



BCTS
BC Timber Sales

Babine Business Area

Forest Stewardship Plan

for the

Nadina Forest District

2019 – 2024

Major Amendment 1

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1.0 Interpretation

1.1 Acronyms and Definitions

The following acronyms and definitions apply to this FSP and its results, strategies, measures and stocking standards.

AAC – means Allowable Annual Cut

Agreement Holder – means the holder of a Timber Sale Licence or Road Permit granted by the Timber Sales Manager as outlined in section 1.4 of this FSP document.

Basal Area – means the cross sectional area of a tree bole measured at diameter at breast height (1.3 metres at high side) and expressed as a ratio of bole area to land area

BCTS – means British Columbia Timber Sales, Babine Business Area, under the direction of the Timber Sales Manager

BCGW – BC Geographic Warehouse

BEC (Zone) - means Biogeoclimatic Ecosystem Classification (Zone)

CHR - means Cultural Heritage Resource

CMT – means Culturally Modified Tree

DDM – means the Delegated Decision Maker appointed by the Minister

ESSF – means the Engelmann Spruce Subalpine Fir Biogeoclimatic Zone, its subzone and variants

FDU(s) – means the Forest Development Unit(s) under this FSP

FLNRORD – means the Ministry of Forests, Lands and Natural Resource Operations and Rural Development

FPC – means the *Forest Practices Code of British Columbia Act*, RSBC 1996, c.159

FPPR – means the *Forest Planning and Practices Regulation*, B.C. Reg. 14/2004

FRPA – means the *Forest and Range Practices Act*, RSBC 2002, c.69

LCM – means Landscape Connectivity Matrix as outlined in Lakes North SRMP

NDT – means Natural Disturbance Type

OSBG – means an Objective Set by Government

OGMA(s) – means Old Growth Management Area(s)

Qualified Person – means a person who by experience and/or education is considered knowledgeable and able to provide expert advice on a given subject in a given situation

Qualified Professional – means a person who by education, experience and professional credentials is considered knowledgeable and able to provide expert advice on a given subject in a given situation

RMA – means Riparian Management Area

RMZ – means Riparian Management Zone

Safety or Roadside hazard – as defined by the *Workers Compensation Act*

SBS - means the Sub Boreal Spruce Biogeoclimatic Zone, its subzones and variants

SRMP – means Sustainable Resource Management Plan

THLB – means the Timber Harvesting Land Base

TSA – means Timber Supply Area

TSL – means a Timber Sale Licence as authorized by the Timber Sales Manager for the BC Timber Sales Babine Business Area or other such person as that person may delegate

TSM – means the Timber Sales Manager for British Columbia Timber Sales Babine Business Area or other such person as that person may delegate

VQO – means Visual Quality Objective

WTRA/WTP – means Wildlife Tree Retention Area and is an area occupied by wildlife trees that is (a) located in a cutblock, (b) in an area that is contiguous to a cutblock, or (c) in an area 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.

1.2 Changes to Legislation

If legislation referred to in this Forest Stewardship Plan (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.

1.3 Objectives Cancelled

If an established objective for which a result or strategy is included under this FSP is cancelled, the result or strategy under this FSP pertaining to that objective is no longer applicable, effective on the date of cancellation of the objective.

1.4 Application of this FSP

This Forest Stewardship Plan (FSP) has been prepared for the BCTS Babine Timber Sales Office (TSO), as required under section 3(2) of FRPA. The area subject to this FSP is located within the identified FDUs on the FSP map (see Figure 1) in the Morice and Lakes Timber TSAs within the Nadina Forest District.

Subject to exemption under FRPA, this FSP applies to:

- 1) a Timber Sale Licence advertised and entered into by the Timber Sale Manager (TSM) to which Section 3(1) of FRPA does not apply;
- 2) a road permit granted by the TSM to a person holding a Timber Sale Licence referred to in subsection (1); and
- 3) an access road constructed by the TSM to an area to be harvested under a Timber Sale Licence referred to in subsection (1).

1.5 Date of Submission, Commencement of Term, and Term of FSP

1.5.1 Submission Date

The submission date of this FSP is September 4, 2019.

1.5.2 Term and Effective Date

The term of this Forest Stewardship Plan is five (5) years and commences on the date this plan is approved by the DDM.

1.6 Forest Development Units

The BCTS operating areas in the Morice and Lakes TSA's within the Nadina Forest District has been divided into three FDU's as shown on Figure 1 and accompanying FSP maps. See figure 1 (map) and table 1 (FDU names).

Table 1: Forest Development Units of the Nadina FSP

FDU Name	TSA
Lakes North	Lakes
Lakes South	Lakes
Morice	Morice

The above three FDUs have previously been approved in the BCTS 2014 FSP submission. There are no new FDU's being proposed with this submission.

The FDUs exclude areas with legally defined boundaries including, but not limited to, Indian Reserves, and private land.

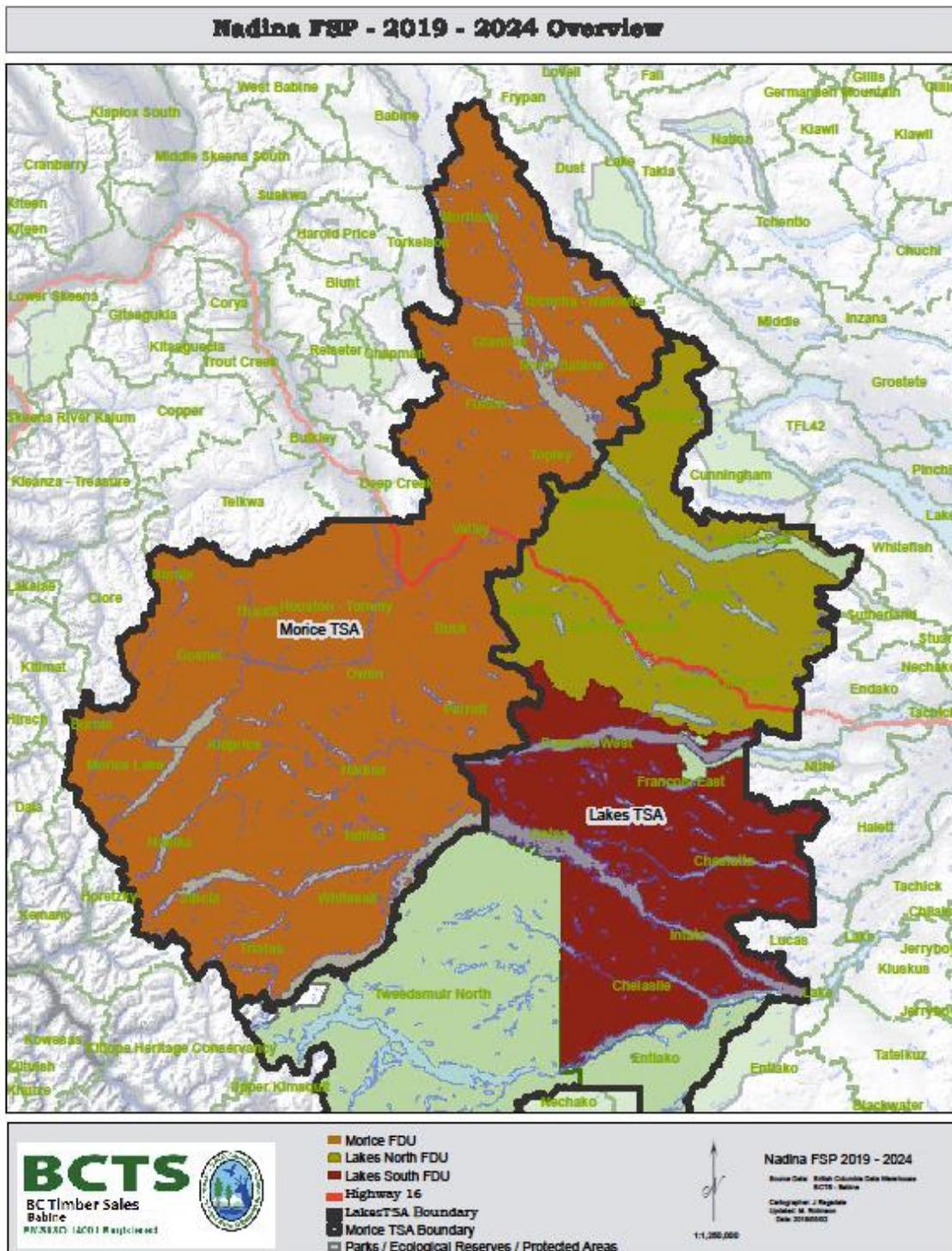


Figure 1: Overview Map of the 2019-2024 Forest Stewardship Plan Amendment, showing Forest Development Units for the BCTS Babine Business Area in the Morice and Lakes TSA.

2.0 Results and Strategies for Objectives

2.1 Objectives Set by Government for Biodiversity

2.1.1 Seral Stage Distribution

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
1	Land Use Objective	Lakes North SRMP	Ministerial Order by the Minister of Agriculture and Lands, Pursuant to Section 93.4(1) of the <i>Land Act</i> .	January 26, 2009
2.1.1.1 Objective Set by Government for Seral Stage – Lakes North				
Maintain a range of forest seral stages by biogeoclimatic zone within each of the landscape units shown on <i>Map 3 Nadina FSP – Lakes North and South FDU - Land Management</i> and in accordance with Table 2.				

2.1.1.1.1 Results or Strategies for Objective 1

Applicable FDU(s): Lakes North

- 1) For the term of this FSP, harvesting and road construction authorized by the TSM will maintain:
 - a) the percentage of forest in an early seral stage below the target levels indicated in Table 2 by BEC zone variant and landscape unit;
 - b) the percentage of forest in a mature plus old seral stage above the target levels indicated in Table 2 by BEC zone variant and landscape unit;
 - c) the percentage of forest in an old seral stage above the target levels indicated in Table 2 by BEC zone variant and landscape unit.

- 2) If the percentage of forest in an early seral stage is above the target levels, or if the percentage of forest in a mature plus old seral stage is below the target levels, or if the percentage of forest in an old seral stage is below the target levels, as specified in Table 2 by BEC zone variant and landscape unit at the commencement date of this FSP, the TSM will:
 - a) in the case of the early, or mature plus old, not issue any new TSL's in those BEC zone variant and landscape unit combinations until the target levels as specified in Table 2 by BEC zone variant and landscape unit have been achieved;

- b) in the case of the old seral targets, not issue any new TSL's containing old forest in those BEC zone variant and landscape unit combinations, and will maintain an area of mature seral forest within those BEC zone variant and landscape unit combinations, equal to the area of old seral forest in deficit until there is adequate old forest to no longer be below the target level.

Table 2: Seral Stage Distribution for the Lakes North SRMP Area

Landscape Unit	Biodiversity Emphasis Option	BEC Zone*	Seral Stage**	Target (%)
Burns Lake East Burns Lake West Taltapin Babine West	Low	SBS	Early	n/a
			Mature + Old	> 11
			Old	> 11
		ESSF	Early	n/a
			Mature + Old	> 14
			Old	> 9
Babine East Bulkley Fleming	Intermediate	SBS	Early	< 54
			Mature + Old	>23
			Old	>11
		ESSF	Early	<36
			Mature + Old	> 28
			Old	> 9

* Includes subzones and variants

**Early seral forest is defined as less than 40 years old for the SBS and ESSF

Mature plus old seral forest is defined as greater than 100 years old for SBS and greater than 120 years old for ESSF

Old seral forest is defined as greater than 140 years old for SBS and greater than 250 years old for ESSF

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
2	Land Use Objective	Lakes South SRMP	Section 4(2) of FPC of BC Act and continued under the Land Act Section 93.8	September 1, 2003
2.1.1.2 Objective Set by Government for Seral Stage – Lakes South				
Maintain a range of forest seral stages by biogeoclimatic zone within each of the landscape units shown on <i>Map 3 Nadina FSP – Lakes North and South FDU - Land Management</i> and in accordance with Table 3.				

2.1.1.2.1 Results or Strategies for Objective 2

Applicable FDU(s): Lakes South

- 1) For the term of this FSP, harvesting and road construction authorized by the TSM will maintain:
 - a) the percentage of forest in an early seral stage below the target levels indicated in Table 3 by BEC zone variant and landscape unit;
 - b) the percentage of forest in a mature plus old seral stage above the target levels indicated in Table 3 by BEC zone variant and landscape unit;
 - c) the percentage of forest in an old seral stage above the target levels indicated in Table 3 by BEC zone variant and landscape unit.

- 2) If the percentage of forest in an early seral stage is above the target levels, or if the percentage of forest in a mature plus old seral stage is below the target levels, or if the percentage of forest in an old seral stage is below the target levels, as specified in Table 3 by BEC zone variant and landscape unit at the commencement date of this FSP, the TSM will:
 - a) in the case of the early, or mature plus old target levels, not issue any new TSL's in those BEC zone variant and landscape unit combinations until the target levels as specified in Table 3 by BEC zone variant and landscape unit have been achieved;
 - b) in the case of the old target levels, not issue any new TSL's containing old forest in those BEC zone variant and landscape unit combinations, and will maintain an area of mature seral forest within those BEC zone variant and landscape unit combinations, equal to the area of old seral forest in deficit until there is adequate old forest to no longer be below the target level.

Table 3: Seral Stage Distribution for the Lakes South SRMP

Landscape Unit	Biodiversity Emphasis Option	BEC Zone*	Seral Stage**	Target (%)
Francois East	Low	SBS	Early	n/a
			Mature + Old	>11
			Old	>11
		ESSF	Early	n/a
			Mature + Old	>14
			Old	>9
Francois West Cheslatta Ootsa and Intata North	Intermediate	SBS	Early	<54
			Mature + Old	>23
			Old	>11
		ESSF	Early	<36
			Mature + Old	>28
			Old	>9

* Includes subzones and variants

**Early seral forest is defined as less than 40 years old for the SBS and ESSF

Mature plus old seral forest is defined as greater than 100 years old for SBS and greater than 120 years old for ESSF

Old seral forest is defined as greater than 140 years old for SBS and greater than 250 years old for ESSF

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
3	Land Use Objective	Lakes South SRMP	Section 4(2) of FPC of BC Act and continued under the Land Act Section 93.8	September 1, 2003

2.1.1.3 Objective Set by Government for Seral Stage within the Caribou Migration Corridor – Lakes South

Maintain a range of forest seral stages by seral stage management zone within the caribou migration corridor shown on *Map 2 - Nadina FSP – Lakes North and South FDU – Wildlife Management* and in accordance with Table 4.

2.1.1.3.1 Results or Strategies for Objective3

Applicable FDU(s): Lakes South

- 1) For the term of this FSP, harvesting and road construction authorized by the TSM within the caribou migration corridor will maintain:
 - a) the percentage of forest in an early seral stage below the target levels indicated in Table 4 by seral stage management zone;
 - b) the percentage of forest in a mature seral stage above the target levels indicated in Table 4 by seral stage management zone;
 - c) the percentage of forest in an old seral stage above the target levels indicated in Table 4 by seral stage management zone.

- 2) If the percentage of forest in an early seral stage is above the target levels, or if the percentage of forest in a mature seral stage is below the target levels, or if the percentage of forest in an old seral stage is below the target levels, as specified in Table 4 by seral stage management zone at the commencement date of this FSP, the TSM will:

- a) in the case of the early, or mature target levels, not issue any new TSL's in those seral stage management zones until the target levels as specified in Table 4 by seral stage management zone have been achieved;
- b) in the case of the old target levels, not issue any new TSL's containing old forest in those seral stage management zones, and will maintain an area of mature seral forest within those seral stage management zones, equal to the area of old seral forest in deficit until there is adequate old forest to no longer be below the target level.

Table 4: Seral Stage Distribution for the Caribou Migration Corridor

Seral Stage Management Zone	Seral Stage*	Target (%)
High Use (LRMP CMC zone B,C, and D)	Early	<25%
	Mature	>60%
	Old	>40%
Moderate Use (LRMP CMC zone A)	Early	<32%
	Mature	>45%
	Old	>30%
Low Use (LRMP CMC zone E)	Early	<54%
	Mature	>30%
	Old	>20%

*Early seral forest is defined as less than 40 years old

Mature seral forest is defined as greater than 80 years old

Old seral forest is defined as greater than 140 years old

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
4	Land Use Objective	Land Use Objectives Regulation Order for the Morice LRMP Area	Land Act Section 93.4	September 13, 2016
2.1.1.4 Objective Set by Government for Seral Stage – Morice				
Maintain a distribution of seral classes across the Morice LRMP area for the General Forested Area and for each High Biodiversity Emphasis Area.				

2.1.1.4.1 Results or Strategies for Objective 4

Applicable FDU(s): Morice

- 1) For the term of this FSP, harvesting and road construction authorized by the TSM, will maintain in each of the areas (Resource Management Zones) outlined in Table 5 :
 - a) the percentage of forest in an early seral stage below the target levels indicated by Resource Management Zone and BEC zone variant;
 - b) the percentage of forest in a mature plus old seral stage above the target levels indicated by Resource Management Zone and BEC zone variant;
 - c) the percentage of forest in an old seral stage above the target levels indicated by Resource Management Zone and BEC zone variant.

Table 5: Seral Stage Distribution by Resource Management Zone

Resource Management Zone	BEC	Early*** Seral Maximum	Mature + Old*** Seral Minimum	Old*** Seral Minimum
General Forested Area****	CWH ws2 and MHmm2*	27	64	62
	ESSF mc and ESSF mv3**	38	37	34
	ESSF mk	9	83	82
	SBS dk	64	10	8
	SBS mc2 and SBS wk3**	48	20	17
Nanika River HBEA	CWH ws2 and MHmm2*	16	70	70
	ESSF mc and ESSF mv3**	28	70	42
	ESSF mk	7	70	84
	SBS dk	50	70	16
	SBS mc2 and SBS wk3**	37	70	26
Friday/ Nakinilerack/ Hautete Lakes HBEA	CWH ws2 and MHmm2*	16	71	70
	ESSF mc and ESSF mv3**	28	48	42
	ESSF mk	7	86	84
	SBS dk	50	21	16
	SBS mc2 and SBS wk3**	37	33	26
Morrison Lake HBEA	CWH ws2 and MHmm2*	16	71	70
	ESSF mc and ESSF mv3**	28	48	42
	ESSF mk	7	86	84
	SBS dk	50	21	16

Resource Management Zone	BEC	Early*** Seral Maximum	Mature + Old*** Seral Minimum	Old*** Seral Minimum
	SBS mc2 and SBS wk3**	37	33	26
Thautil/ Gosnell Rivers HBEA	CWH ws2 and MHmm2*	16	71	70
	ESSF mc and ESSF mv3**	28	48	42
	ESSF mk	7	86	84
	SBS dk	50	21	16
	SBS mc2 and SBS wk3**	37	33	26
Upper Morice River HBEA (above Thautil-Gosnell confluence)	CWH ws2 and MHmm2*	16	70	70
	ESSF mc and ESSF mv3**	28	70	42
	ESSF mk	7	70	84
	SBS dk	50	70	16
	SBS mc2 and SBS wk3**	37	70	26
Lower Morice River HBEA (below Thautil-Gosnell confluence)	CWH ws2 and MHmm2*	16	50	70
	ESSF mc and ESSF mv3**	28	50	42
	ESSF mk	7	50	84
	SBS dk	50	50	16
	SBS mc2 and SBS wk3**	37	50	26

* CWHws2 and MHmm2 are combined due to their small incidence in the plan area and similarity in Range of Natural Variation.

** ESSFmv3 is combined with ESSFmc, and SBSwk3 is combined with SBSmc2 due to their small incidence in the plan area.

*** Early seral forest is defined as less than 40 years old

Mature plus old seral forest is defined as greater than 100 years old

Old seral forest is defined as greater than 140 years old, except for crown forested land within OGMA's in which case all crown forested land within the OGMA's are considered old.

**** For the purposes of meeting the early and old seral class requirements, Area Specific Management Areas, No Timber Harvest Areas and Parks and Protected Areas are considered part of the General Forested Area.

2) Despite 1 above, retain a minimum of 70% of the forested area as mature plus old, for the following areas as shown on Map 4 *Nadina FSP – Morice FDU-Resource Management*:

- a) Nadina/Owen Area Specific Management Zone;
 - b) Grease Trail – within the 400m buffer beyond the 100m No Timber Harvesting Area (NTHA);
- and,

- 3) Despite 1 above, retain a minimum of 50% of the forested area as mature-plus-old, for the following areas as shown on Map 4 *Nadina FSP – Morice FDU-Resource Management*:
 - a) Nadina River Area Specific Management Zone – within the 500m buffer beyond the 100 year floodplain; and,
 - b) Le Talh Giz Area Specific Management Zone.

- 4) If the percentage of forest in an early seral stage is above the target levels, or if the percentage of forest in a mature plus old seral stage is below the target levels, or if the percentage of forest in an old seral stage is below the target levels at the commencement date of this FSP, the TSM will:
 - a) in the case of the early, or mature plus old target levels, not issue any new TSL's in those BEC zone variant and Resource Management Zone that are in deficit until the target levels have been achieved;
 - b) in the case of the old target levels, not issue any new TSL's containing old forest in those BEC zone variant and Resource Management Zone that are in deficit, and will maintain an area of mature seral forest within those BEC zone variant and Resource Management Zone, equal to the area of old seral forest in deficit until there is adequate old forest to no longer be below the target level

2.1.2 Old Growth Management Areas

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
5	Land Use Objective	Lakes North SRMP	Ministerial Order by the Minister of Agriculture and Lands, Pursuant to Section 93.4(1) of the <i>Land Act</i> .	January 26, 2009 Amended July 7, 2016
2.1.2.1 Objective Set by Government for Old Growth Management Areas – Lakes North				
Preservation of Old Growth Management Areas (OGMAs) as identified on <i>Map 1 Nadina FSP – Lakes North and South FDU – Resource Management</i> .				

2.1.2.1.1 Results or Strategies for Objective 5

Applicable FDU(s): Lakes North

- 1) For the term of this FSP, the TSM will not authorize harvesting or road construction within established OGMAs unless the OGMA is amended for one of the following:
 - a) no other practicable alternative exists for road location (and subsequent maintenance);
 - b) a substantiated forest health factor exists within an OGMA which poses a significant and substantiated forest health risk to forests outside the OGMA and where harvesting would constitute an appropriate and effective control action;
 - c) there is a need to address a public or industrial safety concern or an environmental hazard where no practicable alternative exists;
- 2) In the event an OGMA is amended, the TSM will not authorize harvesting nor road building within the newly amended OGMA

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
6	Land Use Objective	Lakes South SRMP	Section 4(2) of FPC of BC Act and continued under the Land Act Section 93.8	September 1, 2003 Amended July 7, 2016
2.1.2.2 Objective Set by Government for Old Growth Management Areas – Lakes South				
Manage for old growth attributes in established OGMA as identified on <i>Map 1 Nadina FSP – Lakes North and South FDU – Resource Management</i> .				

2.1.2.2.1 Results or Strategies for Objective 6

Applicable FDU(s): Lakes South

The result and strategy for Objective 6, is the same as Objective 5 Results and Strategies for Lakes North Objective set by Government (OSBG) for OGMA.

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
7	Land Use Objective	Land Use Objectives Regulation Order for the Morice LRMP Area	Land Act Section 93.4	September 13, 2016
2.1.2.3 Objective Set by Government for Old Growth Management Areas – Morice				
Manage for old growth forests by retaining OGMA as identified on <i>Map 4 – Nadina FSP – Morice FDU – Resource Management</i> .				

2.1.2.3.1 Results or Strategies for Objective 7

Applicable FDU(s): Morice

The result and strategy for Objective 7, is the same as Objective 5 Results and Strategies for Lakes North OSBG for OGMA.

2.1.3 Landscape Connectivity

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
8	Land Use Objective	Lakes North SRMP	Ministerial Order by the Minister of Agriculture and Lands, Pursuant to Section 93.4(1) of the <i>Land Act</i> .	March 8, 2017

2.1.3.1 Objective Set by Government for Connectivity – Lakes North

Maintenance of Habitat Connectivity Within the Landscape Connectivity Matrix (LCM) as identified on *Map 1 Nadina FSP – Lakes North and South FDU – Resource Management*.

2.1.3.1.1 Results or Strategies for Objective 8

Applicable FDU(s): Lakes North

- 1) For the term of this FSP, harvesting and road construction authorized by the TSM will maintain, in each of the identified LCMs, a minimum of 70% of the forested area greater than 100 years old.
- 2) For the term of this FSP, the TSM will not authorize harvesting within a LCM and adjacent to another cutblock within the LCM, unless at least 70% of the net area to be reforested on the existing cutblock has developed attributes that are consistent with a mature seral condition.
- 3) For the term of this FSP, the TSM will not authorize harvesting within a LCM that would result in more than 30% of the width of the LCM being younger than 100 years old.
- 4) For the term of this FSP, the TSM will not authorize harvesting or road construction within the red and blue-listed ecological communities listed in Table 6, nor in the hydro-riparian ecosystems listed in Table 7.
- 5) Despite 1) and 3) above, the TSM may authorize roads to be constructed within a LCM where no practicable alternatives exist and will be deactivated within one year following completion of primary forest activities.

Table 6: Red and Blue listed Ecological Communities

SBS dk - 04, 08, 81, 82
SBS mc2 - 81, 82

Table 7: Hydro-Riparian Ecosystems Criteria

SBS dk – 04, 07, 08, 09, 10
SBS mc2 – 07, 09, 10, 12
ESSF mc – 07, 08, 09, 10
ESSF mv1 – 04, 05
ESSF mv3 -- 07

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
9	Land Use Objective	Lakes South SRMP	Section 4(2) of FPC of BC Act and continued under the Land Act Section 93.8	September 1, 2003
2.1.3.2 Objective Set by Government for Connectivity – Lakes South				
Maintain within a managed forest setting, landscape corridors as identified on <i>Map 1 Nadina FSP – Lakes North and South FDU – Resource Management</i> dominated by mature tree cover and containing most of the structure and function associated with old forest.				

2.1.3.2.1 Results or Strategies for Objective 9

Applicable FDU(s): Lakes South

For the term of this FSP, the TSM will ensure harvesting and road building activities provide habitat connectivity within the landscape and permit movement and dispersal of plant and animal species by:

- (a) Maintaining over 70% of the Crown forest land within a landscape corridor segment consistent with any of the attributes contained in Table 8;
- (b) Maintaining connectivity of cover within a landscape corridor by restricting the size of harvest units to an average of 2 hectares with maximum opening size not exceeding 3 hectares. A 4 hectare average and maximum opening size will apply when a corridor is heavily impacted by insect disturbance and beetle control or salvage are the primary management objectives.
- (c) Avoiding new permanent access in landscape corridors.
- (d) Orientating development in landscape corridors to minimize impacts on connectivity.
- (e) Focusing wildlife tree retention and small patch openings in strong linkages as identified on Map 1 Nadina FSP – Lakes North and South FDU – Resource Management

Table 8: Minimum Criteria For Forests Providing Connectivity in Landscape Corridors

Forest Type	Criteria
SBS coniferous forest	≥ 70 years old
ESSF coniferous forest	≥ 100 years old
Deciduous leading forest	≥ 40 years old
Stands with mature/old characteristics	Height > 15m and Crown closure > 25%
Managed stand with single tree selection or group selection	Meets mature age criteria (seral stage objective) with no more than 30% of the basal area removed on a per hectare basis.

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
10	Land Use Objective	Land Use Objectives Regulation Order fo the Morice LRMP Area	Land Act Section 93.4	September 13, 2016
2.1.3.3 Wildlife and Ecosystem Values				
Retain 100% of the forested area within No Timber Harvesting Areas identified on <i>Map 4 – Nadina FSP – Morice FDU – Resource Management</i> .				

2.1.3.3.1 Results or Strategies for Objective 10

Applicable FDU(s): Morice

For the term of this FSP, the TSM will not authorize harvesting or road construction within the No Timber Harvesting Areas (NTHA's) identified on *Map 4 – Nadina FSP – Morice FDU – Resource Management*.

2.1.4 Stand Level Structural Diversity / Wildlife Tree Retention

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
11	Land Use Objective	Lakes North SRMP	Ministerial Order by the Minister of Agriculture and Lands, Pursuant to Section 93.4(1) of the <i>Land Act</i>	January 26, 2009

2.1.4.1 Objective Set by Government for Stand Level Structural Diversity – Lakes North

Maintain stand level structural diversity by retaining wildlife tree retention (WTR) areas in FDU(s) located within the Lakes North planning area as per (a), (b) and (c) below, Section 2.1.4.1.1.

2.1.4.1.1 Results or Strategies for Objective 11

Applicable FDU(s): Lakes North

- 1) For the term of this FSP, the TSM will maintain stand level structural diversity by ensuring:
 - (a) where harvesting is completed in one or more cutblocks during any 12 month period beginning on April 1 of any calendar year, at the end of the 12 month period, the total area covered by WTR areas that relate to the cutblocks is a minimum 10% of the total area of the cutblocks;
 - (b) where timber is harvested in a cutblock, at the completion of harvesting the total amount of WTR areas that relate to the cutblock will be a minimum of 5% of the cutblock area;
 - (c) that high wildlife value trees/areas are retained after harvest. Where there are few trees with high value wildlife attributes available, the TSM will locate retention on a priority basis as follows:
 - (i) in areas most suitable for long-term wildlife tree recruitment, and
 - (ii) in areas that are representative of the pre-harvest stand.

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
12	Land Use Objective	Lakes South SRMP	Section 4(2) of FPC of BC Act and continued under the Land Act Section 93.8	September 1, 2003

2.1.4.2 Objective **Set** by Government for Stand Level Structural Diversity – Lakes South

Maintain structural diversity in managed stands by retaining representative Wildlife Tree Patches (WTP) in each cutblock to specified targets.

Ensure representation of pre-harvest stand wildlife tree values.

Maintain old growth and wildlife tree values within wildlife tree patches.

2.1.4.2.1 Results or Strategies for Objective 12

Applicable FDU(s): Lakes South

- 1) For the term of this FSP, the TSM will maintain stand level structural diversity by ensuring the following minimum WTP percentages specified in Table 9 are retained, at the completion of harvest, for each cutblock.

Table 9: Wildlife Tree Patch Retention Targets for the Period an Accelerated AAC for Beetle Harvesting is in Effect

BEC Subzone	% of Cutblock to be Retained as WTP					
	Chelasie LU	Ootsa LU	Intata LU	Cheslatta LU	FL West LU	FL East LU
SBSdk	>12	>12	>16	>12	>13	>14
SBS mc2	>12	>12	>16	>12	>13	>14
ESSF mc	>9	>9	>9	>9	>12	>9

- 2) For the term of this FSP, the TSM will ensure that WTPs retained associated with harvested TSLs will:
 - a) Contain predominantly coniferous trees having an average age that is consistent with the age of the stand harvested, and
 - b) Contain a forested crown closure of not less than 25%.
 - c) Where the WTPs' areas have a crown closure of less than 25% or individual trees are retained, trees or areas will contribute to the WTP requirements by using the basal area per hectare retained as a proportion of the average basal area for the block harvested.
- 3) For the term of this FSP, the TSM will not carry out or authorize timber harvesting within a WTP except for forest health purposes where a qualified professional deems a spruce bark beetle infestation may threaten to spread into areas outside of WTPs.
- 4) If the TSM carries out or authorizes timber harvesting as per section 3 above, the TSM will ensure that at the time of harvesting a suitable replacement WTP with equivalent attributes will be established.

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
13	Land Use Objective	Land Use Objectives Regulation Order for the Morice LRMP Area	Land Act Section 93.4	September 13, 2016
2.1.4.3 Objective by Government for Stand Level Structural Diversity – Morice				
Achieve structural complex mature and old forest over the rotation by retaining Wildlife Tree Retention (WTR) areas distributed across the Morice LRMP area for each cutblock and ensure that all WTR areas include high value wildlife tree attributes.				

2.1.4.3.1 Results or Strategies for Objective 13

Applicable FDU(s): Morice

- 1) For the term of this FSP, the TSM will maintain stand level structural diversity by ensuring:
 - a) where timber is harvested in a cutblock less than 250 ha, at the completion of harvesting the total amount of WTR areas that relate to the cutblock will be a minimum of 7%
 - b) where timber is harvested in a cutblock greater than or equal to 250 ha, at the completion of harvesting the total amount of WTR areas that relate to the cutblock will be equal to or greater than the targets outlined in Table 10

- 2) Over the term of this FSP the TSM shall ensure that, within the Morice FDU, all wildlife tree retention areas include at least one of the following high value wildlife tree attributes:
 - a) Diversity of wildlife tree retention strategies
 - b) Diversity of habitat types
 - c) Internal decay
 - d) Crevices present
 - e) Large brooms present
 - f) Active or recent wildlife use
 - g) Tree structure suitable for wildlife use
 - h) Large trees for the site and veterans
 - i) Representative of the size, age and species of the pre-harvest stand

Table 10: Proportion of Mature and Old Forest to be Established as Wildlife Tree Retention Areas Resource Management Zone for each cutblock >=250ha

Resource Management Zone	Minimum % WTR
General Forested Area and Area Specific Management Areas combined	15
High Biodiversity Emphasis Area	25

2.1.5 Patch Size

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
14	Land Use Objective	Lakes South SRMP	Section 4(2) of FPC of BC Act and continued under the Land Act Section 93.8	September 1, 2003
2.1.5.1 Objective by Government for Stand Level Structural Diversity – Lakes South				
Attain a pattern of development, over time, across the Lakes South planning area that represents the natural disturbance pattern.				

2.1.5.1.1 Results or Strategies for Objective 14

Applicable FDU(s): Lakes South

- 1) During the term of this FSP, harvesting authorized by the TSM, within the Lakes South FDU, will create a pattern of timber harvesting development that is; consistent with continuing to meet the patch size targets identified in Table 11 for NDT3; and is consistent with achieving the patch size targets identified in Table 11 for NDT2. Should harvesting take place in the NDT2, the strategy for achieving the patch size targets will be to create blocks in the small and medium categories and avoid adding any area to the large patch category. This will be monitored annually to see if any changes to this strategy would be required.

Table 11: Patch Size Target Percentages

Natural Disturbance Type	BEC Subzone	Patch Category	Patch Size Target (% of Area)
2	ESSFmc	<40 ha	30-40
		>=40 and < 80 ha	30-40
		>80 ha	20-40
3	SBSdk & SBSmc2	<40 ha	10-30
		>=40 and < 250 ha	10-30
		>250 ha	40-80

2.2 Objective Set by Government for Soils

2.2.1 Soils

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
15	Objective Set by Regulation	FPPR Section 5	n/a	January 31, 2004

2.2.1.1 Objective Set by Government for Soils

Without unduly reducing the supply of timber from British Columbia's forests, to conserve the productivity and the hydrologic function of soils.

2.2.1.1.1 Results or Strategies for Objective 15

Applicable FDU(s): All

- 1) For the term of this FSP, the TSM undertakes to comply, in all FDU's, with the default practice requirements of sections 35 and 36 of the FPPR. The TSM will notify each holder of a timber sale licence or road permit entered into that sections 35 and 36 of the FPPR apply to the holder.

2.3 Objective Set by Government for Wildlife

2.3.1 Wildlife - Lakes North and South

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
16	Objective set in Regulation	FPPRs.7(2)	n/a	January 31, 2004

2.3.1.1 Objective Set by Government for Wildlife

Without unduly reducing the supply of timber from BC's forests, to conserve wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas for:

- i) the survival of species at risk;
- ii) the survival of regionally important wildlife; and
- iii) the winter survival of specified ungulate species.

2.3.1.1.1 Results or Strategies for Objective 16

Applicable FDU(s): Lakes North and Lakes South

1) Grizzly Bear

In respect of the notice entitled *"Notice - Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Species at Risk in the Nadina Forest District"*, dated December 30, 2004 given under the authority of Section 7(2) of the Forest Planning and Practices Regulation, the TSM will, during the term of this FSP, ensure that:

- a) a timber sale licence is not issued in high value habitat which, at the completion of harvesting, would result in less than **50%** of the area (to a maximum of 4,310 ha multiplied by BCTS' FDU proportion of high value habitat in the Lakes TSA crown forest landbase) being less than **121 years** of age.
- b) a timber sale licence is not issued in high value habitat which, at the completion of harvesting, would result in more than **33%** of the area (to a maximum of 1,346 ha multiplied by BCTS's FDU proportion of high value habitat in the Lakes TSA timber harvesting landbase) being less than **28 years** of age or under **5m** in height.

High value habitat polygons are depicted on *Map 2 - Nadina FSP – Lakes North and South FDU – Wildlife Management* and contain attributes consistent with grizzly bear critical patch habitats, foraging habitat features, structural stage and elevation as described in the above *Notice*.

2) Moose

In respect of the notice entitled “*Notice - Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Winter Survival of Ungulate Species in the Lakes Timber Supply Area*”, dated December 20, 2004, the TSM will, within the Lakes TSA, ensure that:

- a) a timber sale licence is not issued in identified high value moose habitat which, at the completion of harvesting, would result in less than **30%** of the habitat area (to a maximum of 218,142 ha times BCTS’ FDU proportion of high value moose habitat in the Lakes TSA crown forest landbase) being more than **101 years** of age.
- b) a timber sale licence is not issued in identified high value moose habitat which, at the completion of harvesting, would result in more than **33%** of the habitat area (to a maximum of 156,427 ha multiplied by BCTS’ FDU proportion of high value moose habitat in the Lakes TSA timber harvesting landbase) being less than **17 years** of age or under **3m** in height.
- c) if stand tending is required to meet stocking standards within identified high value moose habitat, preferred winter foraging species as identified with the notice will be retained where not in direct competition with crop trees.

High value moose habitat is depicted on *Map 2 – Nadina FSP – Lakes North and South FDU – Wildlife Management* and contains critical moose winter habitat attributes consistent with the above *Notice*.

3) Mule Deer

In respect of the notice entitled “*Notice - Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Winter Survival of Ungulate Species in the Lakes Timber Supply Area*”, dated December 20, 2004, the TSM will, within the Lakes TSA, ensure that:

- a) a timber sale licence is not issued in identified high value deer habitat which, at the completion of harvesting, would result in less than **50%** of the habitat area (to a maximum of 10,877 ha multiplied by BCTS’ FDU proportion of high value habitat in the Lakes TSA crown forest landbase) being more than **101 years** of age.
- b) a timber sale licence is not issued in identified high value deer habitat which, at the completion of harvesting, would result in more than **33%** of the habitat area (to a maximum of 1,332 ha multiplied by BCTS’ FDU proportion of high value deer habitat in the Lakes TSA timber harvesting landbase) being less than **17 years** of age or under **3m** in height.

High value deer habitat is depicted on *Map 2 – Nadina FSP – Lakes North and South FDU – Wildlife Management* and contains critical mule deer winter habitat attributes consistent with the above *Notice*.

2.3.2 Wildlife – Morice

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
17	Objective set in Regulation	GAR s.9 GAR s.10	Northern Caribou – Telkwa Herd WHA-6-333 Order	November 30, 2015
2.3.2.1 Objective Set by Government for Wildlife – Morice				
Maintain the Wildlife Habitat Area requirements for the Telkwa caribou as identified on WHA-6-333 Order and <i>Map 5 – Nadina FSP – Morice FDU – Wildlife Management</i> .				

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
18	Objective set in Regulation	FPPRs.7(2)	N/A	December 20, 2015
2.3.2.2 Objective Set by Government for Wildlife – Morice				
Without unduly reducing the supply of timber from BC's forests, to conserve wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas for: <ul style="list-style-type: none"> i) the survival of species at risk; ii) the survival of regionally important wildlife; and the winter survival of specified ungulate species.				

2.3.2.2.1 Results or Strategies for Objective 18

Applicable FDU(s): Morice

In respect of the notice entitled *Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Required for the Winter Survival of Ungulate Species in the Morice Timber Supply Area*, dated December 20, 2004:

1) Mountain Caribou (Takla Herd)

- i) For the term of this FSP, the TSM will not authorize harvesting or road construction within the Takla Caribou Area (see *Map 5 – Nadina FSP – Morice FDU – Wildlife Management*);

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
19	Objective set in Regulation	FPPRs.7(2)	N/A	December 20, 2015
2.3.2.3 Objective Set by Government for Wildlife – Morice				
Without unduly reducing the supply of timber from BC’s forests, to conserve wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas for: <ul style="list-style-type: none"> iii) the survival of species at risk; iv) the survival of regionally important wildlife; and the winter survival of specified ungulate species. 				

2.3.2.3.1 Results or Strategies for Objective 19

Applicable FDU(s): Morice

In respect of the notice entitled *Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Species at Risk in the Nadina Forest District*, dated December 20, 2004:

1) Northern Caribou (Tweedsmuir Herd)

- i) For the term of this FSP, the TSM will not authorize harvesting or road construction within the Tweedsmuir Caribou Calving Islands (see *Map 5 – Nadina FSP – Morice FDU – Wildlife Management*);

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
20	Objective in Regulation	GAR s. 9 GAR s. 12	Mountain Goat Ungulate Winter Range U-6-003 Order	August 14, 2013
2.3.2.4 Objective Set by Government for Wildlife – Morice				
Maintain the ungulate winter habitat requirements for mountain goat as identified on Ungulate Winter Range U-6-003 Order and <i>Map 5 – Nadina FSP – Morice FDU – Wildlife Management</i> .				

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
21	Objective in Regulation	GAR s. 9 GAR s. 12	Mountain Goat Ungulate Winter Range U-6-017 Order	February 1, 2018
2.3.2.5 Objective Set by Government for Wildlife – Lakes				
Maintain the ungulate winter habitat requirements for mountain goat as identified on Ungulate Winter Range U-6-017 Order and <i>Map 2 – Nadina FSP – Lakes FDU – Wildlife Management</i> .				

2.4 Objective Set By Government for Water, Fish, Wildlife and Biodiversity within Riparian Areas

2.4.1 Riparian Areas

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
22	Objective set in Regulation	FPPR s. 8	n/a	January 31, 2004
2.4.1.1 Objective Set by Government for Water, Fish, Wildlife and Biodiversity in Riparian Areas				
Without unduly reducing the supply of timber from BC's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.				

2.4.1.1.1 Results or Strategies for Objective 22

Applicable FDU(s): All

- 1) For the term of this FSP, the TSM undertakes to comply in all FDU's, with the default practice requirements of sections 47 to 51, 52(2) and 53 of the FPPR, excluding sections 47(4), 48(3), and 49(2). Table 13 replaces these excluded sections. Furthermore, the TSM will notify each holder of a timber sale licence or road permit that these sections are applicable to the holder's primary forest activities carried out during the term of this FSP.

Retention of Trees within a Riparian Management Zone (RMZ)

2) During the term of this FSP, and in order to meet the requirements of FPPR sections 8 and 12(3), the TSM will implement the following strategy in all FDU's with regard to the retention of trees in riparian management zones (RMZ) for streams, lakes, and wetlands: to comply with the default practice requirements of sections 47 to 51, 52(2) and 53 of the FPPR, excluding sections 47(4), 48(3), and 49(2). The minimum width of Riparian Reserve Zones (RRZ's) and RMZ's will be applied as per Table 12 to the excluded sections.

The expansion of portions of the riparian reserves into the riparian management zones will adequately address tree retention requirements within the RMZ for streams, lakes, and wetlands within a timber sale license.

Table 12: Minimum Riparian Widths for Streams, Wetlands and Lakes.

Riparian Class	Stream Width (m) or Area Size (ha)	(RMA) Riparian Management Area (m)	(RRZ) Riparian Reserve Zone (m)	(RMZ) Riparian Management Zone (m)
S1-A	> 100	100	0	100
S1-B	20-100	70	50	20
S2	5 - 20	50	35	15
S3	1.5-5	40	25	15
S4	< 1.5	30	10	20
S5	> 3	30	10	20
S6	< 3	20	10	10
W1	> 5 ha	50	15	35
W2	Not applicable			
W3	1 - 5 ha	30	15	15
W4	Not applicable	30	0	30
W5	Complex > 5 ha	50	15	35
L1-A	> 1000 ha, or designated	0	0	0
L1-B	5 - 1000 ha	10	10	0
L2	Not applicable			
L3	1 – 5 ha	30	10	20
L4	Not applicable	30	0	30

2.5 Wildlife and Biodiversity – Landscape Level

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
23	Objective set in Regulation	FPPR s. 9	n/a	January 31, 2004

2.5.1.1 Objective Set by Government for Wildlife and Biodiversity - Landscape Level

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.

2.5.1.1.1 Results or Strategies for Objective 23

Applicable FDU(s): Lakes North & Morice

The TSM undertakes to notify each holder of a timber sale licence or road permit that sections 64 and 65 of the FPPR are applicable to the holder's primary forest activities carried out during the term of this FSP.

2.6 Visual Quality

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
24	Objective in Regulation	GAR 17 FRPA 180 (c) GAR 7(1) GAR 7(2)	GAR	March 2005 (GAR 17) April 2010 (GAR 7(1) and 7(2))

2.6.1.1 Objective Set by Government for Visual Quality

To attain the visual quality classes assigned to landscapes within designated scenic areas. Scenic areas are those areas continued under FRPA 180(c) and continued as objectives under GAR 17 in the Morice FDU's or GAR 7(1) and 7(2) in the Lakes North and South FDU's.

2.6.1.1.1 Results or Strategies for Objective 24

Applicable FDU(s): All

Within this section of the FSP, the following definitions apply:

An **alteration** means changing or making something different as a result of conducting harvesting or road construction.

A **significant public viewpoint (SPV)** means on-the-ground or water based locations accessible to the Public, from which the surrounding landscape can be viewed or observed.

1. For the term of this FSP the TSM will ensure that the alteration resulting from timber harvesting and road construction activities, authorized by the TSM, that are located in known scenic areas, will be consistent with the established visual quality objective (VQO), when evaluated from a significant public viewpoint.
 - a) Known scenic areas are identified on *Map 1 – Nadina FSP – Lakes North and South FDU – Resource Management* and *Map 4 – Nadina FSP – Morice FDU – Resource Management* with information being sourced from the BCGW.
 - b) In the event of a discrepancy between Map 1 or 4 and the BCGW, the BCGW visual landscape inventory data takes precedence.
 - c) The established visual quality objective specified in the BCGW that are associated with scenic areas listed in tables 14 and 15, are described in table 13.
 - d) In the case of a known scenic area for which there is no established visual quality objective, the altered forest landscape for the scenic area resulting from timber harvesting and road construction will be:
 - i) in visual sensitivity class 1 is equal to the retention category;
 - ii) in visual sensitivity class 2 is equal to the partial retention category;
 - iii) in visual sensitivity class 3 is equal to the modification category;
 - iv) in visual sensitivity class 4 is equal to the modification category; and
 - v) in visual sensitivity class 5 is equal to the maximum modification category

Table 13: Characteristics of Alteration

Visual Quality Objective	Description of Altered Forest Landscape
Preservation	(i) very small in scale; and (ii) not easily distinguishable from pre-harvest landscape
Retention	(i) difficult to see; (ii) small in scale; and (iii) natural in appearance
Partial Retention	(i) easy to see; (ii) small to medium in scale; and (iii) natural and not rectilinear or geometric in shape
Modification	(i) very easy to see; and (ii) is (a) large in scale and natural appearance, or (b) small to medium in scale, but with some angular characteristics
Maximum Modification	(i) is very easy to see; and (ii) is (a) very large in scale (b) rectilinear or geometric in shape, or (c) both

Table 14: Morice TSA Scenic Areas

Anzac Lake	Helen Lake	Morice River	Parrott Lake	Tochcha Lake
Babine Lake	Hidden Lake	Morrison Lake	Paul Lake	Troitsa Lake
Buck Flats	Highway 16	Nadina Lake	Pine Tree Lake	Tsichgass Lake
Coles Lake	Houston Comfor	Nanika Lake	Poplar Lake	Twinkle Lake
Collins Lake	Kidprice Lake	Natowite Lake	Stepp Lake	Whitesail Lake
Doris Lake	Lamprey Lake	Newcombe Lake	Sunset Lake	
Eastern Lake	McBride Lake	Ootsa Lake	Sweeney Lake	
Goosly Lake	McCloud/Gordeau Lakes	Owen Lake	Tahtsa Reach	
Granisle Highway	Morice Lake	Owen-Francois Lake Corridor	Timber Lake	

Table 15: Lakes TSA Scenic Areas

Augier Lake	Eastern Lake	Highway 16	Ootsanee Lake	Uduk Lake
Babine Lake	Fleming Lake	Isaac Lake	Pinkut Lake	Uncha Lake
Binta Lake	Francois Lake	Knapp Lake	Rum Cache Lake	Whitefish Lake
Bird Lake	Gale Lake	Knapp Lake East	Sather Lake	
Bulkley Lake	Getzuni Lake	Knapp Lake NE	Starr Lake Cluster	
Camsell Lake	Gullwing Lake	Lucus Lake	Sunset Lake	
Chaoborus Lake	Guyishton Lake	Lund Lake	Takysie Lake	
Cheslatta Lake	Haney Lake	Mackenzie Lake	Taltapin Lake	
Cheslatta Trail	Hannay Lake	Maxan Lake	Tchesinkut Lake	
Chief Louis Lake	Helene Lake	Middle River/Takla Lake	Tetachuck Lake	
Day Lake	Henrietta Lake	Ootsa Lake	Tochcha Lake	

2.6.1.1.2 Results or Strategies for Objective 24

Applicable FDU(s): Morice

Wildfire risk reduction work will refer to the specific Visual WPP area shown on the Nadina FSP – Morice FDU – Resource Management map. This would be the spatial component unless more current spatial line work is available.

For established VQO polygons impacted by a **wildfire risk reduction work**, the following results and strategy will apply for the agreement holders.

1. In the situation where the **Qualified Professional** determines that the alteration cannot be consistent with a visual quality objective due to the land form overlapping with harvesting associated with **wildfire risk reduction work** then the Agreement holder will meet the visual quality objectives, however harvesting within the identified areas will not contribute to the alteration or design criteria of the VQO polygons for any applicable FDU.

2.7 Cultural Heritage Resources

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
25	Act s. 149	FPPR s.10	n/a	January 31, 2004
2.7.1.1 Objective Set by Government for Cultural Heritage Resources				
To conserve, or, if necessary, protect cultural heritage resources that are: <ol style="list-style-type: none"> i) the focus of a traditional use by an Aboriginal people that is of continuing importance to that people; and, ii) not regulated under the <i>Heritage Conservation Act</i> 				

2.7.1.1.1 Results or Strategies for Objective 25

Applicable FDU(s): All

Within this section of this FSP, the following definitions will apply:

Applicable First Nation means any First Nation claiming an Aboriginal right, Aboriginal title or a treaty right to the area under consideration.

Cultural Heritage Resource means those cultural heritage resources that are the focus of a traditional use by an Aboriginal people that are of continuing importance to that people, and not regulated under the *Heritage Conservation Act*.

Cultural Heritage Resource Evaluation is a process conducted by a qualified person and consisting of the following steps:

- (a) Record the details regarding the cultural heritage resource (type of feature, location, etc);
- (b) Evaluate the direct impact of the planned development on the cultural heritage resource;
- (c) If necessary, prepare recommendations in order to conserve, mitigate, or if necessary protect, the applicable cultural heritage resource at the location, considering:
- (i) the relative value or importance of the cultural heritage resource to a traditional use by an Aboriginal people;
 - (ii) the relative abundance or scarcity of the cultural heritage resource;
 - (iii) the historical extent of the traditional use of the cultural heritage resource; and,
- (d) Communicate the results of (a) – (c) back to the affected Aboriginal group and individual that provided the information.

Reasonable Efforts means at least one written communication with a follow-up communication and an offer to meet.

- 1) Before the TSM carries out or authorizes forest practices, the TSM will ensure that a cultural heritage resource evaluation is conducted on all cutblocks and roads.
- 2) If, during timber harvesting or road construction operations carried out by the TSM, a previously unidentified cultural heritage resource feature is encountered on an area, the TSM will ensure that operations will be modified or cease on the area to the extent necessary to protect the feature, until a cultural heritage resource evaluation is completed.
- 3) The TSM will ensure that timber harvesting or road construction authorized by the TSM will be consistent with the recommendations given in a cultural heritage resource evaluation.
- 4) During the term of this FSP, when preparing planned harvesting and road development within an FDU, the TSM will have a map(s) sent of the proposed development and make reasonable efforts to communicate and meet with the applicable First Nation(s) on at least an annual basis.

2.8 Recreation

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
26	Order	FRPA s 180(i),(j),(k), s181	Order to Establish Objectives for a Recreation Site, Recreation Trail or Interpretive Forest Site	October 31, 1997
2.8.1.1 Objective Set by Government for Recreation				
Maintain or enhance a diverse range of recreational values and opportunities.				

2.8.1.1.1 Results or Strategies for Objective 26

Applicable FDU(s): All

For the term of this FSP, the TSM will not authorize the harvest of timber or construct roads within 10 meters of the legal boundary of a recreation site, trail or interpretive site identified on *Map 6 – Nadina FSP – Morice FDU – Land Management* and *Map 3 – Nadina FSP – Lakes North and South FDU – Land Management*.

2.9 Public Review and Comment

Objective # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
27	N/A	FRPA Sec 18	N/A	Jan 31, 2004
2.9.1.1 Objective set by Government for Public Review and Comment				
1) Making FSP available to the public for review and comment				

2.9.1.1.1 Results or Strategies for Objective 27

Applicable FDU(s): All

What follows is a result and strategy that expands upon the default requirement of making the FSP available for review and comment.

During the term of this FSP, the TSM will, on at least an annual basis, provide an opportunity for the public to review and comment on BCTS's proposed cutblocks and roads.¹

¹ BCTS's plan is to use a variety of tools to accomplish this, including the multi-licencee online mapping tool https://maps.forsite.ca/bml_infoshare/, but this may change over time.

3.0 Measures

3.1 Invasive Plants

Measure # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
1	FRPA s.47	FPPR s. 17	n/a	January 31, 2004
<h4>3.1.1 Measures for Preventing the Introduction or Spread of Invasive Plants</h4> <p>A person carrying out a forest practice or a range practice must carry out measures that are:</p> <ul style="list-style-type: none"> i) specified in the applicable operational plan; or, ii) authorized by the Minister to prevent the introduction or spread of species of plants that are invasive plant species under the Invasive Plants Regulation. 				

Applicable FDU(s): All

For purposes of this measure, the following definitions apply:

“Seed (ed or ing)” means seed that meets or exceeds Canada Common Number 1 Forage Mixture (or better) or Canada No. 1 Ground Cover Mixture specifications as defined by the *Canada Seeds Act Regulation* in effect when this FSP is approved, and certified to be free of seeds of invasive species listed under the Weed Control Regulation or the Invasive Plants Regulation based on a Certificate of Seed Analysis.

“Re-vegetate” means the establishment of non-invasive plants over the entire individual exposed productive mineral soil meeting an estimated overall percent foliage cover of 50% of the area.

1. During the term of this FSP, the TSM will ensure that, on areas where the TSM carries out or authorizes timber harvesting and/or road building activities within BCTS FDUs that result in exposed mineral soils exceeding 0.1 hectares in a contiguous area:

- a) the areas are seeded within one (1) year of completion of harvesting or road construction as the case may be;
- b) the seeded areas will be monitored for two (2) years following seeding to ensure they are re-vegetated; and,
- c) if monitoring determines that an area is not re-vegetated, the area will be re-seeded within one year and further monitored and reseeded until the area is re-vegetated.

2. During the term of this FSP, the TSM will ensure that all BCTS field staff, as well as contractors conducting field work for BCTS, have appropriate training to identify invasive plants, and will ensure that they follow the notification requirements in section 3, below.
3. During the term of this FSP, the TSM will notify the Northwest Invasive Plant Council of all new invasive plant sites found as a result of BCTS primary forest activities.

3.2 Range Barriers

Measure # (in this FSP)	Type of Objective	Category/Source of Objective	Decision Creating Objective	Effective Date of Objective
2	FRPA s.48	FPPRs. 18	n/a	January 31, 2004
<h3>3.2.1 Measures to Mitigate the Loss of Natural Range Barriers</h3>				
Where applicable, the FSP will specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.				

Applicable FDU(s): All

For purposes of this measure, the following definitions apply:

Natural Range Barrier means:

- a river, rock face, dense timber, or any other naturally occurring feature that impedes **livestock** movement and;
- is located in an area that is subject to a **Range Tenure** and;
- it is reasonably foreseeable that the holder of the Range Tenure will rely on it to control the movement of livestock.

Range Tenure means an existing or advertised agreement under the Range Act four months before the date that this FSP is submitted for approval.

Livestock means animals that are defined as livestock by the Range Act as of the date this FSP is approved.

1. During the term of this FSP, before the TSM authorizes timber harvesting or road construction, the TSM will inform the District Range Officer and, holders of range tenures who may be affected by proposed BCTS timber harvesting and road construction activities within BCTS FDUs, of the proposed development. A 60 day period will be provided to allow written comments to be provided to the TSM regarding timber harvesting or road construction activities, and

2. If a range tenure holder, District Range Officer, or other qualified person, indicates that the planned BCTS development will remove or render ineffective a natural range barrier, the TSM will:

- a) work to reach an agreement with the range tenure holder on mitigative measures; and,
- b) implement the agreed upon mitigative measure within one (1) season of harvest completion, unless an alternative timeframe is agreed upon by the TSM and the range tenure holder;
- c) if the TSM and the range tenure holder cannot come to an agreement, the TSM will work with the District Range Officer to discuss potential impacts and solutions, and the TSM will develop and implement mitigative measures within one (1) season of harvest completion, unless an alternative timeframe is agreed upon with the District Range Officer.

4.0 Stocking Requirements

4.1 Stocking Standards

Section 44(1) of the FPPR applies to all FDU's where the TSM is required to establish a free growing stand under this FSP.

The applicable stocking standards and applicable regeneration date referred to in Section 44(1)(a) of the FPPR and applicable free growing height referred to in Section 44(1)(b) of the FPPR are those described in:

- i) Section 4.2 in this FSP includes the specified special circumstances; and,
- ii) Appendix A – Even-Aged Silviculture Stocking Standards
- iii) Appendix B – Uneven-Aged Silviculture Stocking Standards
- iv) Appendix C – Stocking Standards Footnote Table

For the purpose of section 16(4) of the FPPR, section 44(4) does not apply to this FSP. The TSM does not propose to carry out harvesting activities listed in section 44(3)(h)(i) of the FPPR.

4.1.1 Basis for Stocking Standards

Stocking standard tables are based on the *Draft Nadina Stocking Standards* dated November 8, 2013 for the Nadina District.

4.2 Special Circumstances

4.2.1 Preferred and Acceptable Species

For each BEC site series or phase, the "Preferred" and "Acceptable" species listed in Appendix A (even-aged stocking standards) are considered "Preferred" for stocking standards in Appendix B (uneven-aged management) for all layers except for Layer 4 where the even-aged stocking standards will apply except that the shade-intolerant species, Lodgepole Pine (Pli) are limited as acceptable only.

4.2.2 Regeneration Date

Regeneration Date (RD) means the calendar date by which the minimum number of well spaced and well spaced preferred species must be established.

4.2.3 Stocking standards for plantations of >50% Pli species composition

A species mix of >50% Pli will not be planted within a given standards unit. Therefore, the 2013 Draft Nadina District Stocking Standards of >50% Pli on some SBS site series will not be applicable, unless a species conversion occurs due to natural ingress between planting and the free growing milestone. In the event of a species conversion to >50% Pli prior to reaching FG, BCTS will apply a suitable silviculture treatment: fill-planting or spacing the pine as required.

4.2.4 Upper Density Limit

Upper density limit means 20,000 countable coniferous trees per hectare where Lodgepole Pine is leading the stand by greater than or equal to 80 percent of the inventory for even-aged stocking standards for all BEC site series. For all other stands the upper density limit means 10,000 countable conifer trees per hectare for even-aged stocking standards for all BEC site series. For a coniferous tree to be considered as a countable conifer for determining upper density limits, determine the median height of the well spaced trees in the plot. If the median height is less than 2m; the countable height is 30% times the median height, if the median height is greater than 2m; the countable height is 50% times the median height (as per the most current Silviculture Survey Procedures Manual-).

The TSM will, before the free growing date, reduce stocking standards in stands that exceed the upper density limit to a post-spacing density range where post spacing (stems per hectare) have a range between:

Minimum = Target Stocking Standard (in Appendix A– Stocking Standards table)

Maximum = Target Stocking Standard (in Appendix A–Stocking Standards table) X3

4.2.5 Height of Trees Relative to Competing Deleterious Brush

In addition to meeting the minimum height, crop trees must be equal to or greater than the specified percentage of crop tree height relative to competing deleterious brush within a one-meter radius of the stem as defined in Table 16 and/or by using the free from brush free growing criteria in the *Establishment to Free Growing Guidebook: Prince Rupert Region*, May 2000 to be assessed free growing (*The details of the quadrant method are also explicitly described in the most current version of the Silviculture Survey Procedures Manual*).

Table 16: % Height above Competing Brush by BEC at Free Growing

Biogeoclimatic Zone	Crop Tree Height % Above Competing Deleterious Brush
SBS	150
ESSF	125

Brush species within ten meters slope distance (starting at the outer edge of the eroded banks for streams and outer edge of lakes and wetlands) of a classified riparian feature are not considered deleterious brush competition when conducting a free growing survey.

4.2.6 Stocking and Free Growing Surveys

Free growing status will be evaluated using the *Forest Practices Branch-Silviculture Survey Procedures Manual-Regeneration Delay, Stocking & Free Growing Surveys, plus Alternative Survey Methodologies-May 1, 2018*, and future associated updates to the manual during the term of this FSP.

4.2.7 M Value for Stocking and Free Growing Surveys

The “M” value for a free growing survey is the maximum number of healthy, well-spaced trees that may be tallied in a single plot calculated by dividing the target stocking standard for the BEC subzone-variant and site series by the plot multiplier, and is rounded off to the nearest higher whole number if necessary. The “M” value is essential to determining the stocking status (NSR, SR, and FG). The “M” values acts as a cap on the numbers of trees in a single plot so as to compensate for low stocking in other plots.

4.2.8 Minimum Inter-tree Horizontal Distances for Well-spaced & Free Growing Stems

The inter-tree distances specified in Appendix A or B, may be reduced within a standards unit for trees to be accepted as well-spaced in the following circumstances:

- a. The MITD may be 1.6 metres on:
 - i. sites with stump avoidance strategies prescribed for root rots, and
 - ii. areas that are mechanically site prepared to reduce cattle damage. Site preparation may be employed to establish seedlings and reduce trampling damage in cutblocks that have an overlapping range tenure. The mechanical site preparation would be limited to a mounding treatment, to elevate the seedlings.

- b. An MITD of 1.0m may be applied an area when cluster planting. Cluster planting may be applied only in limited applications, such as in areas that are designated as Grizzly forage areas in the Lakes TSA (Map 2), within Landscape Corridors in the Lakes TSA (Map 1), or within High Biodiversity Emphasis Areas in the Morice TSA (Map 4). Reducing the inter-tree distance on a portion of a cutblock will create small openings for wildlife forage, while providing some protection for crop trees. Cluster planting will also increase general structural diversity on the landscape.

4.2.9 Dispersed Complexes

On standards units comprised of dispersed, non-mappable complexes of differing BEC subzone variants and /or site series:

- i) The Target Stocking Standards, Minimum Preferred and Acceptable, Minimum Preferred, Minimum Inter-tree distance and Minimum Height will be those of the dominant site series, and
- ii) The preferred species for the Standard Unit will include all of the preferred species for all the site series comprising that unit, however potential crop trees will only be preferred or acceptable where they are ecologically suited within the Standards Unit.

4.2.10 Uneven-Aged Silviculture Systems:

The stocking standards for uneven-aged systems will be as per Appendix B. The use of uneven-aged systems as a current management practice is useful in evaluating management scenarios used in TSR for biodiversity and other management objectives

4.2.11 Stocking Standard in Identified Wildfire-Urban Interface Zones

The stocking standards for wildfire interface zones identified on the FSP maps will be as per Appendix D

Appendix A – Even-Aged Silviculture Stocking Standards

Biogeoclimatic Ecosystem Classification (Zone / Subzone)	Site Series	Regeneration and Free Growing Standards							Free Growing Standards		
		Species		Stocking Well Spaced / ha			MIT D (m)	Regen Delay (yrs)	Latest (yrs)	Minimum Height	
		Preferred (p)	Acceptable (a)	Target	Min (p&a)	Min (p)				Species	m
ESSF mc	01	Bl, Sx	Pli ³⁴	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	02/03	Pli	Bl, Sx	1000	500	400	2.0	7	20	Pli	1.6
										Others	0.8
	04	Pli, Bl, Sx		1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	05/06	Bl, Sx		1200	700	600	2.0	4	20	All	0.8
	07	Bl, Sx ³²		1200	700	600	1.0	4	20	All	0.8
08	Bl, Sx ³²		1000	500	400	1.0	4	20	All	0.8	
09/10	Bl ¹ , Sx ³²		1000	500	400	1.0	4	20	All	0.8	
ESSF mk	01	Bl, Sx	Hm, Pli ³⁴	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	02	Pa, Pli	Bl, Hm, Sx	1000	500	400	2.0	7	20	Pli	1.2
										Others	0.6
	03	Pa, Pli	Bl, Hm, Sx	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	04	Bl, Sx	Pli ³⁴	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
05	Bl, Sx	Hm	1200	700	600	1.0	4	20	Pli	1.6	
									Others	0.8	
06	Bl ¹ , Sx	Hm	1000	500	400	2.0	4	20	All	0.8	
07	Bl ¹ , Sx	Ba	1000	500	400	1.0	4	20	All	0.8	
ESSF mv3	01	Bl, Sx	Pli ³⁴	1200	700	600	2.0	4	20	Pli	1.6
										Others	0.8
	02	Pli ³⁴	Sx, Bl ²⁸	1000	500	400	2.0	4	20	Pli	1.2
										Others	0.6
	03	Bl, Sx	Sb, Pli ³⁴	1000	500	400	2.0	4	20	Pli	1.2
										Others	0.6
	04	Bl, Sx	Pli ³⁴	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	05	Bl, Sx	Pli ³⁴	1200	700	600	1.0	4	20	Pli	1.6
										Others	0.8
06	Bl, Sx	Pli ³⁴	1200	700	600	2.0	7	20	Pli	1.6	
									Others	0.8	
07	Bl ¹ , Sx	Pli ³⁴	1000	500	400	1.0	4	20	Pli	1.2	
									Others	0.6	
SBS dk	01	Pli, Sx, Lw, Fdi ^{9,18}		1400	800	800	2.0	4	20	Pli, Lw	2.0
										Fd	1.6
										Sx	1.0
										Others	0.8
	02	Pli	Sx ²⁸	1000	500	400	2.0	4	20	Pli	1.4
										Others	0.8
	03 ¹	Pli, Sx	Fdi, Lw, Sb ²⁸	1200	700	600	2.0	4	20	Pli	2.0
										Lw, Fd	1.6
									Sx, Sb	1.0	
									Others	0.8	

Biogeoclimatic Ecosystem Classification (Zone / Subzone)	Site Series	Regeneration and Free Growing Standards						Free Growing Standards			
		Species		Stocking Well Spaced / ha			MIT D (m)	Regen Delay (yrs)	Latest (yrs)	Minimum Height	
		Preferred (p)	Acceptable (a)	Target	Min (p&a)	Min (p)				Species	m
	04	Pli, Sx ²⁸ , Fd, Lw ⁱ		1200	700	700	2.0	4	20	Fd	1.6
										Pli, Lw	2.0
										Sx	1.0
										Others	0.8
	05	Pli, Sx ²⁸	Lw, Fdi ^{9, 18}	1400	800	700	2.0	4	20	Pli, Lw	2.0
										Fd	1.6
										Sx	1.0
	06	Pli, Sx Lw, Fdi ^{9, 18}		1400	800	800	2.0	4	20	Pli, Lw	2.0
										Fd	1.6
										Sx	1.0
	07	Lw, Fdi, Sx ^{1, 32}	PI ¹	1000	500	400	1.0	4	20	Pli	1.4
										Fdi	1.6
										Lw	2.0
										Others	0.8
	08	Sx ^{1, 32}	Pli	1200	700	600	1.0	4	20	Sx	1.0
										Pli	2.0
	09 [*]	Sx, Pli ¹ , Sb ¹		400	200	200	1.0	4	20	Pli	1.4
										Others	0.8
	10 [*]	Pli ¹ , Sb ¹ , Sx ^{1, 32}		400	200	200	1.0	4	20	Pli	1.4
										Others	0.8
SBS dw3	01	Fdi, Pli, Sx	Bl, Lw ³² Pw, ^{31, 32} Py	1200	700	600	2.0	7	20	Pli	2.0
										Fdi	1.4
										Other	1.0
	02	Fd ²⁷ Pli	Sx ²⁸	1000	500	400	2.0	7	20	Pli	1.4
										Fdi	1.0
										Other	0.8
	03	Pli	Sx	1200	700	600	2.0	7	20	Pli	2.0
										Sx	1.0
	04	Pli, Fdi	Sx	1200	700	600	2.0	7	20	Pli	2.0
										Fdi	1.4
										Others	1.0
	05	Pli	Sb, Sx	1200	700	600	2.0	7	20	Pli	2.0
										Others	1.0
	06	Pli Sx ³² Fd ³²	Bl ²⁹	1200	700	600	2.0	4	20	Fdi	1.4
										Pli	2.0
										Others	1.0
	07	Sx, Pli	Bl ²⁹	1200	700	600	1.6	4	20	Pli	2.0
										Others	1.0
	08	Pli Sx Fd ^{3, 32}	Bl ²⁹	1200	700	600	1.6	4	20	Pli	2.0
										Fdi	1.4
										Others	1.0
SBS mc2	01	Pli Sx Lw, Fdi	Bl ²⁹	1400	800	700	2.0	4	20	Pli, Fdi	1.6

Biogeoclimatic Ecosystem Classification (Zone / Subzone)	Site Series	Regeneration and Free Growing Standards							Free Growing Standards		
		Species		Stocking Well Spaced / ha			MIT D (m)	Regen Delay (yrs)	Latest (yrs)	Minimum Height	
		Preferred (p)	Acceptable (a)	Target	Min (p&a)	Min (p)				Species	m
										Lw	2.0
										Others	0.8
	02 ⁷	Pli	Bl ³² Sx ³²	1000	500	400	2.0	4	20	Pli	1.2
										Others	0.6
	03	Pli	Sx ³² Bl ²⁹ Sb Lw,Fdi ^{9,18}	1200	700	600	2.0	4	20	Pli, Fdi	1.6
										Lw	2.0
										Others	0.8
	05/06	Pli Sx Lw,Fdi	Bl ²⁹	1400	800	700	2.0	4	20	Pli, Fdi	1.6
										Lw	2.0
										Others	0.8
	07 ⁷	Pli Sb Sx ³²	Bl	1000	500	400	1.0	4	20	Pli	1.2
										Others	0.6
	09	Sx Bl ²⁹	Pli	1200	700	600	1.0	4	20	Pli	1.6
										Others	0.8
	10	Sx ^{1,32} Bl ^{1,29}	Pli ¹	1000	500	400	1.0	4	20	Pli	1.2
										Others	0.6
SBS wk3	01	Pli Sx	Lw,Fdi ^{9,18} Bl ²⁹	1400	800	700	2.0	4	20	Pli, Lw	2.0
										Fdi	1.6
										Others	1.0
	02	Pli	Bl ²⁸ Sx ²⁸	1000	500	400	2.0	4	20	Pli	1.4
										Others	0.8
	03	Pli Fdi ⁹ Lw Sx ²⁸		1200	800	800	2.0	4	20	Pli, Lw	2.0
										Fd	1.6
										Sx	1.0
	04	Pli Sx Lw,Fdi ⁹	Bl	1200	800	700	2.0	4	20	Pli, Lw	2.0
										Fd	1.6
										Others	1.0
	05	Pli	Sb Sx	1200	700	600	2.0	4	20	Pli	2.0
										Others	1.0
	06	Pli Sx	Lw,Fdi ⁹ Bl ²⁹	1200	800	700	2.0	4	20	Pli, Lw	2.0
										Fdi	1.6
										Others	1.0
	07	Sx ³²	Pli Bl ²⁹ Lw,Fdi ⁹	1200	700	600	1.5	4	20	Pli, Lw	2.0
										Fdi	1.6
										Others	1.0
	08	Sx ^{1,32}	Pli ¹ Bl ^{1,29}	1000	500	400	1.5	4	20	Pli	1.4
										Others	0.8
SBPS mc	01	Pli	Lw Sx Fdi Py	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	02	Pli	Sb Sx ²⁸	1000	500	400	2.0	7	20	Pli	1.2
										Others	0.6
	03	Pli	Sb Sx	1200	700	600	2.0	7	20	Pli	1.6
										Others	0.8
	04	Pli Sx Sb		1000	500	400	2.0	4	20	Pli	1.2
										Others	0.6
	05	Sx Pli	Sb	1000	500	400	2.0	4	20	Pli	1.2
										Others	0.6
	06	Sx Pli	Sb	1000	500	400	2.0	4	20	Pli	1.2
										Others	0.6

Biogeoclimatic Ecosystem Classification (Zone / Subzone)	Site Series	Regeneration and Free Growing Standards					Free Growing Standards				
		Species		Stocking Well Spaced / ha			MIT D (m)	Regen Delay (yrs)	Latest (yrs)	Minimum Height	
		Preferred (p)	Acceptable (a)	Target	Min (p&a)	Min (p)				Species	m
	07	Sx Pli Sb		400	200	200	1.5	4	20	Pli	1.2
										Others	0.6

Appendix B – Uneven-aged Silviculture Stocking Standards:

Biogeoclimatic Ecosystem Classification	Site Serie	<i>Regeneration and Free growing Standards: Partial Cutting</i>															<i>Free Growing Standards</i>				
		Species		Stocking												MITD ²	Regen Delay ³	Latest	Minimum Height		
		Preferred(p)	Acceptable	Layer 1			Layer 2			Layer 3			Layer 4			(m)	(Max yrs)	(yrs)	Species	(m)	
Subzone				Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)						
					(p&a)		(p&a)		(p&a)		(p&a)		(p&a)								
ESSF mc	01	Bl, Sx	Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0	
																			Others	0.8	
	02/03	Pli	Bl, Sx	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.6	
																			Others	0.8	
	04	Pli, Bl, Sx		600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6	
																			Others	0.8	
	05/06	Bl, Sx		600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	All	0.8	
	07	Bl, Sx ³²		600	300	250	800	400	300	1000	500	400	1200	700	600	1.0	7	20	All	0.8	
	08	Bl, Sx ³²		400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	All	0.8	
	09/10	Bl ¹ , Sx ³²		400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	All	0.8	
ESSF mk	01	Bl, Sx	Hm, Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6	
																			Others	0.8	
	02	Pa, Pli	Bl, Hm, Sx	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2	
																			Others	0.6	
	03	Pa, Pli	Bl, Hm, Sx	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6	
																			Others	0.8	
	04	Bl, Sx	Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6	
																		Others	0.8		

² The minimum inter-tree distance (MITD) for layer 1 is 0.0 meters

³ Regeneration date can be met immediately following harvest if the residual stand has no significant damage or pest problems and meets minimum stocking standards.

Biogeoclimatic Ecosystem Classification	Site Serie	Regeneration and Free growing Standards: Partial Cutting															Free Growing Standards			
		Species		Stocking												MITD ²	Regen Delay ³	Latest	Minimum Height	
		Preferred(p)	Acceptable	Layer 1			Layer 2			Layer 3			Layer 4						(m)	(Max yrs)
				Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)		
Subzone					(p&a)		(p&a)		(p&a)		(p&a)		(p&a)		(p&a)					
	05	Bl, Sx	Hm	600	300	250	800	400	300	1000	500	400	1200	700	600	1.0	7	20	Pli	1.6
																			Others	0.8
	06	Bl ¹ , Sx	Hm	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	All	0.8
	07	Bl ¹ , Sx	Ba	400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	All	0.8
ESSF mv3	01	Bl, Sx	Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6
																			Others	0.8
	02	Pli ³⁴	Sx, Bl ²⁸	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	03	Bl, Sx	Sb, Pli ³⁴	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	04	Bl, Sx	Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6
																			Others	0.8
	05	Bl, Sx	Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	1.0	7	20	Pli	1.6
																			Others	0.8
	06	Bl, Sx	Pli ³⁴	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6
																			Others	0.8
	07	Bl ¹ , Sx	Pli ³⁴	400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	Pli	1.2
																			Others	0.6
SBS dk	01	Pli, Sx, Lw, Fdj ^{9,18}		600	300	250	800	400	300	1000	500	400	1400	800	800	2.0	7	20	Pli, Lw	2.0
																			Fd	1.6
																			Sx	1.0
																			Others	0.8
	02	Pli	Sx ²⁸	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.4
																			Others	0.8
	03*	Pli, Sx	Fdi, Lw Sb ²⁸	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0
																			Lw, Fd	1.6
																			Sx, Sb	1.0
																			Others	0.8

Biogeoclimatic Ecosystem Classification	Site Serie	Regeneration and Free growing Standards: Partial Cutting															Free Growing Standards			
		Species		Stocking												MITD ²	Regen Delay ³	Latest	Minimum Height	
		Preferred(p)	Acceptable	Layer 1			Layer 2			Layer 3			Layer 4						(m)	(Max yrs)
				Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)					
Subzone																				
	04	Pli, Sx ²⁸ , Fd, Lw ⁱ		600	300	250	800	400	300	1000	500	400	1200	700	700	2.0	7	20	Fd	1.6
																		Pli, Lw	2.0	
																		Sx	1.0	
																		Others	0.8	
	05	Pli, Sx ²⁸	Lw,Fdi ^{9,18}	600	300	250	800	400	300	1000	500	400	1400	800	700	2.0	7	20	Pli, Lw	2.0
																		Fd	1.6	
																		Sx	1.0	
	06	Pli, Sx Lw,Fdi ^{9,18}		600	300	250	800	400	300	1000	500	400	1400	800	800	2.0	7	20	Pli, Lw	2.0
																		Fd	1.6	
																		Sx	1.0	
	07	Lw, Fdi,Sx ^{1,32}	Pi ¹	400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	Pli	1.4
																		Fdi	1.6	
																		Lw	2.0	
																		Others	0.8	
	08	Sx ^{1,32}	Pli	600	300	250	800	400	300	1000	500	400	1200	700	600	1.0	7	20	Sx	1.0
																		Pli	2.0	
	09*	Sx,Pli ¹ , Sb ¹		200	100	150	300	125	125	300	150	150	400	200	200	1.0	7	20	Pli	1.4
																		Others	0.8	
	10*	Pli ¹ , Sb ¹ , Sx ^{1,32}		200	100	150	300	125	125	300	150	150	400	200	200	1.0	7	20	Pli	1.4
																		Others	0.8	
SBS dw3	01	Fdi, Pli, Sx	Bl, Lw ³² Pw, ^{31,32} Py	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0
																		Fdi	1.4	
																		Other	1.0	
	02	Fd ²⁷ Pli	Sx ²⁸	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.4
																		Fdi	1.0	
																		Other	0.8	

Biogeoclimatic Ecosystem Classification	Site Serie	Regeneration and Free growing Standards: Partial Cutting															Free Growing Standards			
		Species		Stocking												MITD ²	Regen Delay ³	Latest	Minimum Height	
		Preferred(p)	Acceptable	Layer 1			Layer 2			Layer 3			Layer 4						(m)	(Max yrs)
				Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)					
Subzone																				
	03	Pli	Sx	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0
																			Sx	1.0
	04	Pli, Fdi	Sx	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0
																			Fdi	1.4
																			Others	1.0
	05	Pli	Sb,Sx	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0
																			Others	1.0
	06	Pli Sx ³² Fd ³²	Bl ²⁹	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Fdi	1.4
																			Pli	2.0
																			Others	1.0
	07	Sx,Pli	Bl ²⁹	600	300	250	800	400	300	1000	500	400	1200	700	600	1.6	7	20	Pli	2.0
																			Others	1.0
	08	Pli Sx Fd3,32	Bl ²⁹	600	300	250	800	400	300	1000	500	400	1200	700	600	1.6	7	20	Pli	2.0
																			Fdi	1.4
																			Others	1.0
SBS mc2	01	Pli Sx Lw, Fdi	Bl ²⁹	600	300	250	800	400	300	1000	500	400	1400	800	700	2.0	7	20	Pli, Fdi	1.6
																			Lw	2.0
																			Others	0.8
	02*	Pli	Bl ³² Sx ³²	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	03	Pli	Sx ³² Bl ²⁹ Sb Lw,Fdi ^{9,18}	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli, Fdi	1.6
																			Lw	2.0
																			Others	0.8
	05/06	Pli Sx Lw,Fdi	Bl ²⁹	600	300	250	800	400	300	1000	500	400	1400	800	700	2.0	7	20	Pli, Fdi	1.6
																			Lw	2.0
																			Others	0.8

Biogeoclimatic Ecosystem Classification	Site Serie	Regeneration and Free growing Standards: Partial Cutting															Free Growing Standards			
		Species		Stocking												MITD ²	Regen Delay ³	Latest	Minimum Height	
		Preferred(p)	Acceptable	Layer 1			Layer 2			Layer 3			Layer 4						(m)	(Max yrs)
				Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)	Target	Min (p&a)	Min (p)					
Subzone																				
	07*	Pli Sb Sx ³²	Bl	400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	Pli	1.2
																			Others	0.6
	09	Sx Bl ²⁹	Pli	600	300	250	800	400	300	1000	500	400	1200	700	600	1.0	7	20	Pli	1.6
																			Others	0.8
	10	Sx ^{1,32} Bl ^{1,29}	Pli ¹	400	200	200	600	300	250	800	400	300	1000	500	400	1.0	7	20	Pli	1.2
																			Others	0.6
SBS wk3	01	Pli Sx	Lw, Fdi ⁹ , 18 Bl ²⁹	600	300	250	800	400	300	1000	500	400	1400	800	700	2.0	7	20	Pli, Lw	2.0
																			Fdi	1.6
																			Others	1.0
	02	Pli	Bl ²⁸ Sx ²⁸	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.4
																			Others	0.8
	03	Pli Fdi ⁹ Lw Sx ²⁸		600	300	250	800	400	300	1000	500	400	1200	800	800	2.0	7	20	Pli, Lw	2.0
																			Fd	1.6
																			Sx	1.0
	04	Pli Sx Lw, Fdi ⁹	Bl	600	300	250	800	400	300	1000	500	400	1200	800	700	2.0	7	20	Pli, Lw	2.0
																			Fd	1.6
																			Others	1.0
	05	Pli	Sb Sx	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	2.0
																			Others	1.0
	06	Pli Sx	Lw, Fdi ⁹ Bl ²⁹	600	300	250	800	400	300	1000	500	400	1200	800	700	2.0	7	20	Pli, Lw	2.0
																			Fdi	1.6
																			Others	1.0
	07	Sx ³²	Pli Bl ²⁹ Lw, Fdi ⁹	600	300	250	800	400	300	1000	500	400	1200	700	600	1.5	7	20	Pli, Lw	2.0
																			Fdi	1.6
																			Others	1.0
	08	Sx ^{1,32}	Pli ¹ Bl ^{1,29}	400	200	200	600	300	250	800	400	300	1000	500	400	1.5	7	20	Pli	1.4
																			Others	0.8

Biogeoclimatic Ecosystem Classification	Site Serie	<i>Regeneration and Free growing Standards: Partial Cutting</i>															<i>Free Growing Standards</i>			
		Species		Stocking												MITD ²	Regen Delay ³	Latest	Minimum Height	
		Preferred(p)	Acceptable	Layer 1			Layer 2			Layer 3			Layer 4						(m)	(Max yrs)
Subzone				Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)	Target	Min	Min (p)					
					(p&a)		(p&a)		(p&a)		(p&a)		(p&a)							
SBPS mc	01	Pli	Lw Sx Fdi Py	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6
																			Others	0.8
	02	Pli	Sb Sx ²⁸	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	03	Pli	Sb Sx	600	300	250	800	400	300	1000	500	400	1200	700	600	2.0	7	20	Pli	1.6
																			Others	0.8
	04	Pli Sx Sb		400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	05	Sx Pli	Sb	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	06	Sx Pli	Sb	400	200	200	600	300	250	800	400	300	1000	500	400	2.0	7	20	Pli	1.2
																			Others	0.6
	07	Sx Pli Sb		200	100	150	300	125	125	300	150	150	400	200	200	1.5	7	20	Pli	1.2
																			Others	0.6

Appendix C- Stocking Standards Footnote Table

	Footnote	Footnote #	Footnote
Conifer Tree Species			
	1	elevated microsites are preferred	46
			47
"Ba" means amabilis fir;	2	suitable on thick forest floors	
"Bg" means grand fir;	3	restricted to coarse-textured soils	48
"Bl" means subalpine fir;	4	restricted to medium-textured soils	49
"Bp" means noble fir;	5	footnote retired	50
"Cw" means western red cedar;	6	restricted to nutrient-very-poor sites	
"Fd" means Douglas-fir;	7	restricted to nutrient-medium sites	51
"Hm" means mountain hemlock;	8	restricted to steep slopes	52
"Hw" means western hemlock;	9	restricted to southerly aspects	53
"Ll" means tamarack;	10	restricted to northerly aspects	54
"Lw" means western larch;	11	restricted to crest slope positions	55
"Pa" means whitebark pine;	12	suitable on cold air drainage sites	
"Pl" means lodgepole pine;	13	restricted to upper elevations of biogeoclimatic unit	#
"Pw" means white pine;	14	restricted to lower elevations of biogeoclimatic unit	
"Py" means ponderosa pine;	15	restricted to northern portion of biogeoclimatic unit in region	a
"Sb" means black spruce;	16	restricted to southern portion of biogeoclimatic unit in region	b
"Se" means Engelmann spruce;	17	restricted to western portion of biogeoclimatic unit in region	
"Ss" means Sitka spruce;	18	restricted to eastern portion of biogeoclimatic unit in region	
"Sw" means white spruce;	19	restricted, not in Queen Charlotte Islands	#
"Sx" means hybrid spruce or interior spruce;	20	restricted, not near outer coast	
"Sxs" means hybrid Sitka spruce;	21	restricted to mainland	56
"Sxw" means hybrid white spruce;	22	restricted to southern Gardner Canal-Kitlope area	
"Yc" means yellow cedar.	23	restricted to trial use	57
	24	suitable (as a major species) in wetter portion of biogeoclimatic unit	58
Broadleaf Tree Species			
"Acb" means balsam poplar;	25	suitable on sites lacking salal	59
"Act" means black cottonwood;	26	suitable minor species on salal-dominated sites	
"At" means trembling aspen;	27	partial canopy cover required for successful establishment	60
"Dr" means red alder;	28	limited by moisture deficit	61
"Ep" means common paper birch;	29	risk of heavy browsing by moose	62
			63
"Mb" means bigleaf maple;	30	retired November 2010	
	31	use of resistant stock mitigates risk of white pine blister rust. Do not use non-resistant stock for reforestation. See BC Journal of Ecosystems and Management 10(1): 97-100.	66
"Og" means garry oak;			67
"Ra" means arbutus;	32	limited by growing-season frosts	
	33	footnote retired and replaced with footnote 'a'	68
			69
"Biogeoclimatic unit" or "BGC classification"	34	risk of snow damage	
means the zone, subzone, variant and site series described in the most recent field guide published by the Ministry of Forests for the identification and interpretation of ecosystems, as applicable to a harvested area.	35	use of resistant stock mitigates risk of spruce weevil damage. Use stock with the highest resistance rating for your area. See Ss Weevil Decision Tool (http://www.for.gov.bc.ca/hre/for/gen/projects/spruceweevil) and BC Journal of Ecosystems and Management 7(3): 45-49.	70
"MIN or 'Min" means minimum.	36	suitable major species on salal-dominated sites	
	37	retired November 2010	
	38	footnote retired	
	39	avoid exposed and windy sites	
	40	risk of redheart	
	41	limited by poorly drained soils	
	42	restricted to fresh soil moisture regimes	
	43	suitable on mainland coast only (QCI only)	
	44	suitable in areas with stronger maritime influence	
	45	suitable in areas with stronger continental influence	

restricted to area north of the Dean Channel
 risk of balsam woolly adelgid – applies to all Abies species in subzones within the regulated quarantine area (<http://www.al.gov.bc.ca/cropprot/balsamwa.htm>)
 risk of heavy browsing by deer
 retired November 2010
 restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
 restricted to areas with proven PI performance
 restricted to sheltered microsites with deep soil
 minor component
 risk of unsuccessful release of advance regeneration
 acceptable in sx-sm portion of site series

Broadleaf Management Constraints
 productive, reliable, and feasible regeneration option
 limited in productivity, reliability and/or feasibility

Localized Footnotes

Kalum forest district - see footnote 35

retired November 2010 see footnote 31
Southern Interior Forest Region - Fd limited to a max 50% of preferred and acceptable well-spaced stems in the IDFMw and all subzones of the ICH (except the ICHxw) due to root rot in areas where stump removal has not been performed. See BC Journal of Ecosystems and Management 9(2): 60-65.
Prince George region - max 1,400 total sph of aspen and cottonwood.
 Treat as 'ghost' trees in surveys.
Squamish forest district - species is acceptable in Squamish forest district only.
Squamish forest district only - acceptable on cold air drainage sites only.
 retired November 2010 see footnote 47
Queen Charlotte Islands forest district - must meet district manager specified minimum well-spaced preferred stems per hectare and minimum height requirements for Cw and/or Yc
Mackenzie forest district - may be preferred where risk of snow damage is low or where risk of frost damage is excessive on spruce
Chilliwack forest district - species is acceptable in Chilliwack forest district only.
Chilliwack forest district - species is preferred in Chilliwack forest district only.
 Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
Pr Rupert region - Hw is restricted to a maximum of 50% of the well spaced stems at free growing

Appendix D – Stocking Standard in Identified Wildfire-Urban Interface Zones

Zones	Preferred (P)	Acceptable (A)	Target (sph)	Min P (sph)	Min P & A (sph)	Regen Delay	Min Ht (m)	MITD (m)**
Fire Stocking Zone 1	Ac, At, Ep, Acb, Fdi, Lw, Sx	Pl	1000	400	500	7	Decid 2.0/ Fdi 1.6/ Lw 2.0/ Sx 1.0	2.0
Fire Stocking Zone 2	Fdi, Lw, Sx	Pl, At, Ac, Ep, Acb	1000	400	500	7	Deci, Fdi, Pli 2.0/Lw 1.6/Sx 1.0	2.0

**MITD will be 1m if cluster planting methodology is prescribed.

The broad Fire Stocking Zone has been identified on the FSP Maps. The area can be broken into two zones based on the following definition:

Fire Stocking Zone 1 is defined as 0-1km from private land,

Fire Stocking Zone 2 is defined as 1km from private land up to the zone boundary.

5.0 Signatures of Preparing Forester and Person Required to Prepare the Plan

Preparing Forester

I certify that I have reviewed this document and, while I did not personally supervise the work described, I have determined that this work has been done to the standards expected of a member of the Association of British Columbia Forest Professionals.

Jonathan Van Barneveld, RPF
Planning Forester
Babine Timber Sales Office
Babine Business Area



Signature: Jonathan Van Barneveld

Date: 2020/11/12

Person Required to Prepare the Plan

Debbie Janning-Stewart, RPF
Timber Sales Manager
Babine Timber Sales Office
Babine Business Area

Signature: Debbie Janning-Stewart

Date: 2020/11/12