



Lakes Timber Supply Area
portion of the Nadina Natural Resource
District
2022 Forest Stewardship Plan
#651
Amendment 4

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1. Interpretation

1.1. Definitions

In this document, unless otherwise specified:

“Agreement Holder(s)” means a holder of a license identified in section 1.2

“CFMLB” means crown forest management land base. This is the portion of total area with forest cover that contributes to Crown forest management objectives. The **CFMLB** excludes private land, federal reserves, long-term leases, area-based tenures, and non-forested lands.

“FDU” means a forest development unit

“FPPR” means the Forest Planning and Practices Regulation B.C.;

“FPC” means the Forest Practices Code;

“FSP” means Forest Stewardship Plan;

“GAR” means Government Action Regulation

“Machine Free Zone/MFZ” means an area where machine traffic can not be used other than at identified crossings, unless sufficient snow cover and/or frozen soil conditions are present to prevent soil and forest floor disturbance.

“Primary Forest Activity” means one or more of the following: (a) timber harvesting, (b) silviculture treatments, or (c) road construction, maintenance, and deactivation.

“THLB” means timber harvesting land base and is generally defined as crown land considered available for timber harvesting over the long term.

1.2. Application of the Forest Stewardship Plan

The term of this **FSP** is 5 years and begins on the effective date specified in writing by the minister in approving this plan.

1. Parties to the **FSP** include the following **Agreement Holders**:
 - a) West Fraser Mills as holder of licenses A16824, A16826, A97063, and A97064;
 - b) Nechako Lumber as holder of licenses A16821, and A97709; and the
 - c) Cheslatta Carrier Nation as the holder of license A92915 and A99687.

2. Forest Development Units

The following **FDUs** are specified for this **FSP** on Maps 1, 2 and 3:

1. The Lakes North **FDU**
2. The Lakes South **FDU**

The **FDUs** exclude private land, federal reserves, long-term leases, and area based tenures known on the date of submission of this **FSP**. These areas may change from time to time. The **FDUs** encompass a number of parks and protected areas, however development will not happen within these areas as the **Agreement Holders** do not have harvesting rights within these areas. These areas however contribute attributes to a number of government objectives so their area is considered in landscape level objective monitoring.

3. Results and Strategies

3.1. Objectives set by government for soils

Within all **FDUs**, the **Agreement Holders** undertake to comply with **FPPR** sections 35 (*Soil disturbance limits*) and 36 (*Permanent access structure limits*).

3.2. Objectives set by government for timber

As per **FPPR** section 12(8), the **Agreement Holders** are exempt from the requirement to prepare results or strategies for this objective.

3.3. Objectives set by government for wildlife

3.3.1. Grizzly Bear - FPPR 7(2) 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

Grizzly Bear Habitat for the purposes of this result and strategy are the polygons (source: <https://catalogue.data.gov.bc.ca/dataset/5d859a89-f173-4006-82f9-16254de2c1fc> ATRB1_VAL: Grizzly Habitat) shown on Map 4 as Grizzly Bear Habitat polygons.

Target Amounts from Notice:

1. Within the Lakes TSA 4,310 ha of which 1,346 ha will be **THLB**.

Result and Strategy:

1. During the term of this **FSP**, the **Agreement Holders** will not carry out primary forest activities within the Grizzly Bear Habitat polygons.

3.3.2. Moose - FPPR 7(2) 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

Moose Winter Habitat for the purposes of this result and strategy, are the polygons (source: Skeena Sustainability Assessment Forum (SSAF) draft moose winter range) shown on Map 5 as Moose Winter Habitat.

Area of Application for the results and strategies related to Section 3.3.2 is the area of each individual Moose Winter Habitat polygon and Agreement Holder’s Operating Area combination on the date of Cutting Permit submission. In the case of an Agreement Holder operating in another Licensee’s Operating Area, this Licensee’s Operating area will become part of the combination in the Area of Application. The Agreement Holder’s Operating Area in effect on the date of Cutting Permit submission is found on the [ftp.for.gov.bc.ca](ftp://ftp.for.gov.bc.ca) site ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

Screening cover is defined as areas of undermerch conifer or deciduous vegetation $\geq 3\text{m}$ in height that during leaf out would break up the outline of a moose standing within or beyond the cover.

Target Amounts from Notice:

1. For all Moose Winter Habitat in the Lakes TSA, a maximum of 218,142 ha of which 156, 427 ha is within the timber harvesting landbase. Within the **Lakes North FDU** and the **Lakes South FDU**, this is distributed proportionately (**Proportionate Amount**) between the Operating Areas based on Moose Winter Habitat overlap.

2. The **Proportionate Amounts** for the Cheslatta Carrier Nation operating area is a maximum 12,039ha of which 8,633ha is within the THLB and for the West Fraser Mills Ltd. operating area is a maximum 44,356ha of which 31,807ha is within the THLB.

Result:

1. For the term of this **FSP**, the **Agreement Holders** will not submit a cutting permit that on the date of submission if harvested, would cause for the **Area of Application**:
 - a) Less than 30% of the **proportionate amount** of **CFMLB** being > 101 years of age;
 - b) Greater than 33% of the **proportionate amount** of **THLB** being at < 17 years of age or greater than 33% of the **THLB** being < 3m in height.
2. For the term of this **FSP**, in order to maintain preferred winter foraging species referenced in the Moose- FPPR 7(2) Notice, the **Agreement Holders** will follow the practices referenced in FSP section 5.2(1).

Strategies:

3. For the term of this **FSP** within the **Area of Application**, the **Agreement Holders** will when carrying out primary forest activity:
 - a) Preferentially locate wildlife tree retention and **screening cover** adjacent the preferred ecosystems and forest structure referenced in the attributes section of the Moose- FPPR 7(2) Notice,
 - b) Maintain existing **screening cover** adjacent main roads to the amount practicable,
 - c) Maintain patches of existing deciduous within conifer stands,
 - d) Avoid harvesting deciduous leading stands, and
 - e) Within one year of regeneration declaration for the block, limit vehicle access by permanently deactivating block roads not expected to be required to:
 - a) access further timber beyond the cutblock,
 - b) access a culture heritage resource where access has been requested,
 - c) access an area or infrastructure requested by a guide, trapper, or range tenure holder,
or
 - d) access an existing public recreational feature.

3.3.3. Mule Deer - FPPR 7(2) 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

Mule Deer winter habitat for the purposes of this result and strategy, are the polygons (source: <https://catalogue.data.gov.bc.ca/dataset/5d859a89-f173-4006-82f9-16254de2c1fc> ATRB1_VAL: Deer 1 or 2) shown on Map 5 as Mule Deer Winter Habitat.

Area of Application for the results and strategies related to Section 3.3.3 is the area of each individual Deer Winter Habitat polygon and Agreement Holder’s Operating Area combination on the date of Cutting Permit submission. In the case of an Agreement Holder operating in another Licensee’s Operating Area, this Licensee’s Operating area will become part of the combination in the Area of Application. The Agreement Holder’s Operating Area in effect on the date of Cutting Permit submission is found on the <ftp.for.gov.bc.ca> site ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

Target Amounts from Notice:

1. For all Mule Deer Winter Habitat combined, a maximum of 10,877 ha of which 1,332 ha is within the timber harvesting landbase. Within the **Lakes North FDU** and the **Lakes South FDU**, this is distributed proportionately (**Proportionate Amount**) between the Operating Areas based on amount of Mule Deer Winter Habitat overlap.
2. The **Proportionate Amounts** for the Cheslatta Carrier Nation operating area is a maximum 400ha of which 49ha is within the THLB.

Result:

1. For the term of this **FSP**, the **Agreement Holders** will not submit a cutting permit within the **Lakes North FDU and the Lakes South FDU** that on the date of submission if harvested, would cause for the **Area of Application**:
 - a) Less than 50% of the **proportionate amount** of **CFMLB** within each Mule Deer Habitat polygon being >101yrs;
 - f) Greater than 33% of the **proportionate amount** of **THLB** within each Mule Deer Winter Habitat polygon at < 17 years of age or greater than 33% of the **THLB** being < 3m in height.
2. For the term of this FSP, in order to maintain the preferred winter forage referenced in the Mule Deer- FPPR 7(2) Notice, the Agreement Holders will follow the practices referenced in FSP section 5.2(1).

Strategies:

3. For the term of this **FSP** within the **Area of Application**, the **Agreement Holders** will when carrying out a primary forest activity:
 - a) Preferentially locate wildlife tree retention where practicable within areas containing the:

- a) Preferred topographic features,
 - b) Preferred winter forage,
 - c) Effective snow interception cover,
 - d) Effective thermal and hiding cover, and
 - e) Preferred forest structure referenced in the attributes section of the Mule Deer- FPPR 7(2) Notice.
- b) Within one year of regeneration declaration for the block, limit vehicle access by permanently deactivating block roads not expected to be required to:
- a) access further timber beyond the cutblock,
 - b) access a culture heritage resource where access has been requested,
 - c) access an area or infrastructure requested by a guide, trapper, or range tenure holder, or
 - d) access an existing public recreational feature.

3.3.4. GAR 9(1), 9(2), and 12(1) Ungulate Winter Range Orders

1. The following Orders are within the Lakes North FDU and the Lakes South FDU and contain General Wildlife Measures that the **Agreement Holders** must follow:
 - a) Mountain Goats (U-6-017)
 - b) Takla Caribou (U-6-013)

3.4. Objective set by government for water, fish, wildlife and biodiversity within riparian area

3.4.1. General

Result and Strategy:

1. The **Agreement Holders**:
 - a) Within all **FDUs**, undertake to comply with **FPPR** sections 47, 48, 49 (*the legislated classification of streams, wetlands, and lakes*).
 - b) Within all **FDUs**, undertake to comply with **FPPR** sections 50 and 51 (*the legislated restrictions in the riparian management areas and riparian reserve zones*).
 - c) Within all **FDUs**, undertake to comply with **FPPR** section 52(2) (*the legislated restrictions in a riparian management zone*).

3.4.2. Retention of trees within Riparian Management Zones (FPPR 12(3))

For the purposes of the result and strategy, the following applies:

1. Application is to riparian features that are within a cut block or within an RMA distance from a cut block.
2. Retention of trees targets assume that trees are present in numbers sufficient to meet the target before the **primary forest activity** occurs. If this is not the case, all the trees will be retained within the target areas.
3. **Reach** is a stream section of at least 100m in length of the same riparian class, a more or less homogeneous gradient, and similar riparian management zone treatment.
4. **5m MFZ** means a machine free zone 5m in width from edge of a riparian feature where non-merchantable conifer trees, understory and overstory deciduous trees, shrubs, and herbaceous vegetation have been retained to the extent practicable
5. **5m MFZ + 15 trees** means a machine free zone 5m in width from edge of a riparian feature where non-merchantable conifer trees, understory and overstory deciduous trees, shrubs, and herbaceous vegetation have been retained to the extent practicable plus a minimum 15 conifer trees >12.5cm dbh within 10m of stream bank.
6. **NCD** is a feature having flowing water on a seasonal or perennial basis but lacks continuous scour to bedrock or mineral soil or lacks evidence of mineral soil deposition, or is less than 100m in length and does not flow directly into a known fish bearing water.

Result:

1. For the term of this **FSP**, within all **FDUs**, the **Agreement Holders** will ensure that at the completion of harvesting or road building within or adjacent to a cutblock the retention in the following Table occurs within the RMZ on each reach in the case of streams or the RMZ as a whole for wetlands and lakes.

Retention within RMZ.

	FLSM Riparian Class	Equivalent FPPR Description	Total RMA (m)	RRZ (m)	RMZ (m)	Stream Reach Gradient	Retention in RMZ (Basal Area or metres)
FISH STREAMS	S1-A	≥100m for >1km length	100	0	100	N/A	20% or 20m
	S1-B	>20m (not S1-A Class)	70	50	20	N/A	20% or 4m
	S2	>5m ≤ 20m	50	30	20	N/A	20% or 4m
	S3	1.5m ≤ 5m	40	20	20	NA	20% or 4m
	S4-A	<1.5m	30	0	30	≤8%	33% or 10m
	S4-B	<1.5m	30	0	30	8% < 14%	5m MFZ + 15 trees/ side /100m
	S4-C	<1.5m	30	0	30	≥14%	5m MFZ
NON-FISH STREAMS	S5	>3m	30	0	30	N/A	50% or 15m
	S6-A	≤3m	20	0	20	≤12%	5m MFZ + 15 trees/ side /100m
	S6-B	≤3m	20	0	20	>12%	5m MFZ
WETLANDS	W1	≥5ha	50	10	40	N/A	10% or 4m
	W3	1ha < 5ha	30	0	30	N/A	10% or 3m
	W5	Wetland complex FPPR 48(2)	50	10	40	N/A	10% or 4m
LAKES	L1-A	≥1000ha	0	0	0	N/A	N/A
	L1-B	>5ha and <1000ha	10	10	0	N/A	N/A
	L3	1ha < 5ha	30	0	30	N/A	10% or 3m

Strategy:

- For the term of this **FSP**, within all **FDUs**, the **Agreement Holders** will ensure for non classified drainages, non classified wetlands, and non classified lakes, that a machine free zone is used on these features.

3.5. Objectives set by government for fish habitat in fisheries sensitive watersheds

There are no fisheries sensitive watersheds within any of the **FDUs**.

3.6. Objectives set by government for water in community watersheds

There are no community watersheds within the any of the **FDUs**.

3.7. Objectives set by government for wildlife and biodiversity – landscape

3.7.1. General

- The **Agreement Holders** during the term of this **FSP**:
 - Within the Lakes North FDU, undertake to comply with **FPPR** sections 64 (*Maximum cutblock size*) and 65 (*Harvesting adjacent to another cutblock*).
 - Within the Lakes South FDU, the **Agreement Holders** use the result and strategy in Section 3.9.4 of this **FSP**.

3.8. Ministerial Order for the Lakes North Sustainable Resource Management Plan (2008) and the Ministerial Order to Amend Objective 4 of the Lakes North Sustainable Resource Management Plan (2008)

3.8.1. Objective 1: Maintain a range of forest seral stages by Biogeoclimatic zone within each landscape unit in accordance with Table 1.

Table 1

Landscape Unit	BEC Zone	Seral Stage		
		Early	Mature Plus Old	Old
Babine East	SBS	<54%	>23%	>11%
Babine East	ESSF	<36%	>28%	>9%
Babine West	SBS	N/A	>11%	>11%
Babine West	ESSF	N/A	>14%	>9%
Bulkley	SBS	<54%	>23%	>11%
Bulkley	ESSF	<36%	>28%	>9%
Burns Lake East	SBS	N/A	>11%	>11%
Burns Lake East	ESSF	N/A	>14%	>9%
Burns Lake West	SBS	N/A	>11%	>11%
Burns Lake West	ESSF	N/A	>14%	>9%
Fleming	SBS	<54%	>23%	>11%
Fleming	ESSF	<36%	>28%	>9%
Taltapin	SBS	N/A	>11%	>11%
Taltapin	ESSF	N/A	>14%	>9%

Early is defined as <40yrs

Mature is defined as >100yrs for SBS and >120yrs for ESSF.

Old is defined as >140yrs for SBS and >250yrs for ESSF

Area of application for the results and strategies related to Section 3.8 is the Lakes North FDU with seral stage measurement based on the Landscape Unit, BEC Zone, and Agreement Holder's Operating Area combination. In the case of an Agreement Holder operating in another Licensee's Operating Area, this Licensee's Operating area will become part of the combination in the Area of Application. The Agreement Holder's Operating Area in effect on the date of Cutting Permit

submission is found on the [ftp.for.gov.bc.ca](ftp://ftp.for.gov.bc.ca) site
ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

Result and Strategy:

1. Notwithstanding sections 2, for the term of this FSP, the Agreement Holders will not submit a cutting permit that on the date of submission, if harvested, would cause for the entire Landscape Unit, BEC Zone combination to not meet the seral stage targets in Table 1.
2. For the term of this **FSP**, the **Agreement Holders** will not submit a cutting permit that, on the date of submission, if harvested, would cause within the **Area of Application**:
 - a) the early seral stage percentage to exceed the applicable target seral stage percentage in Table 1, or to increase where the early seral stage percentage is already equal to or greater than the target; or
 - b) the mature plus old seral stage percentage to fall below the applicable target seral stage percentage in Table 1, or to decrease where the mature plus old seral stage percentage is already equal to or less than the target; or
 - c) the old seral stage percentage to fall below the applicable target seral stage percentage in Table 1, or to decrease where the old seral stage percentage is already equal to or less than the target.
3. If the percentage of forest in an old seral stage is less than the target seral stage in the **Area of Application**, the **Agreement Holders** will:
 - a) Maintain an area of mature seral forest within the **Area of Application**, equal to the area of old seral forest in deficit until there is adequate old forest to achieve the target seral stage.

3.8.2. Objective 2: Preserve Old Growth Management Areas.

Result and Strategy:

1. The **Agreement Holders** will use the OGMA boundaries in effect obtained from the British Columbia data catalogue <https://catalogue.data.gov.bc.ca/dataset/1b30f3bd-0ad0-4128-916b-66c6dd91dea4> or equivalent BC Government source.
2. Within both the Lakes North FDU, the **Agreement Holders** will not carry out harvest or construct a road within an OGMA.

3.8.3. Objective 3: Maintain stand level structural diversity by retaining wildlife tree retention (WTR) area in the Lakes North plan area.

High value wildlife trees/areas are or contain large veteran trees with a well branched structure or other trees with cavity nests, hollow stems or internal decay, stick nests, large witch's brooms, bear dens, evidence of active feeding on the tree, or associated with mineral licks and game trails.

Result and Strategy:

1. For the purposes of Objective 3 of the Lakes North SRMP, within the Lakes North FDU the **Agreement Holders** will:
 - a) Ensure at the time of harvest completion for each cutting permit, the total amount of WTR area that relates to those cutblocks in the cutting permit is a minimum of 10% of the total area of cutblocks, and
 - i) For a cutblock greater than 3ha, a minimum 5% of the total area of that cutblock is in WTR, and
 - ii) For a cutblock less than or equal to 3ha, there is no minimum WTR.
 - b) Ensure that the WTR areas specified;
 - i) Have **high wildlife value trees/areas**; unless
 - ii) There are few trees with high value wildlife attributes available, then retention will be located on a priority basis as follows:
 - (1) In areas most suitable for long-term wildlife tree recruitment, and
 - (2) In areas that are representative of the pre-harvest stand.

3.8.4. Objective 4: Maintain habitat connectivity within the landscape connectivity matrix (LCM).

For the purposes of this result and strategy the following definitions apply:

“**Adjacent**” is defined as within 30m.

“**Early Seral**” is defined as <40yrs of age.

“**Harvest Opening**” is defined as the portion of merchantable area within the LCM of an individual clear cut cutblock or a non-**adjacent** portion of merchantable area in a larger clear cut cutblock. A cutblock can contain more than one **harvest opening**. It does not include the road right of way area of permanent access that may connect otherwise non-**adjacent harvest**. Live basal area retention in the merchantable area will be factored into determining the size of a **harvest opening**.

“**Salvage Stand**” is defined as a stand where 50% or more of the total mature and old stems are dead conifers.

Table 2. Target amount to maintain in Contiguous Mature forest within each LCM

BEC Zone	Mature Definition	Target % of Forested Area
SBS	>100yrs	>=70%
ESSF	>120yrs	>=70%

Area of application for the results and strategies related to Section 3.8.4 is the Lakes North FDU with measurement based on an individual LCM / BEC Zone / Agreement Holder’s Operating Area combination. In the case of an Agreement Holder operating in another Licensee’s Operating Area, this Licensee’s Operating area will become part of the combination in the Area of Application. The Agreement Holder’s Operating Area in effect on the date of Cutting Permit submission is found on the [ftp.for.gov.bc.ca](ftp://ftp.for.gov.bc.ca) site ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

Result and Strategy:

1. Notwithstanding sections 2, and 3, for the term of this **FSP**, the **Agreement Holders** will not submit a cutting permit that on the date of submission if harvested would cause for the entire LCM / BEC Zone combination to not meet the Mature Target % of Forested Area.
2. For the term of this **FSP** within an **Area of Application**, the **Agreement Holders** will:
 - a) Not submit a cutting permit that on the date of submission that if harvested would result in the percentage of mature seral in an LCM to be less than the Target % of Forested Area in Table 2;
 - b) Distribute cutblocks spatially as follows:

- i. A new cutblock cannot be **adjacent** to an existing cutblock unless at least 70% of the net area to reforested on the existing cutblock has developed attributes within the LCM that are consistent with a mature seral condition; and
 - ii. Not harvest a cutblock that will result in greater than 30% of the width of the LCM being younger than mature.
 - c) Retain 100% of forested area in the following ecological communities:
 - i. SBS dk 04, 08, 81, 82
 - ii. SBS mc2 81, 82
 - d) Retain 100% of the following hydro-riparian ecosystems, unless required to be crossed by a road or designated skid trail crossing to harvest timber outside these ecosystems and no practicable alternatives exist, in which case trees will be retained to the extent practicable and the road will be deactivated once primary forest activities are complete:
 - i. SBS dk 07, 08, 09, 10
 - ii. SBS mc2 07, 08, 09, 10
 - iii. ESSF mc 07, 08, 09, 10
 - iv. ESSF mv1 04, 05
 - v. ESSF mv3 07
- 3. If within an **Area of Application**, the percentage of mature is below the Target % of Forested Area, the **Agreement Holders** will:
 - a) Not harvest a cutblock within that area containing mature seral forest, and
 - b) Maintain an area within the **Area of Application** that will provide the recruitment into mature seral equal to the area of mature aged forest in deficit until there is adequate mature seral forest to equal the target % of forested area.
- 4. The **Agreement Holders** may construct roads within an **Area of Application** where no practicable alternatives exist and these will be deactivated once primary forest activities are complete.
- 5. Sections 2a), b) and 3) above do not apply to the **Agreement Holders** in the harvest of a **Salvage Stand** within an **Area of Application** in which case, in order to maintain connectivity within the LCM:
 - a) A **harvest opening** will be no larger than 4ha in size;
 - b) **Harvest openings** will be distributed so that they are not **adjacent** to other **harvest openings** and **early seral** stands that are within the LCM;

- c) Harvest will not result in greater than 50% of the width of an LCM being in **early seral** stands;
- d) Non-merchantable understory, merchantable live stems, and deciduous trees will be retained within **harvest openings** to the extent practicable.

3.9. Ministerial Order for the Lakes South Sustainable Resource Management Plan (2003) and the Ministerial Order to Amend Objectives 2 and 3 of the Lakes South Sustainable Resource Management Plan (2007)

3.9.1. Objective 1: Maintain early, mature plus old, and old seral stages in Table 3 and 4.

Table 3: Seral Stage Distribution for the Lakes South SRMP outside the Caribou Migration Corridor.

Landscape Unit	BEC Zone	Seral Stage		
		Early (<40yrs)	Mature plus Old	Old
Francois West	SBS	<54%	>23%	>11%
	ESSF	<36%	>28%	>9%
Francois East	SBS	N/A	>11%	>11%
	ESSF	N/A	>14%	>9%
Cheslatta	SBS	<54%	>23%	>11%
	ESSF	<36%	>28%	>9%
Ootsa and Intata North	SBS	<54%	>23%	>11%
	ESSF	<36%	>28%	>9%

Early is defined as <40yrs

Mature is defined as >100yrs for SBS and >120yrs for ESSF.

Old is defined as >140yrs for SBS and >250yrs for ESSF

Table 4: Seral Stage Distribution for the Caribou Migration Corridor

Seral Stage Management Zone	Age of Stands		
	>140yrs	>80yrs	<40yrs
High Use	>40%	>60%	<25%
Moderate Use	>30%	>45%	<32%
Low Use	>20%	>30%	<54%

Area of application for the results and strategies related to Section 3.9.1 is the **Lakes South FDU** with measurement based on the Landscape Unit / BEC Zone / Agreement Holder's Operating Area combination for areas described Table 3 and the Seral Stage Management Zone / Agreement Holder's Operating Area for areas described Table 4. In the case of an Agreement Holder operating in another Licensee's Operating Area, this Licensee's Operating area will become part of the combination in the Area of Application. The Agreement Holder's Operating Area in effect on the date of Cutting Permit submission is found on the [ftp.for.gov.bc.ca](ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/) site ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

Result and Strategy:

1. Notwithstanding sections 2, for the term of this FSP, the Agreement Holders will not submit a cutting permit that on the date of submission, if harvested, would cause for the entire Landscape Unit, BEC Zone combination to not meet the seral stage targets in Table 3.
2. For the term of this **FSP**, the **Agreement Holders** will not submit a cutting permit that, on the date of submission, if harvested, would cause within the **Area of Application**:
 - a) the early seral stage percentage to exceed the applicable target seral stage percentage in Table 3, or to increase where the early seral stage percentage is already equal to or greater than the target; or
 - b) the mature plus old seral stage percentage to fall below the applicable target seral stage percentage in Table 3, or to decrease where the mature plus old seral stage percentage is already equal to or less than the target; or
 - c) the old seral stage percentage to fall below the applicable target seral stage percentage in Table 4, or to decrease where the old seral stage percentage is already equal to or less than the target.
3. If the percentage of forest in an old seral stage is less than the target seral stage in the **Area of Application**, the **Agreement Holders** will:
 - a) Maintain an area of mature seral forest within the **Area of Application**, equal to the area of old seral forest in deficit until there is adequate old forest to achieve the target seral stage.
4. For the term of this **FSP** within the **Area of Application**, the **Agreement Holders** will not harvest a cutblock that causes for each Seral Stage Management Zone in Table 4;
 - a) The <40yr old percentage to be greater than the target in Table 4 or to increase <40yr old where the <40yr old percentage is already equal to or greater than the target; and
 - b) The >80yr old percentage to be less than the target in Table 4 or to decrease the >80yr old where the >80yr old percentage is already equal to or less than the target; and
 - c) The >140yr old percentage to be less than the target in Table 4 or to decrease the >140yr old percentage where the >140yr old percentage is already equal to or less than the target.

5. Within the **Area of Application**, if the percentage of forest in >140yr old forest is below the target levels in Table 4, the Agreement Holders will:
 - a) Maintain an area of >80yr old forest in the **Area of Application** equal to the area of >140yr old forest in deficit until there is adequate >140yr old forest to no longer be below the target level.

3.9.2. Objective 2: Manage for old growth forests by retaining Old Grown Management Areas (OGMAs).

Result and Strategy:

1. The **Agreement Holders** will use the OGMA boundaries in effect obtained from the British Columbia data catalogue <https://catalogue.data.gov.bc.ca/dataset/1b30f3bd-0ad0-4128-916b-66c6dd91dea4> or equivalent BC Government source.
2. Within both the Lakes South FDU, The **Agreement Holders** will not harvest or construct a road within an OGMA.

3.9.3. Objective 4: Maintain within a managed forest setting, landscape corridors (Map 3) dominated by mature tree cover and containing most of the structure and function associated with old forest by: 1. Providing habitat connectivity within the landscape; 2. Permitting movement and dispersal of plant and animal species.

Table 5: Minimum criteria for forests providing connectivity in landscape corridors

Forest Type	Criteria
SBS coniferous forest	>=70yrs old
ESSF coniferous forest	>=100yrs old
Deciduous leading forest	>=40yrs 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.

Table 6: Maximum Opening Size in a Landscape Connectivity Segment

	Opening >=50% beetle damaged timber	Opening <50% beetle damaged timber
For each Opening	4 ha	Average 2ha, Maximum 3 ha

Area of application for the results and strategies related to Section 3.9.3 is the **Lakes South FDU** with measurement based on an individual Landscape Corridor Segment / BEC Zone / Agreement Holder's Operating Area combination. In the case of an Agreement Holder operating in another Licensee's Operating Area, this Licensee's Operating area will become part of the combination in the Area of Application. The Agreement Holder's Operating Area in effect on the date of Cutting Permit submission is found on the [ftp.for.gov.bc.ca](ftp://ftp.for.gov.bc.ca) site ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

Result and Strategy:

1. Notwithstanding section 2, for the term of this **FSP**, the **Agreement Holders** will not submit a cutting permit that on the date of submission if harvested would cause for the entire Landscape Corridor Segment to not meet the targets in Table 5.
2. For the term of this **FSP** within an **Area of Application**, the **Agreement Holders** if harvesting cutblocks within a Landscape Corridor Segment (LCS), will;
 - a) Not submit a cutting permit that on the date of submission if harvested would result in less than 70% of the forest stands in one or more of the criteria contained in Table 5;
 - b) Ensure that the net area to be reforested of the cutblocks harvested will not exceed the amounts specified in Table 6;
 - c) Ensure that for clear cut harvest , the harvested area of the cutblock is greater than 30m from a neighboring clearcut cutblock;
 - d) Not construct a road unless there is no other practicable option for accessing timber in which case the road will be rehabilitated to the extent practicable.
 - e) If the LCS does not contain forests within the minimum criteria within Table 5, not harvest a cutblock within that area and
 - i) Maintain an area within the **Area of Application** that will provide the recruitment into a forest meeting the minimum criteria equal to the amount in deficit.

3.9.4. Attain a pattern of development, over time, across the Lakes South planning area that represents the natural disturbance pattern as shown in Table 7

Units of measure: Cutblocks <=20yrs of age.

Area of application for the results and strategies related to Section 3.9.4 is the **Lakes South FDU** with measurement based on Natural Disturbance Type (NDT) / Agreement Holder's Operating Area combination. In the case of an Agreement Holder operating in another Licensee's Operating Area, this Licensee's Operating area will become part of the combination in the Area of Application. The Agreement Holder's Operating Area in effect on the date of Cutting Permit submission is found on the [ftp.for.gov.bc.ca](ftp://ftp.for.gov.bc.ca) site ftp://ftp.for.gov.bc.ca/DND/external/!publish/!Nadina_Op_Area/

“**NDT**” means a natural disturbance unit which characterizes an area based on its natural disturbance regime (frequency of stand initiating disturbance). It is based on the BEC zone mapping obtained from the [Data BC Data Distribution Service](#).

“**Patch**” means adjacent similar-aged forests <=20yrs of age. Adjacent is defined as within 100m of each other for stands >20ha in size, 0m apart for stands <=20ha. When used in the design of landscape patterns, the term refers to the size of an opening created by cutblocks harvested under an even-aged silviculture system.

Table 7: Patch size distribution by NDT

NDT	Includes BEC subzones	Small Patch	Medium Patch	Large Patch
2	ESSFmc	<40ha	>=40 and <=80ha	>80ha
		30-40%	30-40%	20-40%
3	SBSmc2, SBSdk	<40ha	>=40 and <=250ha	>250ha
		10-30%	10-30%	40-80%

Result and Strategy:

- Notwithstanding sections 2, for the term of this **FSP** within a FDU/NDT combination, the **Agreement Holders** will not submit a cutting permit that on the date of submission if harvested would cause for the NDT in Table 7 to fall outside or result in a trend away from the range of patch size distribution targets measured over a 5 year period commencing on the approval date of this FSP.
- For the term of this **FSP** within the **Area of Application**, the **Agreement Holders** will:
 - Submit cutting permits that on the date of submission that if harvested, will create a pattern of harvested openings that falls within or results in a trend toward the range of patch size distribution targets in Table 7 for the NDT 2 and 3 measured over a 5 year period commencing on the approval date of this FSP.

3.9.5. Objective 6: Maintain structural diversity in managed stands by retaining representative Wildlife Tree Patches (WTP) in each cutblock to specified targets, Objective 7: Ensure representation of pre-harvest stand wildlife tree values, Objective 8: Maintain old growth and wildlife tree values within wildlife tree patches

“**WTR**” means wildlife tree retention and has the same meaning as WTP (Wildlife Tree Patches).

“**High wildlife value trees/areas**” has the same meaning as in section 3.8.3.

Result and Strategy:

For the purposes of Objective 6, 7 and 8 of the Lakes South SRMP and FPPR section 9.1 and 12.5:

1. The **Agreement Holders**, within the Lakes South FDU, will:
 - a) Ensure at the time of harvest completion for each cutting permit, the total amount of **WTR** area that relates to those cutblocks in the cutting permit is a minimum of 7% of the total area of cutblocks, and
 - i) for a cutblock greater than 2ha in size, a minimum 3.5% of the total area of that cutblock is in **WTR**, and
 - ii) for a cutblock less than or equal to 2ha, there is no minimum **WTR**.
 - b) Ensure that the **WTR** areas:
 - i) That relate to a cutting permit are no more than 30% Deciduous, and where conifer, are of an age class consistent with the age of the stand harvested;
 - ii) have a crown closure not less than 25% unless the stand harvested had a crown closure less than 25% in which case the **WTR** basal area will be consistent with that of the harvested stand;
 - iii) contain **High wildlife value trees/areas** where available; and
 - iv) scattered designated **WTR** stems will contribute to **WTR** area requirements on a basal area basis.

3.10. Restrictions on Harvesting Wildlife Tree Retention Areas - FPPR section 67

1. The **Agreement Holders**, will not harvest timber from a wildlife tree retention area unless:
 - a) For the **Lakes North FDU**, the harvest of the WTR will not cause a material adverse effect on an associated known wildlife feature, known CHR, or area protected by the Heritage Act, and
 - i) The trees on the net area to be reforested for the cutblock to which the wildlife tree retention area relates have developed attributes that are consistent with a **mature** seral condition, or
 - ii) The wildlife tree retention area occupies an access route necessary to access other timber and there is no other practicable route available; in which case the Agreement Holder will:
 - (1) retain as much of the WTR as is practicable and establish one or more replacement WTR areas that contain at least an equivalent area and age class or habitat to that portion of wildlife tree retention area harvested.
 - b) For the **Lakes South FDU**, the harvest of the WTR will not cause a material adverse effect on an associated known wildlife feature, known CHR, or area protected by the Heritage Act, and

- i) The trees on the net area to be reforested for the cutblock to which the wildlife tree retention area relates have developed attributes that are consistent with an **old** seral condition, or
- ii) The wildlife tree retention area occupies an access route necessary to access other timber and there is no other practicable route available; in which case the Agreement Holder will:
 - (1) retain as much of the WTR as is practicable and establish one or more replacement WTR areas that contain at least an equivalent area and age class or habitat to that portion of wildlife tree retention area harvested.

3.11. Objectives set for Visual Quality

Effective April 1, 2010, the Objective set by Government for scenic areas is the Order to Establish, Amend and Repeal Scenic Areas within the Lakes Timber Supply Area Portion of the Nadina Forest District.

Effective April 1, 2010, the Objective set by Government for visual quality objectives is the Order to Establish Amend, and Repeal Visual Quality Objectives within the Lakes Timber Supply Area Portion of the Nadina Forest District.

Area of Application: Lakes North FDU and Lakes South FDU within scenic areas from the Visual Landscape Inventory made known and with an established visual quality objective.

Blocks: The harvest area of blocks SAL-17A-1, 2, 3, 17B, 17C-1, 2, 17D, and 21 and their associated access roads on Map 6 for the purposes of the FPPR Sec 12(7) exemption.

VLI Polygon No: as found in <https://catalogue.data.gov.bc.ca/dataset/4e941067-20ec-4b5d-bca3-8831c9b2e4db>

Table 9: Categories of visually altered forest landscape (FPPR 1.1)

Visual Quality Objective	Extent of Alteration Caused by a Cutblock or Road
Preservation	i) very small in scale; and ii) not easily distinguishable from the 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 in appearance; or (B) small to medium in scale but with some angular characteristics
Maximum Modification	i) very easy to see; and ii) is: (A) very large in scale; (B) rectilinear and geometric in shape; or (C) both

Result and Strategy:

1. Primary Forest Activities carried out by the **Agreement Holders** within scenic areas as identified on Maps 2 and 3 within the **Lakes North** and **Lakes South FDUs** will:
 - a) when assessed from a significant public viewpoint, together with other alterations in the scenic area, achieve the established visual quality objective, as described in Table 9 above.

- b) Despite subsection (a), within the **VLI Polygons No's 247 and 279**, **Agreement Holders** will be exempt from a result and strategy in regard to the visual quality objective as per section 12(7) of **FPPR** for harvest of the **blocks**.

3.12. Objectives set by Government for Cultural Heritage Resources

In this result and strategy, the following definitions apply;

“CHR” means a cultural heritage resource that is the focus of a traditional use by an aboriginal people, is of continuing importance to that people and is not regulated under the *Heritage Conservation Act*;

“CHR Evaluation” means an assessment by a qualified person for **CHR** and includes the following steps:

- i) Evaluation of the location and nature of any **CHR**;
- ii) Evaluation of the direct impact of proposed forest practices on a **CHR**;
- iii) Preparation of recommendations to conserve, or if necessary protect a **CHR** considering the factors in **FPPR** Schedule 1 (4), to address the objectives of **FPPR** s.10.

Result and Strategy:

1. The **Agreement Holders** will, in all **FDUs**:

- a) Provide information on proposed blocks and roads to First Nations as per the consultation processes defined by government and document **CHR** brought to the attention of the **Agreement Holders** through this process.
- b) Conduct a **CHR Evaluation** of proposed blocks and roads for the presence of **CHRs** prior to the **Agreement Holder** submitting an application for a cutting permit or road permit; and
 - i) where **CHR** are found, the **Agreement Holder** will ensure primary forest activities are carried out consistent with the recommendations given in the **CHR Evaluation**; and
 - ii) communicate the results of the **CHR Evaluation** to the affected aboriginal group(s) and to the Nadina Resource District representatives prior to applying for the cutting or road permit.
- c) If encountering a previously unidentified **CHR** during a **primary forest activity**:
 - i) modify the activity to the extent necessary to avoid the previously unidentified **CHR** encountered until a **CHR Evaluation** is completed;
 - ii) ensure subsequent primary forest activities that are carried out in the **CHR** area are consistent with the recommendations given in the **CHR Evaluation**; and

- iii) communicate the results of the **CHR Evaluation** to the affected aboriginal group(s) and to the Nadina Resource District representatives within 30 days.

3.13. Recreation Resources Objectives FRPA 180 (i), (j), (k), 181

Grand parented objectives for recreation sites, recreation trails, and interpretive forest sites are within the Order to Establish Objectives for a Recreation Site, Recreation Trail or Interpretive Forest Site, Lakes District Effective October 31, 1997.

Area of Application: Within the **Lakes South FDU**, the Nourse/Allin Creek Recreation Trail File 900-5936 and Lund Lake Recreation Site File 900-0547.

Result and Strategy:

1. Within each FDU, the **Agreement Holder** will not carry out primary forestry activities within the boundary of a Recreation Site, Recreation Trail or Interpretive Forest Site referenced within the Order unless authorized under section 16 of the Forest Recreation Regulation.
2. Within each FDU, prior to applying for a cutting permit or road permit within 100m of a Recreation Site, Recreation Trail or Interpretive site referenced within the Order, the **Agreement Holder** will:
 - a) In cooperation with the FLNRO Recreation Officer or designate, identify potential impacts to the recreation site, recreation trail, or interpretive forest site; and
 - b) The **Agreement Holder** will develop measures necessary to:
 - i) mitigate the potential impact of the cutting permit or road permits on the integrity of a recreation site, recreation trail, or interpretive site that has no established objectives, or
 - ii) mitigate the potential impact of cutting permits or road permits on the integrity and established objectives for a recreation site, recreation trail, or interpretive site that has established objectives.

4. Measures

4.1. Invasive Plants FPPR 17

For the purpose of these measures the following definitions apply:

“Acceptable Seed” means meeting the minimum grade of Canada Common No. 1 Forage Mixture or Canada No. 1 Ground Cover Mixture as defined by the Seeds Act Seeds Regulations and having a Report of Seed Analysis (Seed Certification) that demonstrates the seed lots used do not contain invasive plants.

“Disturbed area or areas disturbed” means contiguous areas of exposed mineral soil greater than 0.1ha, but does not include the running surface of a road unless the running surface has been de-compacted or is a winter road.

“Forestry Contractors” means contractors engaged in harvesting, silviculture and cut block and road layout.

“Invasive Plants” are those listed in the Invasive Plants Regulation

“IAPP” means the Invasive Alien Plant Program maintained by the Provincial Government.

“Priority Invasive Plant Species” means **invasive plants** identified in the Lakes District IPMA as a high priority or on the Regional EDRR list.

“Re-vegetated” means establishment of a 50% cover on areas disturbed that would be reasonably expected to support the establishment of the acceptable forage or ground cover mixture.

“Treatment” means the seeding of **areas disturbed** within 2 growing seasons.

The following measures will be applied by the **Agreement Holders** within all **FDUs**:

1. The **Agreement Holders** shall use only **acceptable seed** mixtures during re-vegetation operations.
2. On an annual basis, **Agreement Holders’** staff and **Forestry Contractors** will receive instruction on identification of **priority invasive plant species**.
3. On an annual basis, **Agreement Holders** staff and **Forestry Contractors** will receive instruction on reporting **priority invasive plant species** locations to the **IAPP**.
4. On an annual basis, **Agreement Holders** staff and **Forestry Contractors** will receive instruction on best practices for preventing the spread of **invasive plants** during forest management activities.
5. Site plan and harvesting plan maps will display known **priority invasive plant species** locations.
6. **Areas disturbed** through harvesting, road construction, maintenance, or deactivation within 200m of an existing road shall receive **treatment**.
7. Despite 5 above, all **disturbed area** on newly constructed access roads shall receive **treatment** to their intersection with the furthest cut block.
8. Despite 5 and 6 above, all **disturbed area** resulting from the **Agreement Holder’s** harvesting, road construction, maintenance, or deactivation activities that overlap grazing license tenures shall receive **treatment**.
9. If the treated **disturbed areas** are not **re-vegetated** within 2 growing seasons, the area will have a single subsequent **treatment**.

4.2. Natural Range Barriers FPPR 18

For the purpose of these measures the following definitions apply:

“Natural range barriers or NRBs” mean naturally occurring features that stop or impede livestock movement to and from an adjacent area.

“Mitigation Measures” means a cattle movement control practice or combination of practices that means to lessen the impact of rendering ineffective a natural range barrier.

“Referral” means a notification with a 30 day response deadline to an affected range tenure holder and the FLNRO Range Officer about proposed cutblocks and roads and includes a description of the activity and location map in relation to the range tenure.

Within all **FDUs**:

1. Prior to applying for a cutting permit or road permit within a range tenure, the **Agreement Holder**:
 - a) Through a **referral** to the affected range licensee and the District Range Officer, request information and offer to meet to discuss the potential impact to **NRBs** of the proposed development.
2. If the District Range Officer or holder of a range tenure indicates that a proposed cutblock or road will remove or render ineffective a **NRB** that the range tenure holder depends upon to control their livestock, the **Agreement Holder** shall:
 - a) Adjust harvest or road building to avoid removing or rendering ineffective the **NRB**, or
 - b) Develop in cooperation with the range tenure holder(s) **mitigation measures** that will be implemented.
3. If the range tenure holder does not participate in the **referral** or development of **mitigation measures**, the **Agreement Holder** will provide the range tenure holder and the FLNRO Range Officer information on the **mitigation measures** that will be implemented.
4. The **Agreement Holder** will implement the **mitigation measures** within 30 days of the completion of harvest or road construction where practicable if during the grazing season or otherwise before the next grazing season following harvest or construction of road or within any other timeline agreed to with the range tenure holder.

5. Stocking Standards

For the purposes of section 16(1) of the **FPPR**, section 44(1) of that regulation will apply to each area to which this **FSP** applies where the **Agreement Holders** are required to establish a free growing stand.

5.1. General Standards

1. For the purposes of section 16(3) of the **FPPR**, for each area to which this **FSP** applies where the **Agreement Holders** are required to establish a free growing stand:
 - a) the applicable regeneration date and applicable stocking standards referred to in section 44(1)(a) of the **FPPR**, and

b) the applicable free growing height and applicable stocking standards referred to in section 44(1)(b) of the **FPPR**,

are set out in Appendix A opposite the BEC site series that occupies the largest portion of the standards unit subject to the special circumstances in section 5.2

2. The Regeneration Date for all Standard Units will be 4 years after the commencement date of the cutblock.
3. The late free growing date for all Standard Units will be 20 years after the commencement date of the cutblock.
4. The stocking standards as described in Appendix A apply to both the regeneration and free growing stocking standards.
5. Enhanced standards planting density will be measured as total seedlings planted within a cutblock divided by the total NAR of the cutblock once primary planting activities are completed.
6. Uneven aged stocking standards and multi-storied survey procedures will be applied consistent with the current Resource Practices Branch, Silviculture Survey procedures Manual, as amended from time to time, unless specified or varied through provisions of this **FSP**, on all Standard Units being managed as uneven aged silviculture systems. The uneven aged stocking standards and application are set forth in Appendix B.
7. Commercial Thinning stocking standards are set forth in Appendix C.

5.2. Special Circumstances

1. Deciduous and brush species will not be considered deleterious competition to crop trees when:
 - a) Located within 20 meters of a classified riparian feature, or
 - b) Overstorey deciduous stems if retained at the time of harvest, or
 - c) If not in conflict with an established UWR or WHA for Caribou;
 - i. Located within 20 meters of the natural ground of a road ditch line, or
 - ii. Located within 20m of a block boundary, or
 - iii. In a portion of a standards unit where spruce makes up at least 25% of the crop trees and at least 20% of the spruce crop trees are affected by *Pissodes strobi* (White Pine Weevil).
2. Minimum inter-tree distance (MITD) can be reduced to 1.5m, where there is a lack of suitable plantable microsites that prevents the achievement of the target regeneration density due to:
 - a) Obstacle planting being used in areas with a high potential for cattle congregation,
 - b) Sites where a stump avoidance strategy is employed to manage root rot, or
 - c) Where site preparation (disc trenching and mounding) has occurred, or

- d) On xeric, hygric, or sub-hygric sites within a site series complex standard unit, or
 - e) Plantation failures that require fill planting or under planting.
 - f) Where planting densities exceed 1700sph.
3. Stands established as pine leading within the Sub Boreal Spruce Biogeoclimatic Zone where the target density is 1400, will have a regeneration target density of 2,000 stems per hectare. Minimum preferred will be 700 and minimum preferred and acceptable will be 800. Preferred and acceptable are as per applicable BEC and variant as per Appendix A at regeneration delay and free growing. Free growing will not be declared until at least 16 years after harvest commencement. Pine leading is defined as >50% pine at establishment.
 4. The regeneration date may be extended to 7 years where natural ingress or direct seeding is used to achieve regeneration stocking standards.
 5. For blocks not yet declared Regen achieved, where there is an occurrence of a catastrophic fire, the area affected within the block may become a new Standard Unit, and the regen delay date may be extended an additional 4 years from the new fire disturbance date.
 6. Despite the list of species stated in the stocking standards tables for a site, a species shall be elevated to preferred if it made up greater than 20% of gross cruise volume of the original stand and included as an acceptable species if it made up between 5- 20% of the gross cruise volume. The intent of this variance is to allow for the inclusion of advanced regeneration retained during harvesting operations where they are left to address values including but not limited to visual screening, wildlife habitat, riparian management or biodiversity. If included, these species must still meet all other stocking and forest health criteria and be considered to be well enough adapted to the site to make merchantability at rotation age of the stand.
 7. Within Standard units comprised of a site series complex, where the differing site series are non-stratifiable:
 - a) The preferred and acceptable species for that standard unit will include all of the preferred and acceptable 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 standard unit.
 - b) The target, minimum and minimum preferred stocking standard, minimum inter-tree distance, and minimum height will be based on the dominant site series.

6. Signatures



Signature of Preparing Forester:

Jaret van der Giessen, RPF
Senior Planning Supervisor
West Fraser Mills
Quesnel Division

Authorized Licensee Signature:

Stuart Lebeck, RPF
Woodlands Manager
West Fraser Mills
Quesnel Division

Authorized Licensee Signature:

Cheslatta Carrier Nation

Authorized Licensee Signature:

Sinclar Group Forest Products Ltd.

Appendix A. Even Aged Stocking Standards.

Regen and Free Growing Standards.

BGZ		Site Series	Target (p+a)	Min (p+a)	Min (p)	Preferred Species	Acceptable species	Min. FG tree heights (m)				RGD	LFG	MITD	Crop tree Brush ratio	SSID
								Pli Py Pw	Sx Sb Bl	Fdi	Lw					
ESSF mv1	01		1200	700	600	Sx	Pli,Bl,Fdi,Lw	1.6	0.8	1.0	2.0	4	20	2.0	125	1052257
ESSF mv1	02		1000	500	400	Pli	Bl	1.2	0.6			4	20	2.0	125	1052258
ESSF mv1	03		1000	500	400	Sx,Bl,Pli	Fdi,Lw	1.2	0.6	0.8	2.0	4	20	2.0	125	1052259
ESSF mv1	04,05		1000	500	400	Sx,Bl	Pli	1.2	0.6			4	20	1.0	125	1052260
ESSF mc	01,05		1200	700	600	Sx,Bl	Pli ¹	1.6	0.8			4	20	2.0	125	1052261
ESSF mc	06		1200	700	700	Sx,Bl			0.8			4	20	2.0	125	1055494
ESSF mc	07		1200	700	600	Sx,Bl	Pli	1.6	0.8			4	20	1.0	125	1055495
ESSF mc	02,03		1000	500	400	Pli	Sx,Bl	1.2	0.8			4	20	2.0	125	1052262
ESSF mc	04		1200	700	600	Pli,Bl	Sx	1.6	0.8			4	20	2.0	125	1052263
ESSF mc	08,09,10		1000	500	500	Sx,Bl			0.8			4	20	1.0	125	1052264
ESSF mv3	01,04,05,06		1200	700	600	Sx,Bl	Pli	1.6	0.8			4	20	2.0	125	1052265
ESSF mv3	02		1000	500	400	Pli,Sx	Bl	1.2	0.6			4	20	2.0	125	1052266
ESSF mv3	08		1000	500	400	Pli,Sx	Bl	1.2	0.6			4	20	2.0	125	1052266
ESSF mv3	03,07		1000	500	400	Sx,Bl	Pli	1.2	0.6			4	20	2.0	125	1052267
SBS dk	01,06		1400	800	800	Pli,Sx,Fdi,Lw		2.0	1.0	1.4	2.0	4	20	2.0	150	1052268
SBS dk	05		1400	800	700	Pli,Sx	Fdi,Lw	2.0	1.0	1.4	2.0	4	20	2.0	150	1055496
SBS dk	02		1000	500	400	Pli	Sx	1.4	0.8			4	20	2.0	150	1052269
SBS dk	03		1200	700	600	Pli,Sx	Sb,Fdi,Lw	2.0	1.0	1.4	2.0	4	20	2.0	150	1052270
SBSdk	04		1200	700	700	Pli,Sx,Fdi,Lw		2.0	1.0	1.4	2.0	4	20	2.0	150	1052271
SBS dk	07		1000	500	400	Sx,Fdi,Lw	Pli	1.4	0.8	1.4	2.0	4	20	1.0	150	1052272
SBS dk	08		1200	700	600	Sx	Pli	2.0	1.0			4	20	1.0	150	1052273
SBS dk	09,10		400	200	200	Pli,Sx,Sb		1.4	0.8			4	20	1.0	150	1052274
SBS dw3	01,06,07,08		1200	700	600	Pli,Sx,Fdi	Bl,Lw,Pw,Py	2.0	1.0	1.4	2.0	4	20	2.0	150	1052275
SBS dw3	02		1000	500	400	Pli,Fdi	Sx	1.4	0.8	1.0		4	20	2.0	150	1052276
SBS dw3	03		1200	700	600	Pli	Sx	2.0	1.0			4	20	2.0	150	1052277
SBS dw3	04		1200	700	600	Pli,Fdi	Sx,Bl,Lw,Py,Pw	2.0	1.0	1.4	2.0	4	20	2.0	150	1052278
SBS dw3	05		1200	700	600	Pli	Sx,Sb	2.0	1.0			4	20	2.0	150	1052279
SBS dw3	09		1000	500	400	Pli,Sx	Bl	1.4	0.8			4	20	1.0	150	1052280
SBS dw3	10		400	200	200	Pli,Sx	Sb	1.4	0.8			4	20	1.0	150	1052281
SBS mc2	01,05,06		1400	800	700	Pli,Sx,Fdi,Lw	Bl	1.6	0.8	1.4	2.0	4	20	2.0	150	1052282
SBS mc2	02		1000	500	400	Pli	Bl,Sx	1.2	0.6			4	20	2.0	150	1052283
SBS mc2	03		1200	700	600	Pli,Sx ²	Bl,Sb,Fdi,Lw	1.6	0.8	1.4	2.0	4	20	2.0	150	1052284
SBS mc2	04,08		1200	700	600	Pli,Sx	Bl	1.6	0.8			4	20	2.0	150	1052285
SBS mc2	07		1000	500	400	Pli,Sx,Sb	Bl	1.2	0.6			4	20	1.0	150	1052286
SBS mc2	09		1200	700	600	Sx,Bl	Pli	1.6	0.8			4	20	1.0	150	1055497
SBS mc2	10,11		1000	500	400	Sx,Bl	Pli	1.2	0.6			4	20	1.0	150	1052287
SBS mc2	12		400	200	200	Pli,Sx,Sb		1.2	0.6			4	20	1.0	150	1052288
SBS wk3	01,06		1400	800	700	Pli,Sx	Bl,Fdi,Lw	2.0	1.0	1.4	2.0	4	20	2.0	150	1052289
SBS wk3	02		1000	500	400	Pli	Bl,Sx	1.4	0.8			4	20	2.0	150	1052290
SBS wk3	03		1200	800	800	Pli,Sx,Fdi,Lw		2.0	1.0	1.4	2.0	4	20	2.0	150	1052291
SBS wk3	04		1400	800	700	Pli,Sx,Fdi,Lw	Bl	2.0	1.0	1.4	2.0	4	20	2.0	150	1052292
SBS wk3	05		1200	700	600	Pli	Sx,Sb	2.0	1.0			4	20	2.0	150	1052293
SBS wk3	07		1200	700	600	Sx	Pli,Fdi,Bl,Lw	2.0	1.0	1.4	2.0	4	20	1.5	150	1052294
SBS wk3	08		1000	500	400	Sx	Pli,Bl	1.4	0.8			4	20	1.5	150	1052295

1 - Risk of snow damage. 2- Risk of frost damage.

Enhanced Regen and Free Growing Standards

BGZ	Site Series	Target (p+a)	Min (p+a)	Min (p)	Enhanced minimum planting density	Preferred Species	Acceptable species	Min. FG tree heights (m)				RGD	LFG	MITD	Crop tree Brush ratio	SSID
								Pli Py Pw	Sx Sb Bl	Fdi	Lw					
ESSF mv1	01	1200	700	600	1700	Sx	Pli,Bl,Fdi,Lw	1.6	0.8	1.0	2.0	4	20	2.0	125	1071499
ESSF mv1	04,05	1000	500	400	1700	Sx,Bl	Pli	1.2	0.6			4	20	1.0	125	1071500
ESSF mc	01,05	1200	700	600	1700	Sx,Bl	Pli ¹	1.6	0.8			4	20	2.0	125	1071501
ESSF mc	06	1200	700	700	1700	Sx,Bl			0.8			4	20	2.0	125	1071502
ESSF mc	07	1200	700	600	1700	Sx,Bl	Pli	1.6	0.8			4	20	1.0	125	1071503
ESSF mv3	01,04,05,06	1200	700	600	1700	Sx,Bl	Pli	1.6	0.8			4	20	2.0	125	1071504
ESSF mv3	08	1000	500	400	1700	Pli,Sx	Bl	1.2	0.6			4	20	2.0	125	1071505
SBS dk	01,06	1400	800	800	1700	Pli,Sx,Fdi,Lw		2.0	1.0	1.4	2.0	4	20	2.0	150	1071506
SBS dk	05	1400	800	700	1700	Pli,Sx	Fdi,Lw	2.0	1.0	1.4	2.0	4	20	2.0	150	1071507
SBSdk	04	1200	700	700	1700	Pli,Sx,Fdi,Lw		2.0	1.0	1.4	2.0	4	20	2.0	150	1071508
SBS dk	07	1000	500	400	1700	Sx,Fdi,Lw	Pli	1.4	0.8	1.4	2.0	4	20	1.0	150	1071509
SBS dk	08	1200	700	600	1700	Sx	Pli	2.0	1.0			4	20	1.0	150	1071510
SBS dw3	01,06,07,08	1200	700	600	1700	Pli,Sx,Fdi	Bl,Lw,Pw,Py	2.0	1.0	1.4	2.0	4	20	2.0	150	1071511
SBS dw3	04	1200	700	600	1700	Pli,Fdi	Sx,Bl,Lw,Py,Pw	2.0	1.0	1.4	2.0	4	20	2.0	150	1071512
SBS mc2	01,05,06	1400	800	700	1700	Pli,Sx,Fdi,Lw	Bl	1.6	0.8	1.4	2.0	4	20	2.0	150	1071513
SBS mc2	04,08	1200	700	600	1700	Pli,Sx	Bl	1.6	0.8			4	20	2.0	150	1071514
SBS mc2	09	1200	700	600	1700	Sx,Bl	Pli	1.6	0.8			4	20	1.0	150	1071515
SBS wk3	01,06	1400	800	700	1700	Pli,Sx	Bl,Fdi,Lw	2.0	1.0	1.4	2.0	4	20	2.0	150	1071516
SBS wk3	03	1200	800	800	1700	Pli,Sx,Fdi,Lw		2.0	1.0	1.4	2.0	4	20	2.0	150	1071517
SBS wk3	04	1400	800	700	1700	Pli,Sx,Fdi,Lw	Bl	2.0	1.0	1.4	2.0	4	20	2.0	150	1071518
SBS wk3	07	1200	700	600	1700	Sx	Pli,Fdi,Bl,Lw	2.0	1.0	1.4	2.0	4	20	1.5	150	1071519

1 - Risk of snow damage. 2- Risk of frost damage.

Appendix B: Uneven aged Stocking Standards

Regen and Free Growing Standards

Target from Appendix A stocking standards (sph)	Layer	Stocking			Target from Appendix A stocking standards (sph)	Layer	Stocking		
		TSS (pa)	MSS (pa)	MSS (p)			TSS (pa)	MSS (pa)	MSS (p)
1400	1	800	400	300	1200	1	600	300	250
	2	1000	500	400		2	800	400	300
	3	1200	700	600		3	1000	500	400
	4	1400	800	700		4	1200	700	600
1000	1	400	200	200	400	1	200	100	100
	2	600	300	250		2	300	125	125
	3	800	400	300		3	300	150	150
	4	1000	500	400		4	400	200	200

REGENERATION DELAY

Regeneration date is 7 years. Regen can be met immediately following harvest if the residual stand has no significant damage or pest problems, and meets the minimum stocking standards.

FREE GROWING

The Late Free Growing date is 20 years after commencement of harvest. The Earliest Free Growing date is 24 months after completion of harvest.

SPECIES ACCEPTABILITY AND FREE GROWING HEIGHTS

Preferred and acceptable species and minimum height at free growing are specified in Appendix A.

MINIMUM INTER-TREE DISTANCE

The minimum inter-tree distance for Layers 2-4 is 2m, unless otherwise specified through section 5.2.4.

Minimum inter-tree distance does not apply to Layer 1.

STAND LAYER DEFINITION

Layer 1	Mature	trees $\geq$ 12.5cm DBH
Layer 2	Pole	trees 7.5cm to 12.49cm DBH
Layer 3	Sapling	trees $\geq$ 1.3m height to 7.49cm DBH
Layer 4	Regeneration	trees $<$ 1.3m height

APPLICATION

The above standards will be applied on uneven-aged stands having at least three well represented and distinct conifer layer classes. The crown closure of trees in layer 1 and 2 combined must exceed 6%, and layers 3 and/or 4 must also be present.

Appendix C: Commercial Thinning Standards

1. Where a stand is harvested consistent with FPPR section 44(4), it shall be deemed an intermediate harvest where the harvested stand complies with the conditions specified below for a minimum period of 12 months following the completion of harvesting:
 - a. The residual crop basal area ($m^2/ha \geq 7.5cm$ dbh) by Standards Unit (SU) must meet or exceed the average residual basal area specified in Table 7 for the associated leading species, age, and top height, and
 - b. No area greater than 1 ha, or at least 10% of the Standards Unit (SU) area, whichever is less, shall have a residual basal area below the minimum residual basal area specific in Table 7, and
 - c. Trees contributing to the retained basal area must be the species identified as preferred, acceptable, or ecologically suitable in the even-aged stocking standards for the BEC site series in this FSP, and
 - d. Trees contributing to the retained basal area comply with the attributes defined in the Silviculture Surveys Procedures Manual “Free growing damage criteria for single entry dispersed retention stocking standards (SEDRESS) managed stands in Interior Deviation from Potential (DFP) and Layered Surveys.”, except
 - i. A post treatment retained Layer 1 or 2 tree may have a fork above stump height in the bottom 2/3 of the stem where the fork(s) are not appearing to impede height growth.
2. If during the 12-month period following the completion of harvesting, the conditions specified above are not maintained, the licensee shall hold a free growing obligation on the harvested area and the appropriate stocking standards will be applied.

Table 7: Commercial Thinning: Stocking Standard by species

Leading species of stand post treatment	Post thinning stand average top height (m)	Standards Unit post thinning average residual crop basal area (m ² /ha >7.5cm dbh)	No areas >1ha below this minimum post thinning residual crop basal area / maximum of 10% of SU (m ² /ha >7.5cm dbh)
Pli – lodgepole pine	10-15	14-20	12
	16	15-22	14
	17	16-24	15
	18	16-26	15
	19	18-26	15
	20	19-28	16
	21	20-28	17
	22	21-30	18
	23	22-30	19
	24	24-31	20
	25-28	25-32	22
Interior spruce (Sx) or Subalpine fir (Bl)	10-15	12-18	10
	16	14-19	13
	17	16-20	14
	18	17-22	15
	19	18-23	16
	20	19-24	17
	21	20-26	17
	22	22-27	18
	23	23-28	19
	24	24-30	20
	25	25-30	21
	26-28	26-32	22
Interior Douglas-fir (Fdi)	10-15	10-16	10
	16	11-17	10
	17	12-19	11
	18	14-20	12
	19	15-21	13
	20	16-23	14
	21	17-24	14
	22	18-25	15
	23	20-26	16
	24	21-27	17
	25	23-29	18
	26-28	24-32	20

Appendix D: Things that are in effect (FPPR 14(2)(b))

Things In Effect	Description
Ungulate Winter Range	Mountain Goat U-6-017 Takla Caribou U-6-013
Wildlife Habitat Area	There are no Wildlife Habitat Areas located within the new FDUs .
Fisheries Sensitive Watershed	None
Lakeshore Management Zone	None
Scenic Areas	Order to Establish, Amend, and Repeal Scenic Areas within the Lakes Timber Supply Area portion of the Nadina Forest District approved March 15, 2010.
L1 Lake under FPPR 49(1)(b)(ii)	None
Lakes North SRMP (Land Act s.93.4)	Ministerial Order for the Lakes North Sustainable Resource Management Plan (2008) and the Ministerial Order to Amend Objective 4 of the Lakes North Sustainable Resource Management Plan (2008)
Lakes South SRMP (FPC s4)	Ministerial Order for the Lakes South Sustainable Resource Management Plan (2003) and the Ministerial Order to Amend Objectives 2 and 3 of the Lakes South Sustainable Resource Management Plan (2007)
Community Watershed	None
Old Growth Management Areas	Order to Amend Old Growth Forest Objective Amendment 2007 – Lakes South Sustainable Resource Management Plan. Approved July 7, 2016. Order to Amend Objective 2: Preserve Old Growth Management Areas as identified on Map 2 - Lakes North Sustainable Resource Management Plan, 2009. Approved July 7, 2016.
Recreation Resource Objectives FRPA 181	Two FPC Sec 6.3 recreation sites that have grand parented FPC objectives are located within the Lakes South FDU. Lund Lake REC0547 and Nourse Creek Trail REC5936. Does not affect the R/S.
Areas in which commercial timber harvesting is prohibited by another enactment	Provincial Parks and Protected Areas.
Cutting Permits and Road Permits	See FSP maps 2 and 3 and Appendix D
Declared Areas	See FSP maps 2 and 3 and Appendix D

Appendix E: Things that are in effect FPPR 14(3) & (4)

Cutting Permits and Road Permits **FPPR 14(3)(j)(k)**

License	Cutting Permit		License	Road Permit
A16826	766		A16821	R12319
A16826	772		A16821	R10189
A16826	773		A16821	R01947
A16826	815		A16821	R09014
A16826	816		A92915	R13399
A16826	817		A16826	R04049
A16826	818		A16826	R04050
A16826	902		A16826	R16589
A16826	903		A16826	R22066
A92915	GE2017			

Declared Areas **FPPR 14(4)**

License	ID	Comment
A16826	BLE-605B	FSP 78 Amend 9
A16826	BLE-709	FSP 78 Amend 9
A16826	BLE-LV708	FSP 78 Amend 9 as BLE-708
A16826	BLE-LV719	FSP 78 Amend 9 as BLE-719
A16826	GUL-007	FSP 78 Amend 9
A16826	GUL-008	FSP 78 Amend 9
A16826	GUL-009	FSP 78 Amend 9
A16826	GUL-LV010A	FSP 78 Amend 9 as GUL-10A
A16826	GUL-010B	FSP 78 Amend 9
A16826	GUL-014-A	FSP 78 Amend 9 as GUL-014
A16826	GUL-014-B	FSP 78 Amend 9 as GUL-014
A16826	GUL-LV014-C	FSP 78 Amend 9 as GUL-014
A16826	GUL-022A	FSP 78 Amend 9
A16826	GUL-046	FSP 78 Amend 9
A16826	GUL-051A	FSP 78 Amend 9
A16826	GUL-051B	FSP 78 Amend 9
A16826	GUL-052A	FSP 78 Amend 9