground based)	20	0	20	25
S6 stream (≥ 1.5 m wide, harvest method other than ground based)	20	0	20	10
S6 stream ($<$ than 1.5 m wide)	20	0	20	10
L2	30	10	20	25
L3	30	0	30	25
L4	30	0	30	25
W1/W5	50	10	40	25
W2	30	10	20	25
W3 wetland (3 ha – 5 ha)	30	0	30	25
W3 wetland (1 ha - < 3 ha)	30	0	30	10
W4	30	0	30	25

5.2.3.4 Restricted Operation of Machinery

A *Holder of this FSP* harvesting a *Cutblock*, or carrying out a silviculture treatment, to which this *FSP* applies that includes a riparian management zone of an S4, S5, or an S6 stream, will not permit the tracks or wheels of ground-based machinery within 5 metres of a stream bank for the purpose of protecting natural vegetation including brush, advanced regeneration and deciduous trees.

5.2.3.5 Alternative Strategies to Restricted Operation of Machinery

Paragraph 5.2.3.4 applies only to the extent practicable:

- (a) at stream crossings;
- (b) for the purpose of removing trees to address a safety concern;
- (c) where operating the machinery more than 5 metres from the stream bank will create a higher risk of sediment delivery; or
- (d) where the harvesting or treatment is conducted in a manner that protects stream banks and minimizes damage to natural vegetation.

5.2.3.6 Stream Crossings – Protection of Water Quality and Aquatic Ecosystems

A *Holder of this FSP* who builds a road and constructs a stream crossing will do so in accordance with the Water Sustainability Regulation Sec. 43 & 44.

5.2.4 Wildlife and Biodiversity – Landscape Level (FPPR s.9)	
Information about Applicable Objective	
Objective	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.
Date in Effect	This objective was established on the coming into force of the Forest Planning and Practices Regulation on January 31, 2004.

Result

5.2.4.1 Maximum Cutblock Size and Harvesting Adjacent to another Cutblock

Each *Holder of this FSP* adopts as a result or strategy for activities of that Holder to which this *FSP* applies sections 64(1) (*Maximum Cutblock Size*) and 65(2) (*Harvesting Adjacent to Another Cutblock*) of the *FPPR* as those sections were on the *Legislated Planning Date* of this *FSP*.

5.2.5 Wildlife and Biodiversity – Stand Level (FPPR s.9.1)	
Information about Applicable Objective	
Objective	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.
Date in Effect	This objective was established on the coming into force of the Forest Planning and Practices Regulation on January 31, 2004.

Result

5.2.5.1 Definitions

In Paragraphs 5.2.5.1 to 5.2.5.4:

“**Assessment Group**” means, for each licence to which this *FSP* applies, all of the *Cutblocks* belonging to cutting permits issued in each calendar year;

“**Gross Block Area**” means the area of a *Cutblock* that includes the net area to be reforested and the area occupied by permanent access structures. Unlike the definition for *Gross Cutblock Area* under the soils Paragraph 5.2.1.1, it does not include internal reserves and non-productive areas.

“**Wildlife Tree Retention Area**” (as defined in *FPPR* Section 1(1)) means an area occupied by wildlife trees that is located:

- (a) in a *Cutblock*;
- (b) in an area that is contiguous to a *Cutblock*; or
- (c) in an area that is sufficiently close to the *Cutblock* that the wildlife trees could directly impact on, or be directly impacted by, a forest practice carried out in the *Cutblock*; and
- (d) such that for the purposes of Paragraphs 5.2.5.2 & 5.2.5.3, a *Wildlife Tree Retention Area* may relate to more than one *Cutblock* if all of the *Cutblocks* that relate to the *Wildlife Tree Retention Area* collectively meet the *WTR* requirements.

“**Wildlife Tree Retention (WTR)**” means the area composed of either of the following or a combination of them:

- (a) a *Wildlife Tree Retention Area*; and

(b) the area of wildlife trees retained within a *Cutblock* based on the following formula:

$$\text{Area} = \frac{(\text{“Net Area to be reforested” of the Cutblock}) * (\text{basal area reserved from harvesting})}{(\text{Original basal area of the Cutblock})}$$

5.2.5.2 Wildlife Tree Retention for Each Assessment Group - Result replacing FPPR section 66(1) and 66(3)

A **Holder of this FSP** who harvests timber on a **Cutblock** to which this **FSP** applies will ensure that, upon the expiry of the final cutting permit in the **Assessment group**, that the total **Wildlife Tree Retention** that relates to the **Cutblocks** within the **Assessment group** will be a minimum of 7% of the **Gross Block Area** of all blocks in the assessment group.

5.2.5.3 Wildlife Tree Retention for a Single Cutblock - Result replacing FPPR section 66(2) and 66(3)

A **Holder of this FSP** harvesting timber on a **Cutblock** that exceeds a **Gross Block Area** of 2 hectares to which this **FSP** applies will ensure that, on completion of the harvesting, the total **Wildlife Tree Retention** that relates to the **Cutblock** will be a minimum of 3.5% of the **Gross Block Area**.

5.2.5.4 Restrictions on Harvesting Wildlife Tree Retention - Result replacing FPPR section 67

A **Holder of this FSP** will not harvest **Wildlife Tree Retention** it has provided under Paragraph 5.2.5.2 or 5.2.5.3, or another Licensee's **WTR**, unless:

- (a) the trees on the “net area to be reforested” of the **Cutblock** to which the **Wildlife Tree Retention** relates have developed attributes consistent with a mature seral condition; or
- (b) a **Holder of this FSP** specifies in a site plan, on or before the reporting of harvest completion of the **Cutblock** a replacement area, number of trees or habitat that is equivalent to the portion of the **WTR** from which timber is to be harvested; and
- (c) for both Subparagraphs (a) and (b) above, the holder will:
 - (i) prior to harvest, will ensure that all underlying values or commitments in regards to the **WTR** are considered and managed for appropriately; and
 - (ii) if the harvest involves another Licensee's **WTR**, ensure communication and agreement from the other Licensee, prior to harvest, for the necessary updating of forest cover, and to avoid damage to potential unknown values found within the **WTR**.

5.2.6 Cultural Heritage Resources (FPPR s.10)	
Information about Applicable Objective	
Objective	The objective set by government for <i>Cultural Heritage Resources</i> is to conserve, or, if necessary, protect <i>Cultural Heritage Resources</i> that are: <ul style="list-style-type: none"> (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 <i>Heritage Conservation Act</i>.
Date in Effect	This objective was established on the coming into force of the Forest Planning and Practices Regulation on January 31, 2004.

Result and Strategy

5.2.6.1 Definitions

In Paragraph 5.2.6.1 and 5.2.6.2:

“**Potentially Affected First Nations**” means those First Nations with interest in an area as defined by the Consultative Areas Database, and those First Nations who have expressed an interest within an area directly to the *FSP* Holder, in whose interest area new *Cutblocks* or roads are located;

“**Cultural Heritage Resource (CHR)**” means “an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people” as defined in the *Forest Act*, and to which the objective pertains;

“**CHR Evaluation**” means an office and/or field based process conducted by an authorized member of a *Potentially Affected First Nation* or a *Qualified Professional*, to assess the existence, significance of, and potential direct impact of primary forest activities on a *CHR*. A *CHR Evaluation* is conducted where information regarding the presence, relative value and abundance of a *CHR* has been provided through a referral with and when recommended by a *Potentially Affected First Nation*, and may provide recommendations to mitigate the direct impact of primary forest activities on a *CHR*;

“**CHR Evaluation Protocol**” means a signed agreement or the portion of a signed agreement between the *FSP* Holder and a First Nation that defines the framework and timing of a *CHR Evaluation*;

“**CHR Mitigation Strategy**” means:

- (a) a plan to mitigate the direct impact of primary forest activities on a *CHR*, based on:
 - (i) the relative value or importance of a particular *CHR* to a traditional use by an aboriginal people;
 - (ii) the relative abundance or scarcity of a *CHR* that is the focus of a traditional use by an aboriginal people;

- (iii) the historical extent of a traditional use by an aboriginal people of a **CHR**;
- (iv) the impact on government granted timber harvesting rights of conserving or protecting a **CHR** that is the focus of a traditional use by an aboriginal people; and
- (v) options for mitigating the impact that a forest practice might have on a **CHR** that is the focus of a traditional use by an aboriginal people.

5.2.6.2 Cultural Heritage Resources Strategy

In relation to the objective for **Cultural Heritage Resources** that is set out in Section 10 of the **FPPR**, where a **CHR Evaluation** has not been completed on a new **Cutblock** or road, the **FSP** Holder will:

- (a) where a **CHR Evaluation Protocol** has been developed with a **Potentially Affected First Nation**, follow the protocol where new **Cutblocks** or roads are proposed;
- (b) in the absence of a **CHR Evaluation Protocol** and prior to harvesting a **Cutblock** or constructing a road:
 - (i) refer areas, at least 60 days prior to submission of the **CP/RP** application, where new **Cutblocks** or roads are proposed to **Potentially Affected First Nations**, requesting that the **Potentially Affected First Nation**:
 - (A) indicate the presence, relative value and abundance of a **CHR**; and
 - (B) identify where a **CHR Evaluation** is recommended;
 - (ii) where a **Potentially Affected First Nation** responds and identifies the need for a **CHR Evaluation**, ~~ensure help to facilitate the completion of a **CHR Evaluation** is completed.~~ The parties hired to conduct the assessment may be mutually selected by the **Holder of this FSP** and the **Potentially Affected First Nation**;
 - ~~(iii)~~ (iii) ~~where there is no response within 90 days, an Information Sharing Report may be initiated, assuming no concerns, while still allowing for any last minute feedback, prior to RP/CP submission/approval.~~
 - ~~(iii)~~ (iv) where a **CHR Evaluation** includes recommendations to mitigate the direct impact of primary forest activities on a **CHR**, develop a **CHR Mitigation Strategy** in conjunction with the **Potentially Affected First Nation**; and
 - ~~(iv)~~ (v) where a **CHR Mitigation Strategy** cannot be agreed upon with the **Potentially Affected First Nation**, or advice is received without a

mitigating recommendation or strategy, advice will be sought from *MFLNRORD* district staff on how to proceed;

- (c) conduct primary forest activities consistent with the *CHR Mitigation Strategy*.

5.2.7 Water in Community Watersheds (FPPR s.8.2)	
Information about Applicable Objective	
Objective	<p>The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent the cumulative hydrological effects of primary forest activities within the community watershed from resulting in:</p> <ul style="list-style-type: none"> (a) a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks; or (b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under: <ul style="list-style-type: none"> (i) an enactment; or (ii) the licence pertaining to the waterworks. <p>This objective applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.</p>
Date in Effect	This objective was established with the coming into force of an amendment to the Forest Planning and Practices Regulation on February 25, 2005.

Strategy

5.2.7.1 Definitions

In Paragraphs 5.2.7.1 to 5.2.7.4:

“**Community Watershed Assessment**” means an analysis, conducted by a *QP*, of the cumulative hydrological effects of existing and proposed primary forest activities within a *Designated Community Watershed*, conducted at the watershed level, which will consider the potential for the activities to cause:

- (a) a material adverse impact on the quantity of water or the timing of the flow of the water from the licensed waterworks; and
- (b) the water from the licensed waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under an enactment, or the licence pertaining to the licensed waterworks.

The assessment will include recommendations to mitigate the identified impacts to water quantity, timing of flow, and water quality.

An existing assessment is considered relevant if the circumstances of the assessment or conditions within the watershed are unchanged from the time of the assessment.

“Designated Community Watershed” means the following: Dickey Creek, Dicksam Brook, Fountain Creek, Intlpam Creek, Omin Brook, President Creek, Town Creek, Inklyulnkinatko, Mellott Creek, Nekliptum Creek (North Channel), Gladwin, Murray, Six Mile, Blackbird, Countless, Fergusson, George, Lytton, Nepuchin, Nikaia, Retasket, McIntyre, D’Arcy, and Spruce.

5.2.7.2 General Conservation of Water Quality and Licensed Waterworks

Each **Holder of this FSP** adopts as a result or strategy for activities of that Holder to which this **FSP** applies sections 59 (**Protecting Water Quality**), 60(2) (**Licensed Waterworks**) and 61 (**Excavated or Bladed Trails**) of the **FPPR** as those sections were on the **Legislated Planning Date** of this **FSP**.

5.2.7.3 Limitations on Harvesting and Road Construction

Subject to Paragraph 5.2.7.4, if a **Holder of this FSP** is harvesting timber or constructing a road to which this **FSP** applies in a **Designated Community Watershed** that:

- (a) is defined in section 8.2(1) of the **FPPR**;
- (b) is located in an **FDU**; and
- (c) contains a licensed waterworks through which water is being diverted for human consumption;

that Holder will:

- (d) before carrying out timber harvesting or road construction:
 - (i) confirm the relevance of the most recent **Community Watershed Assessment** if one has been completed;
 - (ii) if the most recent assessment is no longer relevant, ensure a **Qualified Professional** updates the existing assessment or completes a new **Community Watershed Assessment**; or
 - (iii) if an assessment has not been completed on the **Designated Community Watershed**, ensure a **Qualified Professional** completes a **Community Watershed Assessment**;

- (e) subject to Subparagraph (f), conduct primary forest activities consistent with the recommendations in relevant, updated or newly completed ***Community Watershed Assessment***; and
- (f) if the ***Community Watershed Assessment*** recommends limits on the amount of harvesting or road construction within that ***Designated Community Watershed***, ensure that the harvesting of a ***Cutblock*** or construction of a road to which this ***FSP*** applies by that Holder in that community watershed will, when added to any ***Established Cutblocks*** or ***Established Roads*** in that community watershed, not cause these limits to be exceeded at the completion of harvesting or road construction.

5.2.7.4 Alternative Result

Paragraph 5.2.7.3 does not apply where a ***Holder of this FSP*** undertaking the harvesting or road construction is granted an exemption under section 8.2(4) or (5) of the ***FPPR***.

5.3 Other Designations and Objectives Established or Continued under <i>FRPA</i>

5.3.1 Scenic Areas (<i>Act ss.180 and 181</i>) with established VQO's	
Information about Applicable Objective	
Objective	Visual quality objectives and their applicable scenic areas are identified on the map in Appendix B to this <i>FSP</i> .
Date in Effect	Known Scenic Areas and objectives, as established by the District Manager's letters dated December 15 th , 1997 and July 28 th , 1994, that are within the FDU as outlined in the map in Appendix B.

Result**5.3.1.1 Definitions**

In Paragraphs 5.3.1.1 to 5.3.1.3:

"**Altered Forest Landscape**" means forest landscape that:

- (a) is viewable from a **Significant Public Viewpoint**;
- (b) contains cutblocks or roads; and
- (c) is in one of the categories prescribed under *FPPR* section 1.1: **Categories of Visually Altered Forest Landscape**;

"**Categories of Visually Altered Forest Landscape**" for the purposes of Subparagraph (c) above of the definition of "**Altered Forest Landscape**," the following categories are prescribed, each according to the extent of alteration resulting from the size, shape and location of cutblocks and roads:

- (a) *preservation*: consisting of an **Altered Forest Landscape** in which the alteration, when assessed from a **Significant Public Viewpoint**, is
 - (i) very small in scale, and
 - (ii) not easily distinguishable from the pre-harvest landscape;
- (b) *retention*: consisting of an **Altered Forest Landscape** in which the alteration, when assessed from a **Significant Public Viewpoint**, is
 - (i) difficult to see,
 - (ii) small in scale, and
 - (iii) natural in appearance;
- (c) *partial retention*: consisting of **Altered Forest Landscape** in which the alteration, when assessed from a **Significant Public Viewpoint**, is
 - (i) easy to see,
 - (ii) small to medium in scale, and
 - (iii) natural and not rectilinear or geometric in shape;
- (d) *modification*: consisting of an **Altered Forest Landscape** in which the alteration, when assessed from a **Significant Public Viewpoint**,
 - (i) is very easy to see, and

- (ii) is
 - (A) large in scale and natural in its appearance, or
 - (B) small to medium in scale but with some angular characteristics;
- (e) *maximum modification*: consisting of an **Altered Forest Landscape** in which the alteration, when assessed from a **Significant Public Viewpoint**:
 - (i) is very easy to see, and
 - (ii) is
 - (A) very large in scale,
 - (B) rectilinear and geometric in shape, or
 - (C) both.

“Landform” means a distinct topographic feature, three dimensional in form, that is generally defined by ridges, valleys, shorelines and skylines, a number of which can make up a complete landscape;

“Significant Public Viewpoint” means a location which is on the water or land that is accessible to the public, provides a viewing opportunity and has relevance to the **Landform** being assessed. The viewpoint used in the **VLI** is not necessarily a **Significant Public Viewpoint**;

“Visual Landscape Inventory” (VLI) means an inventory that identifies and delineates areas of visual sensitivity near communities and along travel corridors throughout the province. It includes information about the visual condition, characteristics and sensitivity to alteration. It also contains scenic area and established **VQO** attributes. **VLI** spatial and attribute data is housed in the BC Geographic Warehouse;

“Visual Landscape Unit”: is a component of the **VLI** and means a distinct topographical unit as viewed from one or more viewpoints;

“Visual Quality Objective” (VQO) as defined in **FPPR** Section 1. **VQO** spatial and attribute data is housed in the BC Geographic Warehouse;

5.3.1.2 Limitations on Harvesting and Road Construction

Subject to Paragraph 5.3.1.3, where a **Holder of this FSP** harvests a **Cutblock** or constructs a road within a **Visual Landscape Unit**, the resulting visual alteration (including **Established Cutblocks** and **Established Roads**) when assessed from a **Significant Public Viewpoint** at completion of harvesting or road construction will be consistent with the applicable category described in **FPPR** Section 1.1 (**Categories of Visually Altered Forest Landscape**) based on the **Visual Quality Objective**.

5.3.1.3 Alternative Result and Strategy if Exemption Approved

Where the *Minister* exempts a *Holder of this FSP* under section 12(7) of the *FPPR* from the requirement to specify a result or strategy in relation to a particular area, and in relation to the *Visual Quality Objective*, Paragraph 5.3.1.2 does not apply to the extent it is not practicable.

The harvesting or road construction being conducted in the particular *Visual Landscape Unit* will adhere to any conditions imposed by the *Minister* as well as the following:

- (a) measures are carried out to reduce the visual acuity and/or perceived scale of the resulting harvest by:
 - (i) designing *Cutblocks* and roads in a manner consistent with the design elements of the established *VQO*:
 - (A) mimicking natural line and form;
 - (B) incorporating irregular *Cutblock* boundaries; and/or
 - (C) retaining dispersed or groups of timber;
 - (ii) considering the distance from the *Cutblock* as assessed from a *Significant Public Viewpoint*, and the position that the *Cutblock* occupies on the *Landform*;
- (b) the extent of alteration does not exceed the amount necessary to address the current circumstances or conditions, such as *Damaged Timber*; and
- (c) a rationale is prepared to support the *Categories of Visually Altered Forest Landscape* design that indicates the level of consistency with the components (scale, visual acuity and design) of the *VQO*.

5.3.2 Scenic Areas (Act s.180) without established VQO's (FPPR s.9.2)	
Information about Applicable Objective	
Objective	<p><i>Grandparented Scenic Areas: Known scenic areas without established VQOs</i> <i>Every area established or continued under the Code as a scenic area and applicable VSC's for scenic areas that were in effect immediately before the effective date are continued as VSC's under this Act.</i></p> <p>The objective set by government in relation to visual quality for a scenic area, that</p> <ol style="list-style-type: none"> (1) was established on or before October 24, 2002, and (2) for which there is no <i>visual quality objective</i> is to ensure that the altered forest landscape for the scenic area (3) in visual sensitivity class 1 is in either the preservation or retention category, (4) in visual sensitivity class 2 is in either the retention or partial retention category, (5) in visual sensitivity class 3 is in either the partial retention or modification category, (6) in visual sensitivity class 4 is in either the partial retention or modification category, (7) in visual sensitivity class 5 is in either the modification or maximum modification category.
Date in Effect	Known Scenic Areas, as established by the District Manager's letters dated December 15 th , 1997 and July 28 th , 1994, that are within the FDU as outlined in the map in Appendix F(f).

Result

5.3.2.1 Definitions

In Paragraphs 5.3.2.1 to 5.3.2.3:

"**Altered Forest Landscape**" means forest landscape that:

- (a) is viewable from a *Significant Public Viewpoint*;
- (b) contains cutblocks or roads; and
- (c) is in one of the categories prescribed under *FPPR* section 1.1: *Categories of Visually Altered Forest Landscape*;

"**Categories of Visually Altered Forest Landscape**" for the purposes of Subparagraph (c) above of the definition of "*Altered Forest Landscape*," the following categories are prescribed, each according to the extent of alteration resulting from the size, shape and location of cutblocks and roads:

- (a) *preservation*: consisting of an *Altered Forest Landscape* in which the alteration, when assessed from a *Significant Public Viewpoint*, is
 - (i) very small in scale, and
 - (ii) not easily distinguishable from the pre-harvest landscape;

- (b) *retention*: consisting of an ***Altered Forest Landscape*** in which the alteration, when assessed from a ***Significant Public Viewpoint***, is
 - (i) difficult to see,
 - (ii) small in scale, and
 - (iii) natural in appearance;
- (c) *partial retention*: consisting of ***Altered Forest Landscape*** in which the alteration, when assessed from a ***Significant Public Viewpoint***, is
 - (i) easy to see,
 - (ii) small to medium in scale, and
 - (iii) natural and not rectilinear or geometric in shape;
- (d) *modification*: consisting of an ***Altered Forest Landscape*** in which the alteration, when assessed from a ***Significant Public Viewpoint***,
 - (i) is very easy to see, and
 - (ii) is
 - (A) large in scale and natural in its appearance, or
 - (B) small to medium in scale but with some angular characteristics;
- (e) *maximum modification*: consisting of an ***Altered Forest Landscape*** in which the alteration, when assessed from a ***Significant Public Viewpoint***:
 - (i) is very easy to see, and
 - (ii) is
 - (A) very large in scale,
 - (B) rectilinear and geometric in shape, or
 - (C) both.

“Landform” means a distinct topographic feature, three dimensional in form, that is generally defined by ridges, valleys, shorelines and skylines, a number of which can make up a complete landscape;

“Significant Public Viewpoint” means a location which is on the water or land that is accessible to the public, provides a viewing opportunity and has relevance to the landform being assessed. The viewpoint used in the *VLI* is not necessarily a ***Significant Public Viewpoint***;

“Visual Landscape Inventory” (VLI) means an inventory that identifies and delineates areas of visual sensitivity near communities and along travel corridors throughout the province. It includes information about the visual condition, characteristics and sensitivity to alteration. It also contains scenic area and established *VSC* attributes. *VLI* spatial and attribute data is housed in the BC Geographic Warehouse;

“Visual Landscape Unit” (VLU): is a component of the *VLI* and means a distinct topographical unit as viewed from one or more viewpoints;

“Visual Quality Objective” (VQO) as defined in FPPR Section 1. *VQO* spatial and attribute data is housed in the BC Geographic Warehouse;

“**Visual Sensitivity Class**” (VSC) as defined in *FPPR* Section 9.2. VSC spatial and attribute data is housed in the BC Geographic Warehouse;

5.3.2.2 Limitations on Harvesting and Road Construction

Subject to Paragraph 5.3.2.3, where a *Holder of this FSP* harvests a *Cutblock* or constructs a road within a *VLU*, the resulting visual alteration (including *Established Cutblocks* and *Established Roads*) when assessed from a *Significant Public Viewpoint* at completion of harvesting or road construction will be consistent with the applicable category described in *FPPR* Section 1.1 (*Categories of Visually Altered Forest Landscape*) based on the *Visual Sensitivity Class*.

5.3.2.3 Alternative Result and Strategy if Exemption Approved

Where the *Minister* exempts a *Holder of this FSP* under section 12(7) of the *FPPR* from the requirement to specify a result or strategy in relation to a particular area, and in relation to the *VSC*, Paragraph 5.3.2.2 does not apply to the extent it is not practicable.

The harvesting or road construction being conducted in the particular *Visual Landscape Unit* will adhere to any conditions imposed by the *Minister* as well as the following:

- (a) measures are carried out to reduce the visual acuity and/or perceived scale of the resulting harvest by:
 - (i) designing *Cutblocks* and roads in a manner consistent with the design elements of the established *VSC*:
 - (A) mimicking natural line and form;
 - (B) incorporating irregular *Cutblock* boundaries; and/or
 - (C) retaining dispersed or groups of timber; and
 - (ii) considering the distance from the *Cutblock* as assessed from a *Significant Public Viewpoint*, and the position that the *Cutblock* occupies on the *Landform*;
- (b) the extent of alteration does not exceed the amount necessary to address the current circumstances or conditions, such as *Damaged Timber*; and
- (c) a rationale is prepared to support the *Categories of Visually Altered Forest Landscape* design that indicates the level of consistency with the components (scale, visual acuity and design) of the *VSC*.

5.3.3 Interpretive forest sites, recreation sites and recreation trails – without objectives <i>FRPA s. 180</i>	
Information	
Objective	None established
Date in Effect	<i>Grandparented recreation sites and trails – without objectives.</i> <i>Every area established or continued under the Code as a recreation site or trail that were in effect immediately before the effective date are continued as such under this Act.</i>

5.3.3 Result and Strategy

5.3.3.1 Definitions

In Paragraphs 5.3.3.1 to 5.3.3.2:

“**Site**” means an interpretive forest site or recreation site that is identified on the map in Appendix B; and

“**Trail**” means an observable or marked path, identifiable in the field within a specific location identified as a recreation trail on the map in Appendix B;

5.3.3.2 **Result & Strategy for Established Recreation Sites and Trails without Objectives**

Established *Site* and *Trail* locations are those found in “Data BC” and the map in Appendix B;

<http://www.data.gov.bc.ca>

Where a *Holder of this FSP* harvests a *Cutblock* or constructs a road within a recreation site or trail polygon, a section 16 “Authorization to Use,” under the Forest Recreation Regulation will be required and a *Holder of this FSP* will:

- a) **for Trails:**
 - (i) remove debris and re-establish the trail tread at the completion of harvest and/or road construction to the condition prior to the incursion;
 - (ii) minimize road crossings to prevent damage to the *Trail*;
 - (iii) erect signage notifying trail users of the activity during operations;
 - (iv) target harvest during periods of low use (e.g. winter harvest for summer *Trails* and vice-versa);

b) **For Sites:**

- (i) rehabilitate any direct impacts to a *Site*, or access to it, as close to its original state as possible;
- (ii) target harvest during periods of low use (e.g. winter harvest for summer use *Sites*, and vice-versa).

6 Stocking Standards	
Information about Applicable Measure	
Source	FPPR s. 16
	<p>(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) [<i>free growing stands generally</i>] or section 45 [<i>free growing stands collectively across Cutblocks</i>] will apply to an area.</p> <p>(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 [<i>factors relating to stocking standards</i>] of Schedule 1.</p> <p>(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</p> <p>(a) section 44 (1) (a) will apply, the regeneration date and stocking standards,</p> <p>(b) section 44 (1) (b) will apply, the free growing height and stocking standards,</p> <p>(c) section 45 (1) will apply, the regeneration date and the stocking standards, and</p> <p>(d) section 45 (2) will apply, the free growing date and the stocking standards, as approved by the chief forester.</p> <p>(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.</p> <p>(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. [am. B.C. Regs. 62/2005, s. 3; 102/2005, s. 1.]</p>
Source	FPPR s. 44
	<p>(1) A person who has an obligation to establish a free growing stand must establish, for areas that have been identified under section 16 (1) [<i>stocking standards</i>] as areas to which this section will apply, a stand that</p> <p>(a) meets the applicable stocking standards set out in the forest stewardship plan for the area, by the applicable regeneration date specified for the area, and</p> <p>(b) meets the applicable stocking standards and free growing height set out in the forest stewardship plan for the area by a free growing date that is no more than 20 years from the commencement date, unless the minister permits a later free growing date.</p> <p>(2) If an Agreement Holder contravenes section 52 (1) [<i>unauthorized timber harvesting</i>] of the Act, the holder must establish, on the area on which the contravention occurred, a stand that meets the requirements specified in the holder's forest stewardship plan for an area with similar attributes, as if the area on which the contravention occurred had been identified under section 16 (1) as being subject to this section.</p> <p>(3) A person is exempt from the requirements of section 29 (1) and (2) [<i>free growing stands</i>] of the Act in respect of an area if timber harvesting is restricted to one or more of the following:</p> <p>(a) harvesting timber to eliminate a safety hazard;</p> <p>(b) harvesting timber to facilitate the collection of seed, leaving an opening not greater than 1 ha;</p> <p>(c) removing felled trees from landings and road rights of way;</p>

	<p>(d) harvesting trees on land that is, or will be, exclusively used for harvesting hay or grazing livestock in accordance with an agreement under the Range Act;</p> <p>(e) harvesting timber for experimental purposes if, in the opinion of the minister, the harvesting will be carried out under controlled scientific or investigative conditions;</p> <p>(f) clearing areas for or within a recreation site or recreation trail;</p> <p>(g) felling and removing trees that have been or will be treated to facilitate the entrapment of pests;</p> <p>(h) commercial thinning, removal of individual trees, or a similar type of intermediate cutting;</p> <p>(i) harvesting special forest products.</p> <p>(4) A person who harvests timber for the reasons referred to in subsection (3) (h) and (i) must ensure that, for a period of 12 months after completion of harvest, the area on which timber harvesting was carried out conforms to the stocking standards specified in section 16 (4) for the area.</p> <p>[am. B.C. Regs. 580/2004, s. 33; 152/2007, s. 1.]</p>
Source	FPPR s. 45
	<p>(1) If a person specifies in a forest stewardship plan under section 16 (1) [<i>stocking standards</i>] that the requirement to be met by the regeneration date relates to a group of Cutblocks, the person must establish stands on the net areas to be reforested that conform to the applicable stocking standards by the applicable regeneration date, as identified under section 16 (3) (c).</p> <p>(2) If a person specifies in a forest stewardship plan, under section 16 (1), that the requirement to be met by the free growing date relates to a group of Cutblocks, the person must establish stands on the net areas to be reforested that conform to the applicable stocking standards by the applicable free growing date as identified under section 16 (3) (d).</p>
Source	FRPA ss. 29
	<p>(1) A holder of a major licence or community forest agreement who harvests timber to which a forest stewardship plan applies must establish in accordance with the plan, the prescribed requirements and the standards, a free growing stand on those portions of the area of the harvest that are in the net area to be reforested.</p> <p>(2) If the timber sales manager</p> <p>(a) has authorized the harvesting of timber under a timber sale licence that requires its holder to prepare a forest stewardship plan, or</p> <p>(b) is the holder of a forest stewardship plan,</p> <p>he or she must establish in accordance with the plan, the prescribed requirements and the standards, a free growing stand on those portions of the area of the harvest under the plan that are in the net area to be reforested.</p> <p>(3) A holder of a woodlot licence who harvests timber under the licence must establish a free growing stand on those portions of the area of the harvest that are in the net area to be reforested in accordance with</p> <p>(a) the woodlot licence plan, if any, that is pertinent to the licence,</p> <p>(b) the prescribed requirements, and</p> <p>(c) the standards.</p> <p>(4) [Repealed 2003-55-18.]</p> <p>(5) to (10) [Repealed 2004-36-89.]</p>

Source	FRPA s. 197(5)
	(5) If, before the replacement under subsection (1) of a part of a forest development plan, (a) the holder (i) begins harvesting of a Cutblock , and (ii) is required to establish a free growing stand on an area harvested, and (b) the stocking standards specified in the plan apply to the net area to be reforested, unless otherwise specified in a forest stewardship plan, the stocking standards in the plan remain in effect until the free growing stand is established.

6.1 Stocking Standards

A **Holder of this FSP** that is establishing a free growing stand:

- (a) under section 29 of the **Act**; or
- (b) on an area within a **Cutblock** listed in Appendix E to this **FSP**;

will do so in accordance with the stocking standards set out in Appendix A to this **FSP**.

See Appendix A for Stocking Standards. These stocking standards, as previously approved, and recently amended on February 20, 2017, will remain in effect until changes are required to implement the updated Biogeoclimatic Ecosystem Classification (**BEC**) and associated Land Management Handbooks. When required, an amendment will be made to incorporate the stocking standards and variations, as developed by the Thompson Okanagan Stocking Standards Working Group.

7 Measures to Prevent the Introduction or Spread of Invasive Plants	
Information about Applicable Measure	
Source	FPPR s. 17
	For the purpose of section 47 [<i>invasive plants</i>] of the <i>Act</i> , a person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plants Regulation, if the introduction or spread is likely to be the result of the person's forest practices. [am. B.C. Reg. 580/2004, s. 15]
Source	FRPA s. 47
	(1) A person carrying out a forest practice or a range practice must carry out measures that are (a) specified in the applicable operational plan, or (b) authorized by the minister to prevent the introduction or spread of prescribed species of invasive plants. (2) Despite expiry of the operational plan referred to in subsection (1) (a), 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.

7.1 Definitions

In Paragraphs 7.2 to 7.6:

“**High Hazard Invasive Plants**” means the following plants: Anchusa, Blueweed, Leafy Spurge, Japanese Knotweed, Scotch Thistle, Tansy Ragwort, Common Tansy, Yellow Iris, Knapweed Species (brown, black, meadow), Yellow Starthistle, Giant Knotweed, Rush Skeletonweed, Marsh Plume Thistle, Perennial Pepperweed, Field Scabious, Teasel, Scotchbroom, Puncturevine, and Purple Loosestrife, or as updated based on input from the three Invasive Plant Committees;

“**Invasive Plant Zone**” means the zone as determined by the *Holders of this FSP*, and updated on an annual basis, designed to encompass, and buffer by 500 metres, the known locations of Invasive Plants contained in the Invasive Plant Regulation. The known locations are those identified in the Provincial government databases of invasive plants such as IAPP, as well as those observed in the field;

“**Personnel**” means persons working on behalf of the *Holders of this FSP* conducting activities such as road and *Cutblock* development, road inspections, site plan data collection, road and logging supervision, and silviculture surveys.

7.2 Education of Personnel

The **Holder of this FSP** will provide annual training to **Personnel** on reporting and identification of the **High Hazard Invasive Plants**.

7.3 Identifying and Reporting

The **Holder of this FSP** will ensure that a previously unidentified **High Hazard Invasive Plant** infestation within the **FDU**, as identified by **Personnel**, is reported through the Report-A-Weed app (www.gov.bc.ca/invasive-species) within 30 days of the **Holder of this FSP** becoming aware of the new infestation.

7.4 Seeding

If a **Holder of this FSP** exposes mineral soil:

- (a) within an **FDU**;
- (b) that results from the activities to which this **FSP** applies;
- (c) that results from the activities in the following table;
- (d) the exposure meets the criteria in the following table; and
- (e) it is likely that an invasive plant will be introduced or spread as a result of this exposure, the **Holder of this FSP** will seed the exposed area in accordance with Paragraph 7.5

Activity	Description of area to be seeded	Location of Exposed Mineral Soil
Construct, Reconstruct, or Deactivate	<ul style="list-style-type: none"> • Permanent landings; • Cut slopes, fill slopes and ditch lines of permanent roads 	Within the FDU (For greater clarity, this clause applies to areas both within and outside the Invasive Plant Zone described in Paragraph 7.1 of this FSP)
Construct or use	<ul style="list-style-type: none"> • Borrow pit authorized under a RP or CP 	Within the FDU (For greater clarity, this clause applies to areas both within and outside the Invasive Plant Zone described in Paragraph 7.1 of this FSP)
Timber Harvesting, Silviculture Treatments, Road Construction and Road Deactivation	<ul style="list-style-type: none"> • Exposed mineral soil exceeding 0.1 contiguous ha. (excluding the running surface of permanent roads) 	At the time the activity takes place, the activity is within an Invasive Plant Zone

7.5 Timing and Seed Quality

A **Holder of this FSP** referred to in Paragraph 7.4 will seed with Common #1 Forage Mixture or a forage mixture as recommended by **MFLNRORD** range staff (less white clover):

- (a) at least 90% of the total area exposed in a calendar year that requires seeding under Paragraph 7.4, by July 1 of the immediately following calendar year; and
- (b) the remainder of such exposed area prior to December 31 of the same immediately following calendar year.
- (c) if within an **“Invasive Plant Zone,”** where:
 - (i) within 24 months of the grass seeding identified in Subparagraph (a) above, it is identified during road inspections that the area is insufficiently revegetated (<10% cover); then

the exposed area will be re-seeded at least once in addition to the seeding identified in Subparagraph (a) above.

7.6 Inspection of Equipment

If a **Holder of this FSP** conducts timber harvesting, silviculture treatments, road construction, or road deactivation, to which this **FSP** applies, within a **Cutblock** or road which contains an **Invasive Plant Zone**, then the **Holder of this FSP** will ensure the person conducting the activity will remove any observed invasive plant material, or significant accumulations of soil (greater than 2 litre accumulation) which may contain invasive plant material, from the machinery prior to that machinery being relocated outside of the **Cutblock** or road.

8 Measures to Mitigate the Effect of Removing or Rendering Ineffective Natural Range Barriers	
Information about Applicable Measure	
Source	<i>FPPR</i> s. 18
	For the purpose of section 48 [<i>natural range barriers</i>] of the <i>Act</i> , a person who prepares a forest stewardship plan must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.
Source	<i>FRPA</i> s. 48
	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.

8.1 Definitions

In Paragraphs 8.1 & 8.2:

“**Natural Range Barriers**” means naturally occurring features that stop or impede livestock movement to and from an adjacent area. They may include rivers, rock faces, shrub thickets, and standing or downed timber;

“**Range Agreement Holder**” means the holder of a range tenure as defined under the Range Act or Land Act;

“**Mitigation Actions**” means activities or range development installations constructed or installed consistent with Ministry standards and subject to Ministry approval, that have the purpose of replacing a *Natural Range Barrier* rendered ineffective by harvesting or road construction. These actions may include but are not limited to any or all of:

- (a) creation of logging debris fences;
- (b) adjusting *Cutblock* boundaries or road locations; and/or
- (c) installation of range developments such as fences, cattle guards or gates.

“**NRB Mitigation Strategy**” means is a plan developed to mitigate the removal or the rendering ineffective of a *Natural Range Barrier*, that specifies:

- (a) what *Mitigation Actions* are to be undertaken;
- (b) who is responsible for undertaking the *Mitigation Actions*;
- (c) where the *Mitigation Actions* will occur; and
- (d) when the *Mitigation Actions* will be completed.

8.2 Natural Range Barriers Measures

In relation to the objectives set by government to mitigate the effect of removing or rendering ineffective *Natural Range Barriers*, a *FSP* Holder will:

- (a) on an annual basis, where new harvesting or road construction activities are proposed within existing *Range Tenure*, refer the proposed activities to the potentially affected *Range Agreement Holder*. The referral will:
 - (i) specify the location of the proposed harvesting and road construction; and
 - (ii) request that the *Range Agreement Holder* identify the location of *Natural Range Barriers* that may be rendered ineffective by the proposed harvesting or road construction; and
- (b) prior to harvesting a *Cutblock* or constructing a road:
 - (i) where the *Range Agreement Holder* responds prior to the submission of the *CP* or *RP* and identifies a *Natural Range Barrier* that will be removed or rendered ineffective, develop a *NRB Mitigation Strategy*, incorporating the information communicated by the *Range Agreement Holder* to the extent that it is practicable to do so;
 - (ii) where there is knowledge of a *Natural Range Barrier*, and where the *Range Agreement Holder* fails to respond to the referral, advise the *MFLNRORD* District Range staff and ask for any input they may have;
 - (iii) where a *NRB Mitigation Strategy* cannot be agreed to with a *Range Agreement Holder*, develop a *NRB Mitigation Strategy* with input from the *MFLNRO* District Range staff and communicate the *NRB Mitigation Strategy* to the *Range Agreement Holder*;
 - (iv) where new harvesting or road construction is proposed in an area where *Range Tenure* is not currently assigned, refer the proposal to the *MFLNRORD* District Range staff, as outlined in Subparagraph (a) above;
- (c) where the *MFLNRORD* District Range staff responds prior to the submission of the *CP* or *RP* and identifies that a *Natural Range Barrier* will be removed or rendered ineffective, develop a *NRB Mitigation Strategy*, incorporating the information communicated by the *MFLNRORD* District Range staff; and
- (d) conduct activities that are the responsibility of the *FSP* Holder consistent with the *NRB Mitigation Strategy*.

9 Signatures of Persons Authorized to Sign on Behalf of Persons Required to Prepare this FSP	
Information about Applicable Measure	
Source	<i>FRPA</i> s. 5(3))
	(3) A forest stewardship plan or an amendment to a forest stewardship plan must be signed by the person required to prepare the plan, if an individual or, if a corporation, by an individual or the individuals authorized to sign on behalf of the corporation.

Aspen Planers Ltd. – 08667840 BC Ltd.
 Aspen Planers Ltd.
 Cook’s Ferry First Nation
 Coldwater Indian Band
 Siska Indian Band
 STH Biomass Limited Partnership



Per: _____
 Authorized signatory
 Trevor Ball, RPF

APPENDIX A: STOCKING STANDARDS (Copied from the currently approved February 20, 2017 FSP 379 Amendment)

I STOCKING REQUIREMENTS

All stocking requirements are applicable across the entire FDU. Please note that all “Standards Reference Numbers” shown in the Appendix tables are obsolete as they refer to FDP ID numbers. For the currently approved Stocking Standards Identification (SSID) numbers that apply to this *FSP*, please see the *FSP* tracker or RESULTS.

1.1 Preamble

Unless otherwise specified by this *FSP*, the *FSP* has adopted the following stocking standards:

- Even-aged stocking standards (1.20) Ainsworth Lumber Company Ltd.’s F.L. A18700 FDP Stocking Standards - Approved 2002
- Uneven-aged stocking standards (1.21) Ainsworth Lumber Company Ltd.’s F.L. A18700 FDP Stocking Standards - Approved 2002
- Partial Cutting stocking standards (1.22) MOFR “Deviation from Potential”
- Broadleaf stocking standards (1.23) Ainsworth Lumber Company Ltd.’s Kamloops Pulpwood Agreement 16 FDP Stocking Standards - Approved 2004
- Mixedwood stocking standards (1.24) Ainsworth Lumber Company Ltd.’s Central Cariboo Forest District Pulpwood Agreement 16 Stocking Standards – Approved 2003

The following criteria apply:

- FPPR Section 16(1): Ainsworth Lumber Company Ltd.’s F.L. A18700 FDP Stocking Standards - Approved 2002 Even-aged Stocking Standards, Ainsworth Lumber Company Ltd.’s F.L. A18700 FDP Stocking Standards - Approved 2002 Uneven-aged Stocking Standards, Ainsworth Kamloops Pulpwood Agreement 16 FDP Stocking Standards - Approved 2004 Broadleaf Stocking Standards, Ainsworth Central Cariboo Forest District Pulpwood Agreement 16 – Approved 2003 Mixed Wood Stocking Standards and FPPR Section 44 (free growing stands generally) applies to all FDUs.
- FPPR Section 16(3): FPPR Section 44(1) applies to all areas with a free growing obligation in the FDU.
- FPPR Section 16(4): MOFR “Deviation from Potential” Partial Cutting stocking standards for intermediate cutting will be applied to areas referred to in FPPR Section 44(4) for the FDU.

The above standards and criteria support stocking areas with ecologically suitable species that address immediate and long-term forest health issues on the area to a density that (in either case) is consistent with:

- (a) maintaining or enhancing an economically valuable supply of commercial timber from British Columbia's forests;

- (b) the timber supply analysis and forest management assumptions that apply to the area covered by the plan on the Submission Date; and
- (c) the application to meet specific objectives (such as broadleaf species management for specific habitat objectives or landscape level representation) that are to service an objective to the benefit of the province and the stakeholder(s), in a manner that is reasonable and worthwhile, in consideration of the trade-offs against timber supply.

1.2 Even-aged Stocking Standards

Even-aged stocking standards, for the appropriate biogeoclimatic zone and site series, will be applied, as permitted under this *FSP*, where no significant residual tree retention has been identified.

1.3 Uneven-aged Stocking Standards

Uneven-aged stocking standards for the appropriate biogeoclimatic zone and site series will be applied as permitted under this *FSP* where significant residual tree retention has been identified and the tree retention is not a result of commercial thinning, removal of individual trees, or a similar type of intermediate cutting.

1.4 Mixedwood Stocking Standards

Mixedwood stocking standards for the appropriate biogeoclimatic zone and site series may be applied as permitted under this *FSP* where neither the broadleaf nor the conifer tree species comprise more than 80% of the cruise gross basal area or volume of the stand. It is estimated this standard will influence less than 5% of the free growing obligation area.

1.5 Broadleaf Stocking Standards

Broadleaf stocking standards for the appropriate biogeoclimatic zone and site series may be applied as permitted under this *FSP* where the broadleaf tree species comprise more than 80% of the cruise gross basal area or volume of the stand. It is estimated this standard will influence less than 5% of the free growing obligation area.

1.6 Partial Cut Stocking Standards

Partial cutting stocking standards for the appropriate biogeoclimatic zone and site series will be applied as permitted under this *FSP* where significant residual tree retention has been identified and is a result of commercial thinning, removal of individual trees, or a similar type of intermediate cutting. It is estimated this standard will influence less than 2% of the free growing obligation area.

Details of the partial cutting stocking standards methodology and process are contained in section 1.22.

1.7 **Minimum Stocking Standards (MSSpa AND MSSp)**

If the SP does not specify any acceptable species, MSSp equals MSSpa.

1.8 **Minimum Inter-tree Distance**

Unless otherwise specified by this *FSP*, the MITD defaults to 2.0m for all stocking standards.

Subject to a determination by a *Qualified Professional* and as identified in a SP, the MITD may be reduced to 1.5m to provide an opportunity to advance the level of stocking standard achievement (improve site occupancy) associated with the following:

“Non-broadcast site conditions” that are negatively impacting the achievement of the stocking standard objective:

- hygric or wetter sites
- cluster planting (e.g. Grizzly habitat, Caribou Management Guidelines)
- very rocky soils
- areas with expected high cattle trampling damage to seedlings
- sites with a significant number of wildlife trees
- riparian areas with a high residual component
- sites that will be stumped to manage root rot
- areas with high residual regeneration that are negatively impacting the achievement of target stocking density
- areas with high unavoidable slash loading
- very harsh sites where protected microsites are critical (e.g. shade, snow creep).

“Broadcast site conditions” that are negatively impacting the achievement of the stocking standard objective:

- cluster planting (e.g. Grizzly habitat, Caribou Management Guidelines, may be required to go down to 1m.)
- mechanical site preparation associated with mounding or patch scarification
- coppice-regenerating birch: two trees within each clump may be tallied as well-spaced regardless of their inter-tree distance. However, the next well-spaced tree must be at least 2m away.

1.9 Crop Tree/Brush Ratio

% Height above Brush	Biogeoclimatic Zone
125	ESSF, IDF, MS, PP
150	CWH

Application of the crop tree/brush ratio must also take into consideration the following:

- Up to 1,000 stems/ ha of new aspen regeneration (post-harvest) will be considered non-deleterious to crop trees at the time of free-growing.
- WSSpa broadleaf species in mixedwood managed stands will not be considered competing vegetation for conifers.
- Broadleaf species in mixedwood managed stands greater than or equal to 1m from bole to bole of a conifer will not be considered competing with the conifer.

1.10 Characteristics of Residual Mature and Pole Layer Crop Trees

Unless otherwise specified by this *FSP*, the minimum characteristics of any leave trees, including, form, health and vigor are as per the guideline criteria outlined in Section 7f of *Acceptability guidelines for residual mature and pole layer crop trees* in FS 660-1 HFP 01 and the *Tree Wounding Guidebook*.

1.11 Broadleaf Free Growing Heights

Unless otherwise specified by this *FSP*, the broadleaf free growing height will be equal to the tallest conifer height for the site series/ stocking standard ID.

1.12 Regeneration Delay

Up to a maximum of 7 years regeneration delay is applied to all stocking standards where harvesting has resulted in an obligation to establish a free growing stand. Where harvesting has not resulted in an obligation to establish a free growing stand as a result of commercial thinning, removal of individual trees, or a similar type of intermediate cutting, a two year regeneration is applied. In practice, the most suitable earlier regeneration delay period will be applied considering applicable TSR assumptions, site conditions and operational situations.

1.13 Maximum Density

- Unless otherwise specified by this *FSP*, the maximum density for Interior Lodgepole pine leading stands is 25,000 countable stems per hectare. Lodgepole pine leading stands are stands where Lodgepole pine is greater than and equal to 80% of the inventory.
- Unless otherwise specified by this *FSP*, the maximum density number for all other conifer species in non-lodgepole pine leading stands and mixed Lodgepole pine stands is 10,000 countable stems per hectare. Broadleaf density will not contribute towards stand conifer density reduction thresholds.
- Unless otherwise specified by this *FSP*, no maximum density number is defined for broadleaf tree species. Broadleaf species rapid self-thinning characteristics lend themselves well for natural thinning.

1.14 Free Growing Damage Criteria

- Even aged age class 1 stands: unless otherwise specified by this *FSP*, at the time of the free growing survey, the following free growing damage criteria will apply: Appendix 5 of *Establishment to Free Growing Guidebook* (revised edition May 2000, Kamloops Forest Region), Appendix 5 of *Establishment to Free Growing Guidebook* (revised edition Version 2.2, May 2000, Vancouver Forest Region) and/or Appendix 5 of *Establishment to Free Growing Guidebook* (version 2.3, Cariboo Forest Region, January 2002).
- Uneven-aged stands, layer 3 & 4 advance regeneration: unless otherwise specified by this *FSP*, at the time of the free growing survey the following free growing damage criteria will apply: Appendix 10, Table A10-1 of the *Establishment to Free Growing Guidebook* (revised edition May 2000, Kamloops Forest Region), Appendix 10, Table A10-1 of the *Establishment to Free Growing Guidebook* (revised edition Version 2.2, May 2000, Vancouver Forest Region) and/ or Appendix 10, Table A10-1 of the *Establishment to Free Growing Guidebook* (version 2.3, Cariboo Forest Region, January 2002).
- A tree susceptible to dwarf mistletoe that is located within 10 m of an overtopping tree, which is infected with dwarf mistletoe, will not be considered susceptible if the overtopping infected tree is part of an approved cut block boundary or is reserved from harvest within the harvestable area to address other non-timber objectives, as permitted under this *FSP*.

1.15 Tree Species Mix

- To help maintain a similar tree species mix within a landscape unit, commercially valuable dominant and co-dominant conifer species having greater than 20% of the gross cruise basal area or volume will be considered a “preferred” species.
- To help maintain a similar tree species mix within a landscape unit for broadleaf and mixedwood managed stands, commercially valuable dominant and co-dominant broadleaf species having at least 10% of the gross cruise basal area or volume will be considered a “preferred” species and an “acceptable” species if the gross cruise basal area or volume is less than 10%.
- For situations where Balsam (B1) exists naturally on the site, B1 will be considered an acceptable species in the IDF dk2 site series 01 (minimum free growing height 0.6m) unless it meets the above criteria to be a preferred species.

1.16 White Pine

- Where Pw is listed as an acceptable species, planted rust resistant stock will be considered preferred to a maximum of 50% of the total preferred and acceptable well spaced stems.
- To reduce white pine blister rust infections, non-rust resistant Pw is to be pruned to 1.3 meter height where it makes up more than 5% of the minimum free growing number. SU with less than 5% non-resistant Pw contributing to the minimum free growing number require no pruning and can be accepted as free growing.

1.17 Free Growing Standard Adjustment

Based on a determination by a *Qualified Professional* at the time of the development of the SP or within two years after the completion of harvest, the stocking standard target and minimum WSS values and minimum height criteria may be reduced. The reduction is to address the resulting impacts of established non-timber objectives that restrict the ability to achieve the WSS and height values for the stocking standard. This adjustment is to be applied where the stocking standard is not correct for the planned or resulting stand structure or site condition due to:

- modifying a silviculture system to address visuals, wildlife, adjacency, cattle, grassland, First Nations cultural heritage, beetle management areas with lower levels of beetle attack, and/or susceptible host trees;
- dispersed non-plantable ground having site conditions and limiting factors associated with soil moisture, soil temperature, soil nutrients, climatic conditions, tree species and stock type to be planted, site occupancy target, and growing space.

It is estimated the standard adjustment will influence less than 2 % of the silviculture obligation area. Refer to Section 7.2 of the “Background Document for Government” for methodology and assessment procedure.

1.18 Minimum Stratum Size

- The reforestation establishment component of a free growing stocking standard applies to continuous NSR openings > 1.0 ha.
- At the time of free growing, the free growing stocking standards apply to continuous openings > 2.0 ha (except for NSR, which remains at > 1.0 ha).

1.19 Species Suitability

Unless specified otherwise in this *FSP*, the species suitability identified in the even-aged stocking standards applies to the other stocking standards within this *FSP*.

1.20 Reference Guide for Stocking Standards in Conifer Even-aged Stands

Standards ID	BGC Classification		Regeneration Guide						Free Growing Guide					
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
					Target	MIN pa	MIN p		Earliest	Latest	Species	Ht		
			Preferred (p)		Acceptable (a)		(well-spaced/ha)			(yrs)	(yrs)		(m)	
CWHms1	01	Cw Fd Sx Hw Ba	Yc	900	500	400	7	1	20	Fd	2.25	150	2.0	
	02	PI Fd		400	200	200	7	1	20	Sx	1.00			
	03	Cw Fd Sx	Ba	800	400	400	7	1	20	Ba	0.75			
	04	Cw Fd Sx Ba	Hw Pw	900	500	400	7	1	20	Others	1.50			
	05	Cw Hw Yc Ba		900	500	400	7	1	20	Fd	1.50	150	2.0	
	06	Cw Fd Yc Sx	Ba Bg	900	500	400	7	1	20	PI	1.25			
	07	Ba Cw Sxs ¹	Fd Sx	900	500	400	7	1	20	Fd	2.25	150	2.0	
	08	Cw	Ba	900	500	400	7	1	20	Cw	1.50			
	09	no conifers		-	-	-	-	-	-	Sx	1.00			
	10	PI	Cw	400	200	200	7	1	20	Ba	0.75	150	2.0	
	11	Cw Yc	Pw Sx	800	400	400	7	1	20	Others	1.50			

Footnotes:

1 Sxs is listed as preferred, versus Ss, due to poor performance of Ss within this ecosystem. Ss is susceptible to frost, frozen ground and drought.

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Preferred (p)	Acceptable (a)	Target (well-spaced/ha)	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
1033304	ESSFdc2	01	PI Sx	BI	1200	700	600	7		20	PI 1.60 Others 0.80	125	2.0	
1033306		03	PI Sx	BI ¹³ Pa	1000	500	400	7		20	PI 1.20 Others 0.60	125	1.5	
1033310		04	PI Sx	BI ¹³	1000	500	400	7		20	PI 1.20 Others 0.60	125	1.5	
1033314		05	PI Sx	BI ^{10,13}	1000	500	400	7		20	PI 1.20 Others 0.60	125	1.5	
1033318		06	PI Sx	BI	1200	700	600	7		20	PI 1.60 Others 0.80	125	1.5	
1033322		07	PI Sx	BI	1200	700	600	7		20	PI 1.60 Others 0.80	125	1.5	
1033326		08	PI ¹ Sx	BI ^{1,32}	1000	500	400	7		20	PI 1.20 Others 0.60	125	1.5	

Footnotes:

- 1 elevated microsites are preferred
- 10 restricted to northerly aspects
- 13 restricted to upper elevations of biogeoclimatic unit
- 32 limited by growing-season frosts

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
					Target	MIN pa	MIN p		Earliest	Latest	Species	Ht		
			(well-spaced/ha)			(yrs)	(yrs)	(yrs)	(m)					
	ESSFdv	01	PI Sx	BI	1200	700	600	7	1	20	PI 1.60 Others 0.80	125	2.0	
		01 ¹	PI Sx	BI Pw Fd	1200	700	600	7	1	20	PI 1.60 Fd 1.20 Others 0.80	125	2.0	
		01 ²	Sx BI	PI	1200	700	600	7	1	20	PI 1.60 Others 0.80	125	2.0	
		02	PI	BI Sx	400	200	200	7	1	20	PI 1.20 Others 0.60	125	2.0	
		03	PI	BI Sx	1000	500	400	7	1	20	PI 1.20 Others 0.60	125	2.0	
		04	PI Sx	BI	1000	500	400	7	1	20	PI 1.20 Others 0.60	125	2.0	
		04 ³	PI Sx	BI Ba Hw	1000	500	400	7	1	20	PI 1.20 Others 0.60	125	2.0	
		05	PI Sx	BI	1200	700	600	7	1	20	PI 1.60 Others 0.80	125	2.0	
		05 ⁴	Sx BI	PI	1200	700	600	7	1	20	PI 1.60 Others 0.80	125	2.0	
		06	PI ¹ Sx	BI	1000	500	400	7	1	20	PI 1.20 Others 0.60	125	2.0	

Footnotes:

- 1 Pw & Fd are included as acceptable species to account for those sites that are lower elevation transitional ESSF.
- 2 BI is preferred and PI is acceptable on north aspects and/or cooler, more moister sites.
- 3 Ba and Hw are included as acceptable species due to the coastal climatic influence and their natural presence in the stand
- 4 BI is preferred and PI is acceptable based on their natural distribution in stands common on north aspects.
- a Pw is included as an acceptable species where it naturally occurs. If Pw is artificially reforested, only rust-resistant stock will be planted and will not require pruning to be considered acceptable at the free-growing stage.
- Pw performs relatively well in snowpress areas, is fairly frost resistant and shade tolerant.
- Pw will not be planted over 1400m in the ESSF.

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Preferred (p)	Acceptable (a)	Target (well-spaced/ha)	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
	ESSFxc	01	PI Sx	BI	1200	700	600	7	1	20	PI	1.60	125	2.0
		02	PI	BI Sx	600	400	400	7	1	20	Others	0.80	125	2.0
		03	non-forested		-	-	-	-	-	-	-	-	-	-
		04	non-forested		-	-	-	-	-	-	-	-	-	-
		05	PI	BI Sx	1000	500	400	7	1	20	PI	1.20	125	2.0
		05 ¹	PI Sx	BI	1000	500	400	7	1	20	Others	0.60	125	2.0
		06	PI Sx	BI	1200	700	600	7	1	20	PI	1.20	125	2.0
		07	PI Sx	BI	1200	700	600	7	1	20	Others	0.80	125	2.0
		08	PI Sx	BI	1000	500	400	7	1	20	PI	1.60	125	2.0
		09	non-forested		-	-	-	-	-	-	Others	0.80	125	2.0
		10	non-forested		-	-	-	-	-	-	PI	1.20	125	2.0
					-	-	-	-	-	-	Others	0.60	-	-

Footnotes:

1 Sx is included as a preferred species where it is present and performing well in the existing natural stand.

Standards ID	BGC Classification		Regeneration Guide						Free Growing Guide					
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
					Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
Zone/SZ	Series	Preferred (p)	Acceptable (a)	(well-spaced/ha)										
	ESSFxv	01	PI Sx	BI	1200	700	600	7	1	20	PI	1.00	125	2.0
		02	PI	BI	800	500	400	7	1	20	Others	0.80	125	2.0
		02 ¹	PI	Sx BI	800	500	400	7	1	20	PI	0.80	125	2.0
		03	PI		800	500	400	7	1	20	Others	0.60	125	2.0
		03 ²	PI	Sx BI	800	500	400	7	1	20	PI	0.80	125	2.0
		04	PI	BI Sx	1000	600	500	7	1	20	Others	0.60	125	2.0
		05	PI	BI Sx	1200	700	600	7	1	20	PI	1.00	125	2.0
		06	PI Sx	BI	1200	700	600	7	1	20	Others	0.80	125	2.0
		07	PI Sx	BI	1200	700	600	7	1	20	PI	1.00	125	2.0
		08	PI ¹ Sx	BI	600	400	300	7	1	20	Others	0.80	125	2.0
		09	Sx BI	PI	800	500	400	7	1	20	PI	0.80	125	2.0
											Others	0.60		

Footnotes:

1 Sx is included as an acceptable species where there is evidence it has the potential to make a crop tree under similar geographic area and conditions.

2 Sx and BI are included as acceptable species where there is evidence they have the potential to make a crop tree under similar geographic area and conditions.

Site Series Translation:

x = 02

x = 03

sm = 04

sx = 05

shg = 07

Standards ID	BGC Classification		Regeneration Guide						Free Growing Guide					
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter- tree Distance (m)
					Target	MIN pa	MIN p		Earliest	Latest	Species	Ht		
			(well-spaced/ha)			(yrs)	(yrs)	(m)						
IDFdk1	01 & 04	01 & 04	Fd PI	Py Sx	1000	500	400	7	1	20	PI	1.00	125	2.0
			Fd	0.80										
			Others	0.60										
			Fd PI Py Sx	1000	400	300	7	1	20	PI	1.00			
			Fd	0.80										
			Others	0.60										
			Fd PI Py Sx	1000	400	300	7	1	20	PI	1.00			
			Fd	0.80										
			Others	0.60										
			Fd PI Py	Sx	1000	500	400	7	1	20	PI	1.00		
			Fd	0.80										
			Others	0.60										
			Fd Py	600	400	400	7	1	20	Fd	0.80			
			Fd PI	Py	600	400	300	7	1	20	PI	1.00		
Fd	0.80													
Py	0.60													
Fd PI Py	600	400	300	7	1	20	PI	1.00						
Fd	0.80													
Py	0.60													
Fd Sx	BI PI	1000	500	400	7		20	PI	1.00					
Fd	0.80													
Others	0.60													
PI Sx Fd	BI	1000	500	400	7	1	20	PI	1.00					
Fd	0.80													
Others	0.60													
Fd PI Py Sx Lw ^c	BI	1000	500	300	7	1	20	PI	1.00					
Fd	0.80													
Others	0.60													
Fd PI Py Sx Lw ^c	BI	1000	500	300	7	1	20	PI	1.00					
Fd	0.80													
Others	0.60													
Fd PI Py	Sx BI	1000	500	400	7	1	20	PI	1.00					
Fd	0.80													
Others	0.60													
07	non-forested	-	-	-	-	-	-	-	-	-	-	-	-	

Footnotes for IDFdK1:

- 1 Py and Sx are included as preferred species to increase the species mix in areas affected by root rot.
The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
 - 2 Py and Sx are included as preferred species to increase the species mix in areas affected by root rot.
The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
In addition, the minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
 - 3 Py is included as preferred and the minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial soils.
 - 4 Py is included as preferred species based on local experience and knowledge within this ecosystem.
 - 5 Py and Lw are included as preferred species to increase the species mix in areas affected by root rot.
The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
 - 6 Py and Lw are included as preferred species to increase the species mix in areas affected by root rot.
The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
In addition, the minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
 - 7 Py is included as preferred and Sx as acceptable species and the minimum inter -tree distance is reduced from 2.0 to 1.5 based on colluvial soils.
- c Western Larch (Lw) is included as a preferred species based on its' suitability to the site conditions and its' potential tolerance to root disease.
A maximum of 200 stems/ ha will be considered at the free -growing assessment stage.

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide					
			Species		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height	Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Conifer	Decid	Target	MN pa	MN p		Earliest (yrs)	Latest (yrs)			
	IDFdk2	01	Fd PI	Py Sx Ep ^b	1000	500	400	7	1	20	PI Ep 1.00 Fd 0.80 Sx 0.60 Py 0.60	125	2.0
		01 ¹	Fd PI	Py Sx Ep ^b	1000	500	400	7	1	20	PI Ep 1.00 Fd 0.80 Sx 0.60 Py 0.60	125	1.5
		01 ²	Fd PI Py Sx Lw ^c Ep ^a	Bl Cw Pw ^a	1000	400	300	7	1	20	PI Ep 1.00 Fd 0.80 Sx 0.60 Others 0.60	125	2.0
		01 ³	Fd PI Py Sx Lw ^c Ep ^a	Bl Cw Pw ^a	1000	400	300	7	1	20	PI Ep 1.00 Fd 0.80 Sx 0.60 Others 0.60	125	1.5
		02	Fd Py		600	400	400	7	1	20	Fd 0.80 Py 0.60	125	2.0
		03	Fd PI	Py	1000	500	400	7	1	20	PI 1.00 Fd 0.80 Py 0.60	125	2.0
		04	Fd PI Sx	Py Ep ^b	1200	700	600	7	1	20	PI Ep 1.40 Fd 1.00 Py 0.80 Sx 0.60	125	2.0
		04 ⁴	Fd PI Sx	Py Ep ^b	1200	700	600	7	1	20	PI Ep 1.40 Fd 1.00 Py 0.80 Sx 0.60	125	1.5
		04 ⁵	Fd PI Py Sx Lw ^c Ep ^b	Bl Cw Pw ^a	1200	600	500	7	1	20	PI Ep 1.40 Fd 1.00 Py 0.80 Others 0.60	125	2.0
		04 ⁶	Fd PI Py Sx Lw ^c Ep ^b	Bl Cw Pw ^a	1200	600	500	7	1	20	PI Ep 1.40 Fd 1.00 Py 0.80 Others 0.60	125	1.5
		05	Fd Sx PI	Cw Ep ^b	1200	700	600	7	1	20	PI Ep 1.40 Fd 1.00 Others 0.80	125	2.0
		05 ⁷	Fd Sx PI	Cw Ep ^b	1200	700	600	7	1	20	PI Ep 1.40 Fd 1.00 Others 0.80	125	1.5
		05 ⁸	Fd Sx PI Py Cw Lw ^c Ep ^b	PI Pw ^a	1200	600	500	7	1	20	PI Ep 1.40 Fd 1.00 Others 0.80	125	2.0
		05 ⁹	Fd Sx PI Py Cw Lw ^c Ep ^b	PI Pw ^a	1200	600	500	7	1	20	PI Ep 1.40 Fd 1.00 Others 0.80	125	1.5
		06	PI Sx Fd	Ep ^b	1000	500	400	4	1	20	PI 1.00 Fd 0.80 Others 0.60	125	2.0
		06 ¹⁰	PI Sx Fd	Ep ^b	1000	500	400	4	1	20	PI 1.00 Fd 0.80 Others 0.60	125	1.5
		06 ¹¹	PI Sx Fd Cw Lw ^c Ep ^b	Bl Pw ^a	1000	400	300	7	1	20	PI Ep 1.00 Fd 0.80 Others 0.60	125	2.0
		06 ¹²	PI Sx Fd Cw Lw ^c Ep ^b	Bl Pw ^a	1000	400	300	7	1	20	PI Ep 1.00 Fd 0.80 Others 0.60	125	2.0
		07	PI Sx	Cw Ep ^b	1000	500	400	7	1	20	PI Ep 1.00 Others 0.60	125	2.0
		08	non-forested		-	-	-	-	-	-	-	-	-

Footnotes for IDFdK2:

- 1 The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 2 Py, Sx and Ep are included as preferred species and Cw and Pw^a are included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
- 3 Py, Sx and Ep are included as preferred species and Cw and Pw^a are included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins. In addition, The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 4 The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 5 Py and Ep are included as preferred species and Cw and Pw^a are included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
- 6 Py and Ep are included as preferred species and Cw and Pw^a are included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins. In addition, The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 7 The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 8 Py, Cw and Ep are included as preferred species and Pw^a is included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
- 9 Py, Cw and Ep are included as preferred species and Pw^a is included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins. In addition, the minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 10 The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 11 Cw and Ep are included as preferred species and Pw^a is included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
- 12 Cw and Ep are included as preferred species and Pw^a are included as acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins. In addition, The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.

Footnotes for IDFdK2 (continued):

- a Western white pine (Pw) is included as a preferred and/ or acceptable species where it naturally occurs. If Pw is artificially reforested, only rust-resistant stock will be planted and will not require pruning to be considered acceptable at the free-growing stage.
- b Birch (Ep) in included as a preferred and/ or acceptable species based on its' suitability to the site conditions and natural stand and its' tolerance to root disease. A maximum of 200 stems/ ha will be considered at the free-growing assessment stage.
- c Western Larch (Lw) in included as a preferred species based on its' suitability to the site conditions and its' potential tolerance to root disease. Western Larch (Lw) in included as a preferred species based on its' suitability to the site

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Preferred (p)	Acceptable (a)	Target (well-spaced/ha)	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
IDFxh1	01	Fd Py	Lw	1000	500	400	7	1	20	All	0.60	125	2.0	
		02	Py Fd		400	200	200	7	1	20	All	0.60	125	2.0
		03	Py Fd		600	400	400	7	1	20	All	0.60	125	2.0
		04	Py Fd		600	400	400	7	1	20	All	0.60	125	2.0
		05	Py Fd		600	400	400	7	1	20	All	0.60	125	2.0
		06	Fd Py	Lw	1000	500	400	7	1	20	All	0.60	125	2.0
		07	Fd Py	Lw Cw	1000	500	400	7	1	20	All	0.60	125	2.0
		08	Fd Pl Sx	Cw	1200	700	600	7	1	20	Pl, Lw Others	1.00 0.80	125	2.0
		09	non-forested		-	-	-	-	-	-	-	-	-	-

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Preferred (p)	Acceptable (a)	Target (well-spaced/ha)	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
IDFxh2	01	Fd Py		1000	500	400	7	1	20	All	0.60	125	2.0	
		02	Py Fd		400	200	200	7	1	20	All	0.60	125	2.0
		03	Py Fd		400	200	200	7	1	20	All	0.60	125	2.0
		04	Py Fd		600	400	400	7	1	20	All	0.60	125	2.0
		05	Fd Py		1000	500	400	7	1	20	All	0.60	125	2.0
		06	Fd Py		1200	700	600	7	1	20	All	0.60	125	2.0
		07	Fd Sx	Py Cw	1200	700	600	7	1	20	All	0.60	125	2.0
		08	Sx Fd	Pl	1000	500	400	7	1	20	Pl Others	0.80 0.60	125	2.0

Standards ID	BGC Classification		Regeneration Guide						Free Growing Guide					
			Species		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Conifer		Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
Zone/SZ	Series	Preferred (p)	Acceptable (a)	(well-spaced/ha)										
MSdc1		01	PI Sx Fd	BI	1200	700	600	7	1	20	PI Others	1.40 0.80	125	2.0
		01 ¹	PI Sx Fd Py Pw ^a Lw ^c	BI Cw	1200	600	500	7	1	20	PI Others	1.40 0.80	125	2.0
		01 ²	PI Sx Fd	BI	1200	700	600	7	1	20	PI Others	1.40 0.80	125	1.5
		01 ³	PI Sx Fd Py Pw ^a Lw ^c	BI Cw	1200	600	500	7	1	20	PI Others	1.40 0.80	125	1.5
		02	PI Fd	Sx	1000	500	400	7	1	20	PI Others	1.00 0.60	125	2.0
		03	PI Fd	Sx	1000	500	400	7	1	20	PI Others	1.00 0.60	125	2.0
		04	PI Sx Fd	BI	1200	700	600	7	1	20	PI Others	1.40 0.80	125	2.0
		04 ⁴	PI Sx Fd Cw Pw ^a Lw ^c	BI Py	1200	700	600	7	1	20	PI Others	1.40 0.80	125	2.0
		04 ⁵	PI Sx Fd	BI	1200	700	600	7	1	20	PI Others	1.40 0.80	125	1.5
		04 ⁶	PI Sx Fd Cw Pw ^a Lw ^c	BI Py	1200	700	600	7	1	20	PI Others	1.40 0.80	125	1.5
		05	non-forested		-	-	-	-	-	-	-	-		

Footnotes:

- 1 Py, Pw and Lw are included as preferred species and Cw as an acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins.
- 2 The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 3 Py, Pw and Lw are included as preferred species and Cw as an acceptable species to increase the species mix in areas affected by root rot. The min WSS values are reduced by 100 to account for Armillaria & Phellinus root disease centres and their expanding margins. In addition, the minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 4 Cw, Pw and Lw are included as preferred species and Py as an acceptable species to increase the species mix in areas affected by root rot.
- 5 The minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- 6 Cw, Pw and Lw are included as preferred species and Py as an acceptable species to increase the species mix in areas affected by root rot. In addition, the minimum inter-tree distance is reduced from 2.0 to 1.5 based on colluvial and/ or hygric soils.
- a Western white pine (Pw) is included as a preferred species where it naturally occurs and/ or is required for root rot management. If Pw is artificially reforested, only rust-resistant stock will be planted and will not require pruning to be considered acceptable at the free-growing stage. Pw is also suitable because it is relatively frost resistant and shade tolerant.
- c Western Larch (Lw) is included as a preferred species based on its' suitability to the site conditions and its' potential tolerance to root disease. A maximum of 200 stems/ ha will be considered at the free-growing assessment stage.

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
1017093	MSdm2	01	PI Sx Fd ^{9,14,32}	At Lw Py Cw Hw Bl ^{10,13}	1200	700	600	7		20	PI, Lw Others	1.40 0.80	125	1.5
1017089		03	Fd ^{9,14} PI	At Cw Hw Bl ^{10,13} Sx ^{10,13}	1000	500	400	7		20	PI Others	1.00 0.60	125	1.5
1017094		04	PI Fd ^{9,14,32} Sx ^{10,13}	At Lw Py Cw Hw Bl ^{10,13}	1200	700	600	7		20	PI, Lw Others	1.40 0.80	125	1.5
1017097		05	PI Sx Fd ^{9,14,32}	At Py Cw Hw Act Bl ^{10,15}	1200	700	600	7		20	PI Others	1.40 0.80	125	1.5
1017098		06	PI Sx Fd ^{9,14,32}	Bl At Cw Hw Act	1200	700	600	7		20	PI Others	1.40 0.80	125	1.5
1017100		07	PI Sx	Bl At Cw Hw Act	1000	500	400	7		20	PI Others	1.00 0.60	125	1.5

Footnotes:

- 9 restricted to southerly aspects
- 10 restricted to northerly aspects
- 13 restricted to upper elevations of biogeoclimatic unit
- 14 restricted to lower elevations of biogeoclimatic unit
- 15 restricted to northern portion of biogeoclimatic unit in region
- 32 limited by growing-season frosts

Standards ID	BGC Classification		Regeneration Guide					Free Growing Guide						
			Species Conifer		Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		Height relative to Competition (%)	Min. Inter-tree Distance (m)
			Preferred (p)	Acceptable (a)	Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species	Ht (m)		
	MSxk	01	PI Fd Sx	BI	1200	700	600	7	1	20	PI 1.40 Others 0.80	125	2.0	
		01 ¹	PI Fd Sx	BI	1200	700	600	7	1	20	PI 1.40 Others 0.80	125	1.5	
		02	PI Fd	BI	1000	500	400	7	1	20	PI 1.00 Others 0.60	125	2.0	
		03	non-forested		-	-	-	-	-	-	-	-	-	
		04	non-forested		-	-	-	-	-	-	-	-	-	
		05	PI Fd	BI Sx	1000	500	400	7	1	20	PI 1.00 Others 0.60	125	2.0	
		05 ¹	PI Fd	BI Sx	1000	500	400	7	1	20	PI 1.00 Others 0.60	125	1.5	
		06	PI Fd Sx	BI	1200	700	600	7	1	20	PI, Lw 1.40 Others 0.80	125	2.0	
		06 ¹	PI Fd Sx	BI	1200	700	600	7	1	20	PI, Lw 1.40 Others 0.80	125	1.5	
		07	PI Fd Sx	BI	1200	700	600	7	1	20	PI 1.40 Others 0.80	125	2.0	
		07 ¹	PI Fd Sx	BI	1200	700	600	7	1	20	PI 1.40 Others 0.80	125	1.5	
		08	PI Fd Sx	BI	1200	700	600	7	1	20	PI 1.40 Others 0.80	125	2.0	
		08 ¹	PI Fd Sx	BI	1200	700	600	7	1	20	PI 1.40 Others 0.80	125	1.5	
		09	PI Sx	BI	1000	400	300	7	1	20	PI 1.00 Others 0.60	125	1.5	

Footnotes:

1 The minimum inter-tree distance is reduced from 2.0 to 1.5m based on colluvial and/or hygric soils

1.21 Reference Guide for Stocking Standards in Conifer Uneven-aged Managed Stands

Target from Conifer Standards (stems/ ha)	Layer**	Stocking***			Target from Conifer Standards (stems/ ha)	Layer**	Stocking***		
		Target pa (well-spaced/ ha)	MIN pa	MIN p			Target pa (well-spaced/ ha)	MIN pa	MIN p
1200	1	600	300	250	600	1	300	150	150
	2	800	400	300		2	400	200	200
	3	1000	500	400		3	500	300	300
	4	1200	700	600		4	600	400	400
1000	1	400	200	200	400	1	200	100	100
	2	600	300	250		2	300	125	125
	3	800	400	300		3	300	150	150
	4	1000	500	400		4	400	200	200
800	1	300	150	150					
	2	400	200	200					
	3	600	300	300					
	4	800	400	400					

MIN - minimum

****Stand Layer Definition**

Layer 1	Mature	trees >= 12.5 cm dbh
Layer 2	Pole	trees 7.5 cm to 12.4 cm dbh
Layer 3	Sapling	trees >= 1.3 m height and <7.5 cm dbh
Layer 4	Regeneration	trees < 1.3 m height

*** pa - preferred and acceptable species p - preferred species

Maximum regeneration delay is seven (7) years

The late free growing date is 20 years.

Minimum free growing ht. for DFI is 40 cm. For all other species, the minimum FG height is 70% of the minimum free-growing height for the species and site.

Free growing can be met 12 months after the completion of harvesting

1.22 Conifer Partial Cutting Stocking Standards

Preamble

The MOFR recognized “Deviation from Potential” (DFP) stocking assessment method and standards is designed to assess regeneration stocking in partially cut stands in the BC interior. This method is especially relevant to stands with substantial variation in the size and spatial arrangement of live trees retained at harvest. Problems arise when British Columbia’s existing systems for assessing stocking are applied to highly vary structured stands.

Generally, varied structured stands materialize from managing short term non-timber objectives. The intent is to apply the DFP stocking standard to a timber harvested area where significant residual tree retention has been identified and is a result of commercial thinning, removal of individual trees, or a similar type of intermediate cutting.

Specifically, the DFP will be applied to partial cut standard units (SU) with a minimum of 5m²/ha of residual basal area (Figure 1), managed under an even-aged silviculture system. The stocking evaluation will be based on the work completed by Bancroft et. al. (2003) and Martin (2004).

The DFP method could result in some residual structures having an acceptable stocking value that is below the stocking level necessary for optimal timber production. In these situations, to meet the TSR timber production expectation, it is assumed in most cases, the harvest is an intermediate cut. Subsequent harvesting and follow-up reforestation will occur in 20 – 30 years. Retaining these structures for longer periods will result in volume losses (Przeczek 2002).

Application Rules

Figure 1

~~Figure 1~~ should be consulted when assessing the suitability of a stand for the DFP approach. Figure 1 uses density (sph), basal area (m²/ha), and isolines of average stand diameter (after Gingrich 1967) as the basis for displaying:

Minimum Stocking Line

- Two minimum stocking lines are presented; one for sites with 700/1200 even-aged stocking standards and one for sites with 500/1000 even-aged stocking standards.

The minimum stocking line represents the lowest residual stocking level of acceptable layer 1 stems (≥ 12.5 cm dbh) required to be considered stocked. If average stocking in a SU meets or exceeds the minimum stocking line, the SU will be considered SR or FG (if all other species selection, health, size, and damage criteria are met). In addition, $\geq 60\%$ of the area as determined by the % of plots within a SU must be acceptability stocked (Figure 1) .

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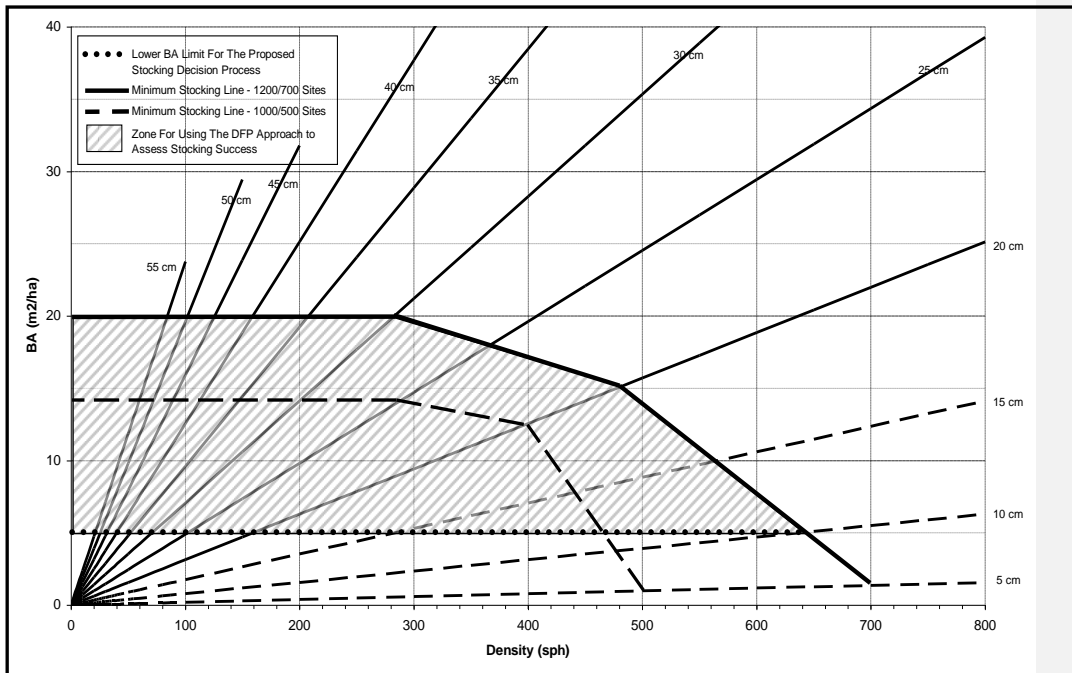


Figure 1. Stocking zone, lower basal area limit, minimum stocking line, and isolines of average stand diameter for assessing partial cut stands in Lillooet TSA.

Lower Basal Area Limit

- The lower basal area line defines the lowest average residual basal area, including all layer 1 stems, ($\geq 5 \text{ m}^2/\text{ha}$) that a standards unit is allowed for the application of DFP stocking assessment. SU with residual basal areas $< 5 \text{ m}^2/\text{ha}$ should be assessed with current even-aged stocking standards.

Stocking Zone

- The stocking zone area represents the range of residual stand structures suited to the DFP approach.

Assessment Procedures

Plot assessments will be conducted as per standard even-aged regeneration and free growing assessments with the following modification:

Layer 1 stems ($\geq 12.5 \text{ cm dbh}$)

Initial indications suggest using a 3 - 5 BAF prism to collect Layer 1 stem information. All Layer 1 stems (except for dead and moribund stems) are used to calculate the DFP value for each plot. Tally the dead and moribund trees as separate classes. Because the minimum stocking line decision is based on acceptable Layer 1 stems, tally acceptable

and unacceptable Layer 1 stems separately. The DFP stocking decision requires $\geq 80\%$ of the Layer 1 stems to be of acceptable quality.

Data Compilation

In addition to standard regeneration survey summary information, the following are required:

- Determine the minimum stocking line value: Compute basal area, density, and mean diameter of live acceptable L1 trees.
- Determine the Plot DFP value: Calculate the basal area (m2) and well-spaced sph for each plot and apply to Table 5.
- Determine the SU DFP value: Calculated the mean DFP value for each stratum along with the proportion (%) of stocked, partially stocked and “open” plots¹.
- A stand table (m2/ha) could be prepared for each stratum to assist with the decision making, but it is not a survey requirement.

Table 5. Deviation from potential (DFP) volume by understory tree density and overstory basal area.

OS Basal Area (m2/ha)	Well-spaced trees in plot									Colour Stocking Class Growth Potential Opportunity
	0	1	2	3	4	5	6	7	8	
0	1.00	0.76	0.52	0.34	0.22	0.13	0.07	0.03	0.00	Open High potential for additional volume growth $\geq 41\%$ Additional stocking is required where timber production is the primary management objective Partially Stocked Moderate potential for additional volume production through additional stocking 21 – 40% Assess options, additional stocking may be required Stocked Low potential for additional growth through additional stocking $\leq 20\%$ No further treatments required
1	0.98	0.74	0.51	0.34	0.21	0.13	0.07	0.03	0.00	
2	0.96	0.73	0.50	0.33	0.21	0.13	0.07	0.03	0.00	
3	0.93	0.71	0.49	0.32	0.20	0.12	0.07	0.03	0.00	
4	0.90	0.68	0.47	0.31	0.20	0.12	0.06	0.03	0.00	
5	0.86	0.65	0.45	0.30	0.19	0.11	0.06	0.02	0.00	
6	0.82	0.62	0.43	0.28	0.18	0.11	0.06	0.02	0.00	
7	0.77	0.58	0.40	0.27	0.17	0.10	0.05	0.02	0.00	
8	0.72	0.55	0.38	0.25	0.16	0.09	0.05	0.02	0.00	
9	0.67	0.51	0.35	0.23	0.15	0.09	0.05	0.02	0.00	
10	0.62	0.47	0.32	0.21	0.14	0.08	0.04	0.02	0.00	
11	0.57	0.43	0.30	0.20	0.12	0.07	0.04	0.02	0.00	
12	0.52	0.39	0.27	0.18	0.11	0.07	0.04	0.01	0.00	
13	0.47	0.35	0.24	0.16	0.10	0.06	0.03	0.01	0.00	
14	0.42	0.32	0.22	0.15	0.09	0.05	0.03	0.01	0.00	
15	0.38	0.28	0.20	0.13	0.08	0.05	0.03	0.01	0.00	
16	0.33	0.25	0.17	0.11	0.07	0.04	0.02	0.01	0.00	
17	0.29	0.22	0.15	0.10	0.06	0.04	0.02	0.01	0.00	
18	0.26	0.19	0.13	0.09	0.06	0.03	0.02	0.01	0.00	
19	0.22	0.17	0.12	0.08	0.05	0.03	0.02	0.01	0.00	
20	0.19	0.14	0.10	0.07	0.04	0.02	0.01	0.01	0.00	
21	0.16	0.12	0.08	0.06	0.04	0.02	0.01	0.00	0.00	
22	0.13	0.10	0.07	0.05	0.03	0.02	0.01	0.00	0.00	
23	0.11	0.08	0.06	0.04	0.02	0.01	0.01	0.00	0.00	
24	0.09	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00	
25	0.07	0.05	0.04	0.02	0.02	0.01	0.00	0.00	0.00	
26	0.05	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	
27	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00	
28	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00	
29	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	
30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

¹ The % of plots calculation is a surrogate for the % of area. If the proportion or distribution of plots does not reflect the area for each DFP stocking class the calculation will be incorrect and another approach to estimating proportional area will have to be documented and applied.

Stocking Decision Matrix

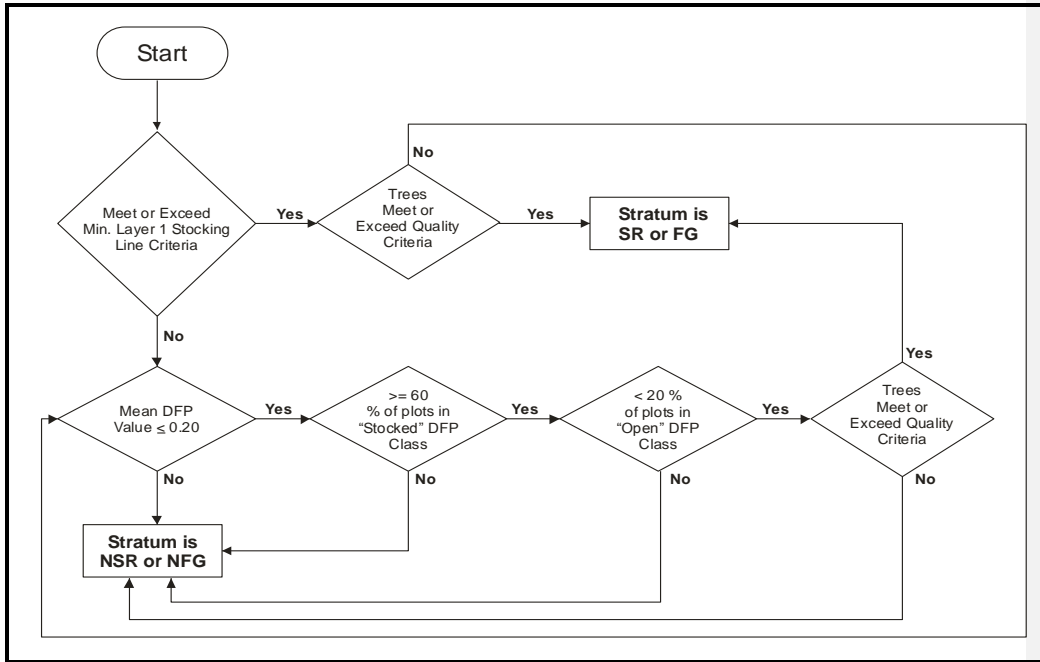


Figure 2. Stocking Decision Flowchart

Partial Cutting Stocking Standards

Minimum Stocking Line, DFP, and General Criteria

The DFP standards for Ainsworth - Lillooet TSA are listed in Tables 6 and 7. These partial cutting standards do not apply to areas prescribed for single-tree silviculture system, NDT4 ecosystem restoration (open forest or open range), beetle proofing in lodgepole pine dominated stands, or where management objectives require long term overstory retention and a reduction in yield is acceptable.

Also, many of these harvested stands will have clumped irregular stocking patterns and considerable overstory, restricting the potential for augmenting stocking through planting. The resulting biological and financial constraints will result in some stands not meeting the stocking criteria. Strata with NSR openings ≥ 1.0 ha, that are not under significant overstory influence, will be reforested. The remaining other strata cannot be declared stocked or free-growing, and may require additional harvesting treatments before stocking levels in layer 4 can be augmented.

The DFP stocking standards are considered as a first approximation. Revisions to these standards can be expected as more experience is gained from using the system and as better information becomes available.

Table 6. Minimum partial-cutting stocking standards for site series with 700/1200 even- aged stocking standards.

Minimum Stocking Line Criteria			Deviation from Potential (DFP) Criteria			General Criteria			
Average DBH (cm) ¹	MSS Density (sph)	MSS Basal Area (m ² /ha)	Max Mean DFP	Max % Partially Stocked Plots	Max % Open Plots	Min. Intertree Distance ²	Regen. Delay (max. yrs.) ³	FG Earliest (yrs.) ³	FG Latest (yrs.) ³
< 12.5			0.20	40	20	n/a + 2.0	1	1	2
15	560	10							
20	480	15							
25	360	17							
30	280	20							
35	210	20							
40	180	20							
45	150	20							
50 - 60	100	20							

Notes:

1. Calculation is based on stems ≥ 12.5 cm dbhob; Average DBH is the weighted average for all acceptable stems.
2. No minimum intertree will be applied to layer 1 stems; a 2.0 minimum intertree distance will apply to layer 2, 3, and 4 stems.
3. Timeframes only apply where a stratum is declared SR or FG using the minimum stocking line and were chosen to allow up to 2 years for assessing windthrow damage prior to a free-growing declaration. If the minimum stocking line is not used, time frames will default to even-aged regeneration delay and free-growing delay periods.

Table 7. Minimum partial-cutting stocking standards for site series with 500/1000 even-aged stocking standards.

Minimum Stocking Line Criteria			Deviation from Potential (DFP) Criteria			General Criteria			
Average DBH (cm) ¹	MSS Density (sph)	MSS Basal Area (m ² /ha)	Max Mean DFP	Max % Partially Stocked Plots	Max% Open Plots	Min. Intertree Distance ²	Regen. Delay (max. yrs.) ³	FG Earliest (yrs.) ³	FG Latest (yrs.) ³
< 12.5			0.20	40	20	n/a + 2.0	1	1	2
15	440	8							
20	400	12.5							
25	290	14							
30	200	14							
35	150	14							
40	110	14							
45+	90	14							

Notes:

1. Calculation is based on stems ≥ 12.5 cm dbhob; Average DBH is the weighted average for all acceptable stems.
2. No minimum intertree will be applied to layer 1 stems; a 2.0 minimum intertree distance will apply to layer 2, 3, and 4 stems.
3. Timeframes only apply where a stratum is declared SR or FG using the minimum stocking line and were chosen to allow up to 2 years for assessing windthrow damage prior to a free-growing declaration. If the minimum stocking line is not used, time frames will default to even-aged regeneration delay and free-growing delay periods.

Tree Acceptability Criteria

Table 8 provides a summary of the standards for tree acceptability for regeneration and free-growing assessments.

Table 8. Tree acceptability criteria partial cutting stocking assessment procedure.

Tree Acceptability Criteria	Regeneration Assessment	Free-growing Assessment
Species	All layer 1 stems will be considered as preferred species. Preferred and acceptable species for the site as per current even-aged stocking standards for other layers.	All layer 1 stems will be considered as preferred species. Preferred and acceptable species for the site as per current even-aged stocking standards for other layers.
MSS _p	Preferred species ≥ 50% of the well-spaced stocking	Preferred species ≥ 50% of the free-growing stocking
Health	Healthy	As per the Section 7f “Acceptability guidelines for residual mature and pole layer crop trees” from FS 660-1 HFP 01 and the Tree Wounding Guidebook. In stands that do not meet or exceed the minimum stocking line, ≥ 80% of the total Layer 1 stems must be of acceptable quality.
Brush		Appropriate conifer/brush ratio
Height	Min. 30 cm	70% of the minimum free-growing height for the species and site
Advanced Regeneration		As per the Section 7f “Acceptability guidelines for residual pole layer crop trees” from FS 660-1 HFP 01 and the Tree Wounding Guidebook. For the layer 3 and layer 4 crop trees, default to the appropriate <i>FSP</i> free growing damage criteria for uneven-aged stands
Minimum Intertree Distance	2.0 m, no MITD for layer 1 stems	2.0 m, no MITD for layer 1 stems

Stocking Standards References

- Bancroft, Bryce, Ken Day, Pat Martin, Kim Peel and Ken Zielke. 2003. Partially Cut: Occupied or Not? What are my options? – A proposed survey approach. . Unpubl. FIA Rep. for Lignum Limited.
- B.C. Ministry of Forests. 2000. Establishment to free growing guidebook. Nelson Forest Region. Rev. ed., Version 2.2. For. Prac. Br., B.C. Min. For., Victoria, B.C. Forest Practices Code of British Columbia Guidebook.
- Gingrich, Samuel F. 1967. Measuring and evaluating stocking and stand density in upland hardwood forests in the Central States. For. Sci. 13: 38 – 53.
- Martin, Pat. 2004. Second approximation of the deviation from potential table. Unpubl. Information Sheet. 17pp.
- Przeczek, John E. 2002. Partial Cutting Effects Study: Modeling with Prognosis^{BC} and TASS to Assess Partial Cutting Impacts on Yield in the Invermere T.S.A.. Unpubl. FIA Rep. for Slocan Forest Products Ltd. and Tembec Industries Ltd. 21 pp. + append.

1.23 Broadleaf Stocking Standards

Stocking Standards Reference Number	Target from Conifer Standards	Species	Regeneration Guide				Regen Delay (Max yrs)	Free Growing Guide		Min. Height	
			Stocking					Assessment		Min. Height	
			Target	MIN pa	MIN p	MIN p Conifers		Earliest ² (yrs)	Latest ³ (yrs)	Species	Ht (m)
406,081	1000	Act At Ep	1600	1000	800	N/A	7	1	20	All	1.2
406,091	1200	Act At Ep	2000	1200	1000	N/A	7	1	20	All	1.5

¹Source: Ainsworth Central Cariboo Forest District Pulpwood Agreement 16 Stocking Standards

²Reduced from 12 years to 1 year.

³Increased from 15 years to 20 years.

1.24 Mixed-Wood Stocking Standard

Stocking Standards Reference Number ¹	Target from Conifer Standards	Regeneration Guide					Free Growing Guide				
		Species Broadleaf	Stocking			Regen Delay (Max yrs)	Assessment		Min. Height		
			Target	MIN pa	MIN p		MIN p Conifers	Earliest ² (yrs)	Latest ³ (yrs)	Species	Ht (m)
Conifer component = 41% and greater											
40,600	1000	Act At Ep	1200	700	600	400	7	1	20	All	1.2
40,601	1200	Act At Ep	1600	1000	800	600	7	1	20	All	1.5
Conifer component = 31% to 40%											
40,602	1000	Act At Ep	1300	800	650	300	7	1	20	All	1.2
40,603	1200	Act At Ep	1700	1050	850	400	7	1	20	All	1.5
Conifer component = 26% to 30%											
40,604	1000	Act At Ep	1400	900	700	250	7	1	20	All	1.2
40,605	1200	Act At Ep	1800	1100	900	300	7	1	20	All	1.5
Conifer component = 21% to 25%											
40,606	1000	Act At Ep	1500	950	750	150	7	1	20	All	1.2
40,607	1200	Act At Ep	1900	1150	950	200	7	1	20	All	1.5

¹Source: Ainsworth Central Cariboo Forest District Pulpwood Agreement 16 Stocking Standards

² Reduced from 12 years to 1 year.

³ Increased from 15 years to 20 years.

1.25 Fire Interface Stocking Standards

“Wildland Urban Interface (WUI) Area” means any area where combustible fuels (vegetation) are found adjacent to homes, farm structures, or other buildings. For the purpose of the Strategic Wildfire Prevention Initiative, the wildland interface is the area within 2 km of a community with densities of between 6 and 250 structures per square kilometer.

These stocking standards are to be applied within approximately 2 km of the Wildland-Urban Interface (WUI), other high value infrastructure or other high resource values on the land base, or any other areas identified as appropriate for a fire management stocking standard within the resource district fire management plan. In the absence of a description of specific areas, these stocking standards may apply to any other area that the resource district agrees to in writing.

Specifically, these stocking standards apply to the following licences and/or areas: (Specific areas will be added to this table as they are approved by the District Manager.)

APPLICABLE FSP	FDU	TENURE	LICENCE	TENURE NAME	Applicable Blocks (Planning #)

(a) Even-Aged Stand Target and Minimum Stocking:

BEC Zone	Site Series	Preferred Species	Acceptable Species	Target	Minimum Preferred & Acceptable	Minimum Preferred
IDF xh 1 & 2	All	Fd, Py, At	Lw	400	200	150
IDF dk 1 & 2	All	Fd, Pl, Lw, Py, At	Sx	500	250	200

Species, Free Growing Height is as per sec. 1.20 of Appendix A.

Minimum Inter-tree Distance is as per sec 1.8 & 1.20 of Appendix A.

Species preferred will be added if presently growing on the site and performing well. Species may also be added if ecologically suited and at least moderately fire resistant. .

(b) Target and Minimum density for Multi-Layer Stands:

BEC Zone	Site Series	Preferred Species	Acceptable Species	Layer	Target	Minimum Preferred & Acceptable	Minimum Preferred
IDF xh 1 & 2	All	Fd, Py, At	Lw	1	150	50	50
	All	Fd, Py, At	Lw	2	200	100	100
	All	Fd, Py, At	Lw	3	300	150	100
	All	Fd, Py, At	Lw	4	400	200	150
IDF dk 1 & 2	All	Fd, Pl, Lw, Py, At	Sx	1	150	50	50
	All	Fd, Pl, Lw, Py, At	Sx	2	200	100	100
	All	Fd, Pl, Lw, Py, At	Sx	3	400	200	150
	All	Fd, Pl, Lw, Py, At	Sx	4	500	250	200

(c) “The stocking standards used have been developed to match the objectives of the fuel management plans for the area. These fire inter-face stocking standards have been developed to set up silviculture survey parameters that will be used to measure the results but will not be used solely to determine whether the silviculture obligations have been met, as timber production is not the main objective. Meeting the primary objective of opening up the crowns will be the ultimate measure of whether or not the obligations have been met.”

(d) For areas that are closer than 500m to a community, and/or where there is a desire by the Cascades Natural Resource District to pursue ongoing treatments or a proposed heavy grazing program, or something similar not conducive with meeting silviculture obligations, an exemption from those obligations may be granted by the District Manager.

Appendix B: Forest Stewardship Plan Maps

Maps 1 through 10 show the following information:

- Forest Development Units
- Old Forest Polygons and Community Watersheds
- Ungulate Winter Range (Mule Deer, Elk and Big Horn Sheep)
- Moose Winter Range
- | [Draft](#) Moose Management Units
- Goat Winter Range
- Known Locations and Occurrence of Species
- Wildlife Habitat Areas
- Identified Scenic Areas
- Suitable Gopher Snake Habitat
- Recreation Polygons and Trails
- Draft Specified Areas - Grizzly Bear Management Schedules A-D

Appendix C: Declared areas under section 14 (4) of the FPPR

LICENCE	CUTTING PERMIT	BLOCK	ASPEN PLANNING #	GEOGRAPHIC LOCATION
A18700	722	1	Y95	LaRochelle
A18700			W1,3,5-13,15-18,21,23,24,26,28,29,32,33,35,43,44	Slok/Lee
A18700			M105-M115	Bonanza
A18700			G42, G65	Slim
A18700			B80-82,86,87,90	Bridge Main-Heli
A18700	740		B62-B70	Bridge Main M/L
A18700			B53-55,58	Bridge Main
A18700			F1, F3	Lachore
A73249			N11-N18	Siska

Appendix D: Established or Continued under the Code as interpretive forest sites, recreation sites and recreation trails (FRPA s.180)

Refer to FSP Maps for all Established or Continued interpretive forest sites, recreation sites and recreation trails.

Appendix E: Cutting Permits and Road Permits in Effect (S. 14(3)(j) FPPR)

LICENCE	CUTTING PERMIT	BLOCK	ROAD PERMIT	GEOGRAPHIC LOCATION
A18700	708	4,5		Mud/Taylor
A18700	709	7,8		Junction/Condor
A18700	710	1,4,5		Noaxe
A18700	711	5,7		Blackhills
A18700	715	14		Camoo
A18700	716	1, 2		Enterprise
A18700	717	1,4,10		Bridge River
A18700	718	1-18		Bridge River
A18700	719	1, 3, 4, 6-10		Burkholder
A18700	721	1-20		LaRochelle
A18700	725	1		Burkholder
A18700	735	1,2		Bridge Main
A18701	385	1-8, 11-12		Sackum Creek
A18701	386	3-10		Hooshum
A18701	387	1, 2		Sackum
A18701	388			Sackum
A73249	384	1-14		Murray/Twall
A84766	362	2		Murray Creek / Venables
A18700	729	1-5		Tyax
A18700	723	1-3,5-9,11-17		Liza
A18700	724	1-11		Slim
A18700	733	1-10,12,14-17		Marshall/Carol