Forest Stewardship Plan

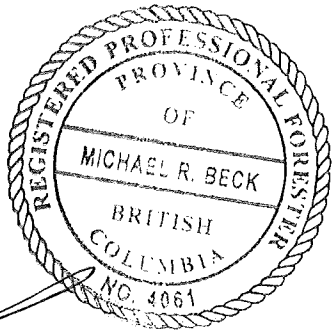
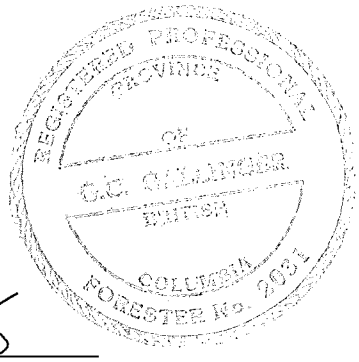
2024-2029

Nadina Forest District
Skeena-Stikine Forest District

Consolidated to Amendment #1

FSP # 939

Signature of Persons Required to Prepare Plan

Authorized Licensee Signature	 Mike Beck, RPF Operations Manager/Partner, Capacity Forest Management Ltd., on behalf of Lake Babine Nation Forestry Ltd.
Preparing Forester "I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals and that I did personally supervise the work."	 Gary Gallinger, RPF Operations Planner, Capacity Forest Management Ltd.

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1. APPLICATION OF THIS FSP

1.1. Introduction

The area to which this Forest Stewardship Plan (FSP) applies is found within the Lake Babine Nation territory. A primary objective of the Lake Babine Nation is to practice sound and sustainable forest stewardship while preserving its cultural heritage.

1.2. Licences and licence holders

Table 1 outlines the licenses to which this FSP apply.

Table 1 Licences and licence holders

Licensee	Licence	Applicable FDUs
Lake Babine Nation Forestry Ltd.	First Nation Woodland Licence N2I	Morice and Lakes North
Lake Babine Nation Forestry Ltd.	First Nation Woodland Licence N2M	Bulkley
Lake Babine Nation Forestry Ltd.	Non-Replaceable Forest Licence A95975	Bulkley
Lake Babine Nation Forestry Ltd.	Non-Replaceable Forest Licence A95178	Morice

1.3. Term of the Plan

The term of this FSP is 5-years beginning on the date of approval by the Delegated Decision Maker, unless the Holder of this FSP elects to replace it with another FSP, or it is extended pursuant to *FRPA*.

1.4. Submission Date

The date this FSP was submitted for approval is July 1st, 2020.

1.5. Commencement Date

The commencement date for this FSP is the date on which the FSP is approved by the Designated Decision Maker.

1.6. Application of this FSP to Permits Issued during Term of Previous FSP

For purpose of FRPA S. 197(4), this FSP does not apply to a cutting permit or road permit issued under a previous FSP. The results, strategies, practices, measures, and stocking standards that apply are those that applied to the licence the day prior to this FSP being approved.

1.7. Forest Development Units

FDUs are areas where forest practices will occur over the term of this FSP and have common sets of objectives, results, strategies, practices, measures, and/or stocking standards.

There are three different FDUs covered under this plan. They have been established to be consistent with existing land use order boundaries that intersect LBN territory, as outlined in Table 2 and illustrated in Figure 1. The FDU's are generally to the extent of the Collaborative Decision Making Boundary.

Table 2 Forest development units and corresponding legal objectives and boundaries

FDU	Legal Direction and Orders	Natural Resource District	Timber Supply Area
Bulkley	Bulkley LRMP Higher Level Plan Order Establishing Resource Management Zones and Resource Management Zone Objectives - December 29, 2000 Bulkley Land and Resource Management Plan – Objectives Set by Government, November 6, 2006 Order Establishing Land Use Objectives; Bulkley TSA – November 6, 2006 Bulkley Mountain Goat UWR Order – UWR #U-6-007 – July 17, 2019 Order Cancelling Objective 2.3, Mountain Goats – June 9, 2020 Fisheries Sensitive Watershed Order - F-6-005 - Skeena Region – December 15, 2005 Bulkley LRMP grandparented through FRPA S. 181	Skeena-Stikine	Bulkley
Morice	Land Use Objectives Regulation Order for the Morice LRMP Area, September 13, 2016 Environmental Protection and Management Regulation Order – 2016	Nadina	Morice
Lakes North	Order Establishing Landscape Units and Objectives for the Lakes North SRMP Area - January 26, 2009 Land Use Objectives Regulation Order Amendment: OGMA – July 7, 2016 Land Use Objectives Regulation Order Amendment: Landscape Connectivity Matrix – March 8, 2017 Order to Establish, Amend and Repeal Scenic Areas Within the Lakes Timber Supply Area Portion of the Nadina Forest District – April 1, 2010 Order to Establish, Amend and Repeal Visual Quality Objectives within the Lakes Timber Supply Area Portion of the Nadina Forest District – April 1, 2010	Nadina	Lakes

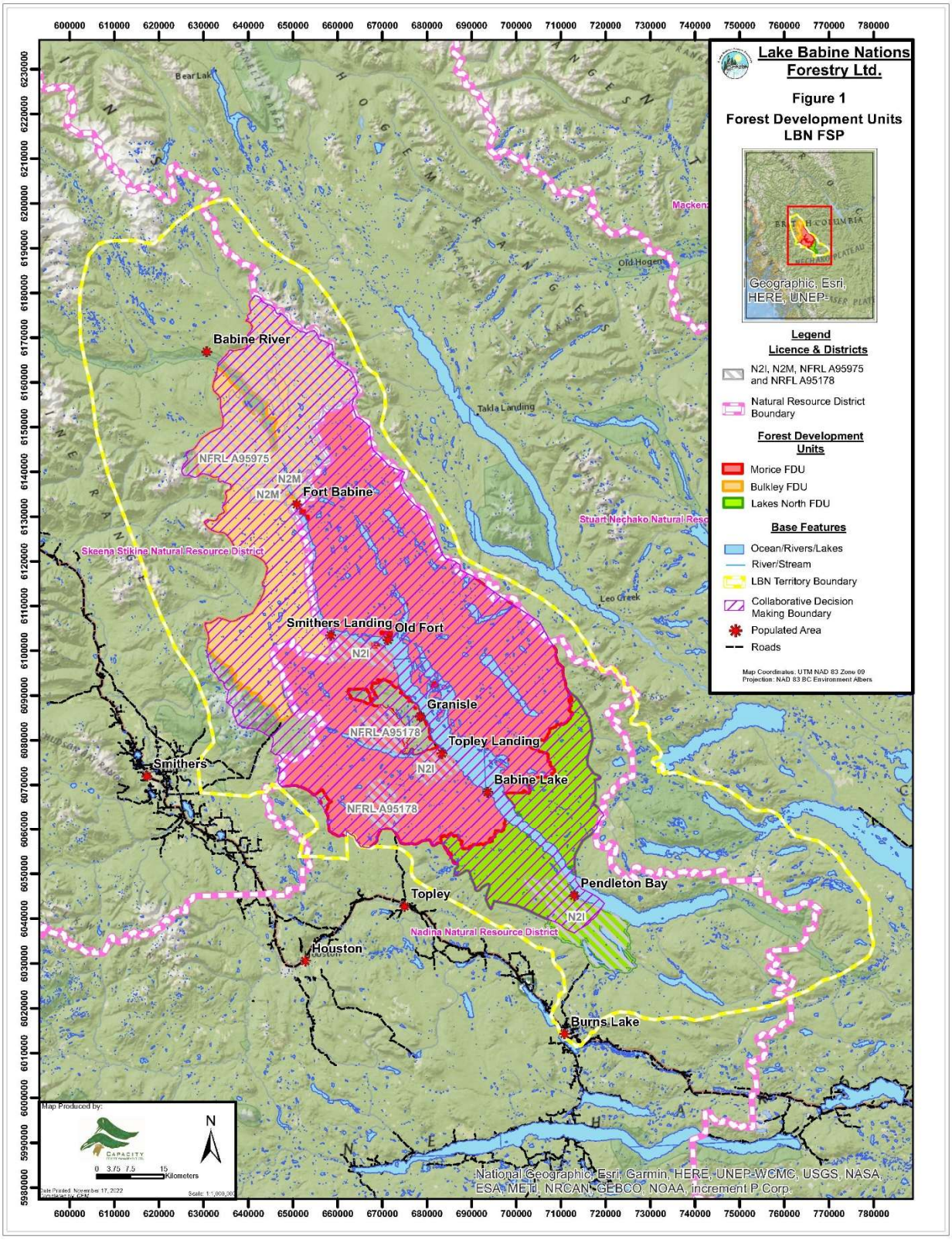


Figure 1 Forest Development Units

2. INTERPRETATION

2.1. Tenses

In this FSP, the singular includes the plural and the plural the singular, unless the context indicates otherwise.

2.2. Definitions from Legislation

In this FSP, unless this FSP specifies, or the context requires otherwise, words and phrases defined in *FRPA* or the *Forest Act* as of 4 months prior to the date of submission have the same meaning as those definitions.

2.3. Changes to Legislation

Subject to paragraph 2.2, if legislation referred to in this FSP is renamed or a provision of legislation referred to in this FSP is renumbered, the reference in this FSP is to be construed as a reference to the provision as renamed or renumbered, as the case may be.

2.4. Objectives Cancelled

If an objective for which a result or strategy included within this FSP is cancelled by approval by government, then the result or strategy within this FSP concerning the cancelled objective is no longer applicable effective the date of the cancellation of the objective.

2.5. Acronyms and Definition of Terms

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

"Bulkley LRMP" refers to *Bulkley Land and Resource Management Plan – Objectives Set by Government*, Order Establishing Land Use Objectives: Bulkley TSA, November 2006.

"Bulkley HLPO" refers to *Bulkley Land and Resource Management Plan – Higher Level Plan Order*, Appendix 2, 3 and 4, December 2000.

"CWD" means coarse woody debris.

"DDM" means Delegated Decision Maker.

"FDU" means a forest development unit to which this FSP applies.

"Forest Act" means the *Forest Act R.S.B.C. 1996, c.157* and all regulations there under.

"FPCA" means the *Forest Practices Code of British Columbia Act R.S.B.C. 1996, c. 159* and all regulations there under.

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

"FRPA" means the *Forest and Range Practices Act*, *SBC 2002, c 69,* and regulations there under.

"FSP" means forest stewardship plan.

"FSW" means fisheries sensitive watershed.

"GAR" means *Government Actions Regulation B.C. Reg. 582/2004*.

"**Holder**" means a licensee listed in section 1.2 of this FSP, or any successor or assignee of that holder.

"Lakes North SRMP" refers to *Lakes North Sustainable Resource Management Plan*, Land Use Objectives Order, January 2009.

"Licence" means an agreement under the *Forest Act.*

***"*MOF"** means the Ministry of Forests or its predecessor assigned to the function in the context referred to in the FSP.

"Minister" means the person who, on behalf of the government, approves this FSP, or his or her delegate.

"MOE" means Ministry of Environment, or its predecessor assigned to the function in the context referred to in the FSP.

"Morice LRMP" refers to *Morice Land and Resource Management Plan Area*, Land Use Objectives Order, September 2016.

"NDT" means natural disturbance type.

"NAR" means net area to be reforested.

"OGMA" means old growth management area.

"Practicable" means capable of being carried out in action, as described in *FRPA* General Bulletin Number 3 - *Use of the Term "Practicable" Under the Forest and Range Practices Act (FRPA) and Regulations,* June 9, 2005. Where a result and strategy for a cutblock or road described in this FSP is not practicable, a rationale will be documented in the site plan.

"Practice Requirements" means requirements of the *FPPR* as they were on the FSP submission date.

"Primary Forest Activity" means one of the following: timber harvesting, silviculture treatments, and road construction, maintenance, and deactivation.

"Protect" means to keep from harm, attack, or injury.

"RMZ" means riparian management zone and includes a lakeshore management zone.

"RRZ" means riparian reserve zone and includes a lakeshore reserve zone.

"Stub" or **"High Stump"** means mechanically felled or broken off tree stems 3-5 m in height.

"THLB" means timber harvesting land base.

"TSA" means Timber Supply Area.

"UWR" means ungulate winter range.

"VQO" means visual quality objective.

"WHA" mean wildlife habitat area.

"WTRA" means wildlife tree retention area.

3. RESULTS, STRATEGIES OR PRACTICE REQUIREMENTS

3.1.Soils

Summary of Objectives	Legal Reference	Date in Effect
The objective set by government for soils is to conserve the productivity and the hydrological function of soils.	FPPR S. 5 *FPPR S. 12.1(1) & (5)* *FPPR S. 35 & 36*	January 31, 2004

FDU	Results, Strategies or Practice Requirements
Bulkley Morice Lakes North	Exempted under FPPR S. 12.1.(1) and S. 12.1(5).
	The Holder will undertake to comply with practice requirements outlined in FPPR sections: 35– Soil disturbance limits, and 36 – Permanent access structure limits

3.2.Timber

Summary of Objectives	Legal Reference	Date in Effect
The objectives set by government for timber are to (a) maintain or enhance an economically valuable supply of commercial timber from British Columbia's forests, (b) ensure that delivered wood costs, generally, after taking into account the effect on them of the relevant provisions of this regulation and of the Act, are competitive in relation to equivalent costs in relation to regulated primary forest activities in other jurisdictions, and (c) ensure that the provisions of this regulation and of the Act that pertain to primary forest activities do not unduly constrain the ability of a holder of an agreement under the Forest Act to exercise the holder's rights under the agreement.	FPPR S. 6	January 31, 2004
Enhance available timber supply and improve timber quality in Enhanced Timber Development areas.	Bulkley LRMP Objective 4.1	November 6, 2006

Definitions

“Enhanced Timber Development Areas” refers to those identified on Map 5 of the Bulkley LRMP.

“Mature” and **“Over mature”** means >120 years in ESSFmc/wv; >100 years in the SBSdk/mc2.

FDU	Results or Strategies
Bulkley	1) In Enhanced Timber Development Areas, the Holder will give priority to exercising harvesting rights in **mature** and **over mature** stands except where: (a) other resource values reduce this priority; (b) such harvesting will be inconsistent with the obligations of the FSP Holder under this FSP, FRPA, those licences, the Forest Act or any other legislation governing such harvesting; (c) other areas become a higher priority for harvest because of pest or disease outbreaks, fire suppression, salvage or safety issues; (d) prioritizing these areas for harvest impairs the ability of the Holder to exercise those timber harvesting rights in a manner consistent with FPPR S. 6; (e) third party harvesting, resource development or use or other action impairs the ability of the Holder to harvest according to this priority; (f) the Holder is unable to obtain authority to harvest according to this priority; or the Holder is directed by the government to harvest in a manner inconsistent with this priority. 2) Where incentive is provided by government, the Holder will participate in investing in intensive silviculture practices. 3) In areas not identified as Enhanced Timber Development Areas on Map 5, the Holder is exempt under FPPR S. 12(8) from the requirement to prepare results or strategies.
FDU	**Practice Requirement**
Morice Lakes North	The Holder is exempt under FPPR S. 12(8) from the requirement to prepare results or strategies.

3.3.Wildlife

Summary of Objectives	Legal Reference	Date in Effect
The objectives set by government for wildlife is to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for: (a) the survival of species at risk, (b) the survival of regionally important wildlife, and (c) the winter survival of specified ungulate species.	FPPR S. 7	January 31, 2004

Provide for wildlife habitat and populations by implementing and timing road location, development and maintenance activities in a manner that minimizes the effects on these values.	Bulkley LRMP Objective 2.1	November 6, 2006

Definitions

"Access Control Point" is a physical feature or combination of features, such as road deactivation, placed or developed on a road to restrict motorized access.

"Deactivate" or **"deactivation"** means to restore the natural drainage patterns of a road by removing structures such as culverts and creating cross-ditches or waterbars. Motorized access can be maintained to facilitate subsequent operations often related to silviculture obligations, but road deactivation can also be used to specifically restrict motorized access.

"Inaccessible Road" or **"Closed Road"** means a road where motorized access is restricted using one or a combination of access control point, gates or road deactivation activities.

"**Mapped Habitat"** means the area of wildlife habitat for a species, as shown on Map 5 of the Bulkley LRMP.

"Motorized Access" means access that permits the passage of highway insurable 2-wheel drive, or 4-wheel drive motor vehicles not intended for off-road usage.

"Old" means >250 years in all subzones except SBSdk/mc2 where it is >140 years.

"Open Road" means a road without restriction on motorized access (note that gated roads that have no other restriction on motorized access are considered "open").

"Permanent Road" means a road intended to facilitate long term harvesting, hauling and silviculture activities, typically planned to be maintained for longer than 5 years.

"Qualified Professional" – an applied scientist or technologist, acting alone or together with another professional, if:

(a) the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, is acting under that association's code of ethics and subject to disciplinary action by that association; and

(b) the individual is acting within that individual's area of expertise.

"Recontour" or **"rehabilitate"** means to fully restore the natural pre-disturbance topography and drainage pattern of a road. It generally involves the removal of all structures and the excavation of the road surface to eliminate interception and diversion of runoff and allow vegetation regrowth. Road becomes impassable for motorized vehicles.

"Suitable habitat" means habitat required to sustain a particular "species at risk" and is described in *Accounts and Measures for Managing Identified Wildlife* in the Identified Wildlife Management Strategy Version 2004.

"Temporary Road" means a road intended to facilitate short term harvesting, hauling and silviculture activities, typically planned to be an inaccessible road within two years of construction.

"Young" means ≤ 40 years in all subzones.

3.3.1. Moose

Summary of Objectives	Legal Reference	Date in Effect
(a) Provide woody browse in moose habitat. (b) Provide visual screening, security, thermal and snow-interception cover in moose winter habitat.	Bulkley LRMP Objective 2.2	November 6, 2006
Conserve moose habitat.	Notice – Indicators of the amount, distribution, and attributes of wildlife habitat for the winter survival of ungulate species in the Lakes TSA.	December 20, 2004

FDU	Results or Strategies
Bulkley	Definitions: **"Important Moose Habitat Features"** mean habitat features able to provide forage, visual screening, and security, thermal and snow interception cover for moose. They include, but are not limited to: i. abundant deciduous component (± 30% cover) including but not limited to willow, red-osier dogwood, high brush cranberry, black twinberry, elderberry, mountain ash, aspen and cottonwood, ii. stand at herb-shrub stage (<10% tree layer and 2-10m in height), iii. stand at pole-sapling stage (dense ± 5000 sph, >10m trees) iv. dense understory or complex stand structure, v. streams, lakes and wetlands and associated riparian areas. **"Security Cover"** for moose means vegetation dense enough to obscure 90% of an individual at 60m or to leave 0.4m^2 (approximately 0.65x0.65m) visible on 2x2m dark surface. Good security habitat can be diverse understory that can obscure a moose at close range, gullied terrain, and stands at structural stages 3 (shrub/herb stage, <10% tree layer, 2-10m height), 4 (pole/sapling stage, dense 5000-15,000 sph, >10m trees), and 5 (young forest stage, self thinning, layers). Keep in mind broadleaf leafless winter conditions. Security cover also provides **visual screening** (vegetation >5m in height), and thermal and snow interception cover. 1) Within **mapped** moose **habitat** as shown on Map 3 in the Appendix, the Holder will: (a) at the development stage of a cutblock, identify possible i**mportant moose habitat features** able to provide forage, **visual screening**, **security cover**, and thermal and snow interception cover;

	(b) have a **qualified professional** confirm the presence of important moose habitat features; (c) Integrate the qualified professional's recommendations in the road and block layout by designing block boundaries and roads in such a way that important habitat features identified in (a) or (b) are excluded from harvesting and protected by a buffer to provide visual screening or security cover; (d) ensure that at any point inside the block, moose are no further away than 200m from visual screening; (e) ensure that internal retentions are >0.25ha in size and composed of vegetation able to provide visual screening or security cover; (f) locate roads away from riparian areas and natural openings. If operational constraints require roads to be located close to these areas, maintain >50m buffer to provide screening and avoid alienating the area; (g) adjacent blocks >60ha of <5m average height are buffered >50m, depending on topography, to avoid creating large open areas; (h) adjacent **main haul roads** are buffered >30m measured from the outside edge of the road ditch line, provided that visual screening is available and does not need to be removed for safety reasons or to fulfill any other requirement under this FSP or by law; (i) unless required for future development, not construct **permanent roads** to carry out primary forest activities; (j) **deactivate** roads to limit **motorized access** as soon as practical, and no more than 2 years following planting completion date; (k) not use pesticides to treat brush.
Lakes North	Definitions **"Moose Habitat"** is classified from a habitat suitability analysis attached to the FSP backgrounder and contains attributes consistent with the Environmental Stewardship Initiative (ESI) draft UWR linework. 1) The Holder will not apply for a cutting permit or road permit in high value moose habitat which, at the completion of harvesting, would result in less than **30%,** or **3 835 ha**, of habitat being more than **101 years** of age. 2) The Holder will not apply for a cutting permit or road permit in high value moose habitat which, at the completion of harvesting, would result in more than **33%,** or **4 219 ha**, of habitat being less than **17 years** of age or under **3m** in height. 3) When choosing critical winter habitat, the Holder will select sites that have the following attributes: a) Preferred topographic features: Generally below 1200m elevation, slopes <60%, and wherever snow accumulations are <90cm deep, b) preferred ecosystems and forest structure: Wetlands, meadows, and adjacent forests, all successional stages within riparian areas and deciduous forests, mixed and coniferous forests including uplands especially earlier

	successional stages, burned, and logged upland areas that produce adequate forage, c) preferred winter forage species: Willows, red-osier dogwood, paper birch, maple, sub-alpine fir, false-box, high-bush cranberry, Saskatoon, and aspen which have not grown out of the reach of moose, d) sufficient food availability within 80 meters of security cover. e) sufficient forest cover to provide snow interception cover when snow depths begin to restrict moose mobility (90 cm +), f) a mosaic of age classes, stand types and openings that provide for near optimum balance of forage, shelter/bedding, screening, and thermoregulation in late winter, and, g) in deciduous complexes, mature and old conifer clusters that can provide for shelter and screening. 4) Within mapped **moose habitat:** a) at the development stage of a cutblock, identify possible i**mportant moose habitat features** able to provide forage, **visual screening**, **security cover**, and thermal and snow interception cover; b) have a **qualified professional** confirm the presence of important moose habitat features; c) Integrate the qualified professional's recommendations in the road and block layout by designing block boundaries and roads in such a way that important habitat features identified in (a) or (b) are excluded from harvesting and protected by a buffer to provide visual screening or security cover; d) ensure that at any point inside the block, moose are no further away than 200m from visual screening; e) ensure that internal retentions are >0.25ha in size and composed of vegetation able to provide visual screening or security cover; f) locate roads away from riparian areas and natural openings. If operational constraints require roads to be located close to these areas, maintain >50m buffer to provide screening and avoid alienating the area; g) adjacent blocks >60ha of <5m average height are buffered >50m, depending on topography, to avoid creating large open areas; h) adjacent **main haul roads** are buffered >30m measured from the outside edge of the road ditch line, provided that visual screening is available and does not need to be removed for safety reasons or to fulfill any other requirement under this FSP or by law; i) unless required for future development, not construct **permanent roads** to carry out primary forest activities; j) **deactivate** roads to limit **motorized access** as soon as practical, and no more than 2 years following planting completion date; k) not use pesticides to treat brush.

3.3.2. Mule Deer

Summary of Objectives	Legal Reference	Date in Effect
Conserve mule deer habitat.	Notice – Indicators of the amount, distribution, and attributes of wildlife habitat for the winter survival of ungulate species in the Lakes TSA.	December 20, 2004

FDU	Strategies
Lakes North	Definitions **"Mule Deer Habitat"** is classified in a habitat suitability analysis and contains attributes consistent with the Notice specified above. They are depicted on a map that is part of that analysis and are part of the FSP Backgrounder document. 1) The Holder will not apply for a cutting permit or road permit in high value mule deer winter habitat which, at the completion of harvesting, would result in a minimum of 50%, or **68 ha**, of the habitat being more than **101 years** of age. 2) The Holder will not apply for a cutting permit or road permit in high value mule deer winter habitat which, at the completion of harvesting, would result in more than 33%, or **45 ha**, of the habitat being less than **17 years** of age or under **3m** in height. 3) When choosing critical Mule Deer winter habitat, the Holder will select sites that have the following attributes: (a) preferred topographic features: Elevations below 1000 m. Warm aspects, 0 – 80 degree slopes, topographic breaks, benches, and ridges associated with warm aspects. Areas with snow depths <50cm, (b) preferred winter forage: Saskatoon, willow, maple, rose, red-osier dogwood, highbush cranberry, false-box, conifer litter-fall from the tops of trees, and arboreal lichens, (c) effective snow interception cover: Old and mature forest with large deep crowns, especially trees producing arboreal lichens. Preferred species is Douglas fir, followed by Lodgepole Pine, followed by other conifer species, (d) effective thermal and hiding cover: Stands that reduce air movement at ground level and minimize radiation of heat to the open sky. Old and mature conifer forest with dense canopy and large crowns, multi-layered conifer stands with large crowns, and dense thickets, and (e) preferred forest structure: Most effective habitat has snow interception cover located along ridges, benches, and topographical breaks in proximity to areas producing preferred forage. The ideal winter range is a mosaic of open and closed canopies.

	4) In respect of **Mule Deer Habitat**, the Holder will: (a) retain at the conclusion of such harvesting within such habitat: i) where the volume of deciduous species is greater than 5% of the net merchantable stand volume of the cutblock; immediately prior to commencing harvesting, wildlife tree retention areas or riparian reserve zones containing a deciduous component; and ii) where harvesting occurs adjacent to steep south facing slopes, wildlife tree retention areas adjacent to or on the steep south facing slopes; and iii) visual screening within a cutblock located immediately adjacent to main haul roads, >30m measured from the outside edge of the road ditch line, provided that such screening is available and need not be removed for safety reasons or to fulfill any other requirement under this FSP; (b) deactivate all roads within a cutblock, not required for future timber development in mapped habitat, no more than 2 years following the planting completion date; (c) promote ground forage production when harvesting by cutting winter forage shrubs and trees that have grown out of reach of deer; and (d) not use pesticides to treat brush in a cutblock within mapped habitat.

3.3.3. Mountain Goat

Summary of Objectives	Legal Reference	Date in Effect
Protect mountain goat winter range.	GAR Order UWR U-6-007	September 3, 2019
Protect and conserve mountain goat and mountain goat habitat.	GAR Order UWR U-6-003	August 14, 2013
Protect and conserve mountain goat and mountain goat habitat.	GAR Order UWR U-6-017	February 1, 2018

DU	Results or Strategies
Bulkley	1) In the area pertaining to Mountain Goat UWR U-6-007, the Holder will apply the General Wildlife Measures of the GAR Order, keeping in mind that some measures apply in a 2 km buffer surrounding UWR polygons.
Morice	2) In the area pertaining to Mountain Goat UWR U-6-003, the Holder will apply the corresponding General Wildlife Measures of the GAR Order, keeping in mind that some measures apply in a 1-2 km buffer surrounding UWR polygons.
Lakes North	3) In the area pertaining to Mountain Goat UWR U-6-017, the Holder will apply the corresponding General Wildlife Measures of GAR Order, keeping in mind that some measures apply in the 1-2 km buffer around UWR polygons.

3.3.4. Grizzly Bear

Summary of Objectives	Legal Reference	Date in Effect
For Grizzly Bear (a) Provide high-value habitat buffered for security and bedding for grizzly bears in the locations identified. (b) Provide diverse understory within high-value, mixed forest habitat. (c) Limit road development and the number and duration of entries within moderate-value grizzly bear habitat. (d) Avoid human-bear conflicts in high-value grizzly bear habitat. (e) Provide opportunities for movement with minimal disturbance from humans between important landscape features in the Boucher Creek Wetlands management unit, the Nichyeskwa South management unit and the Nichyeskwa North management unit.	Bulkley LRMP Objective 2.5	November 6, 2006
Conserve grizzly bear habitat.	Notice – Indicators of the amount, distribution, and attributes of wildlife habitat for the survival of species at risk in the Nadina Forest District	December 20, 2004

FDU	Results or Strategies
Bulkley	Definitions **"Critical patch habitat"** means habitat features able to provide forage, security and bedding for grizzly bears. They can include, but are not limited to: i. avalanche tracks, run out zones and adjacent forests (particularly south facing), ii. herbaceous riparian areas, wetlands, floodplains, meadows and their adjacent forests iii. berry producing sites such as early seral stands. **"High Value", "Moderate Value"** or **"Mixed Forest"** means the mapped habitat for grizzly bear shown to be in that category on Map 5 of the Bulkley LRMP. **"High Use"** in respect of grizzly bears use means showing signs that bears actively use the area for denning, foraging and/or marking of territory. This can include, but

	is not limited to the presence of tracks, scat, marking on trees, dens, digging, carcasses, trails, etc. **"Low or No Use"** in respect of grizzly bears use means the time period between October 31 and May 1 of any given year, or another time period determined by a **qualified professional**. **"Main Haul Road"** means a forestry road used to access an entire landscape unit or operating area. **"Open Road Density"** means the linear distance of open roads per square kilometer. 1) Within any grizzly bear **mapped habitat** (high-value, moderate-value, mixed forest) or management units (Boucher Creek wetlands, Nichyeskwa South and Nichyeskwa North) as shown on Map 3 in the Appendix, the Holder of this FSP will: (a) at the development stage of a cutblock, identify possible **critical patch habitat** able to provide forage and security, (b) have a **qualified professional** confirm the presence of critical patch habitat, (c) exclude from harvesting identified critical patch habitats >2ha or those that show signs of **high use** by grizzly bear, and buffer 50-100m depending on topography to provide additional visual screening, (d) integrate the qualified professional's recommendations in the road and block layout, (e) maintain a 30m buffer on **main haul roads** measured from the outside edge of the road ditch line, provided that visual screening is available and does not need to be removed for safety reasons or to fulfill any other requirement under this FSP or by law, (f) within 2 years of road construction, coordinate with other FSP holders to ensure the **open road density** is <0.6km/km^2 in the mapped polygon the road construction occurred, (g) within 2 years following timber harvesting, unless required for future timber development, **deactivate** all **temporary roads** to a **closed road** standard. 2) In **high-value** mapped habitat, the Holder will: (a) only construct roads and harvest timber during periods of **low or no use** by grizzly bears; (b) not construct a **permanent road** through or immediately adjacent to a mapped area, except where there is no other practicable option to prevent the isolation of timber; in such case the Holder will restrict **motorized access** on that road, if permitted by law; (c) ensure that roads are constructed 150m away from identified critical patch habitats >2ha or those that show signs of high use by grizzly bear; (d) reforest harvested blocks using stocking standards that maintain or enhance grizzly bear forage supply, for example cluster planting, when practicable and ecologically appropriate for the site.

	3) In **moderate-value** mapped habitat, the Holder will schedule primary forest activities so that operations are concentrated in time, ideally within 5 years, then followed by a sustained inactivity of approximately half a rotation. 4) In Boucher Creek Wetlands, Nichyeskwa North, Nichyeskwa South management units, the Holder will make reasonable effort to schedule road construction and timber harvesting during periods of low to no use by grizzly bear.
Lakes North	Definitions **"Grizzly Bear Habitat"** is classified from a habitat suitability analysis and contains attributes consistent with the Notice for the Nadina Forest District specified above. They are depicted on Map 9 Lakes North FDU – Wildlife Management. 5) The Holder will not apply for a cutting permit or road permit in high value grizzly bear habitat which, at the completion of harvesting, would result in more than **50%,** or **529 ha,** of habitat being less than **121 years** of age. 6) The Holder will not apply for a cutting permit or road permit in high value grizzly bear habitat which, at the completion of harvesting, would result in more than **33%**, or **349 ha**, of habitat being less than **28 years** of age or under **5m** in height. 7) When choosing critical Grizzly Bear habitat, the Holder will select sites that have the following attributes: (a) critical patch habitats include herb dominated avalanche tracks with adjacent forest, non-forested fens, herbaceous riparian meadow/wetland complexes and seepage sites, skunk cabbage swamps, sub alpine parkland meadows, whitebark pine stands, salmon fishing areas and old burns or other successional areas dominated by Vaccinium (blueberry) species. Nonforested critical habitats include a core area and buffer of forested cover. Forested critical habitats are not buffered, (b) habitat selection is strongly influenced by meeting nutritional requirements, access to mates, thermal cover (i.e., dens), social interactions and the presence and activities of people. Habitat requirements vary greatly as some bears are more transient while others are more resident. Both residents and transients select patches or complexes of habitats within landscapes, (c) generally, foraging is more abundant in non-forested sites, sites with partial forest or sites with many tree gaps in older forest. Closed forest sites near quality habitat may be used for security and day bedding areas. Many or all structural stages can be used seasonally or for specific needs and as such, forage type is not necessarily tied to one particular structural stage, and (d) all elevations from sea level estuaries to high alpine meadows and talus slopes.

3.4.Water and Riparian Areas

Summary of Objectives	Legal Reference	Date in Effect
The objective set by government for water, fish, wildlife and biodiversity within riparian areas is to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.	FPPR S. 8	January 31, 2004

Definitions

"BA" means basal area. It is generally used to describe the average percentage of **retention** of standing and post-harvest windthrown trees, after harvest completion, based on the original basal area of the pre-harvest RMZ. Retention includes both live and dead merchantable and non-merchantable trees, and stubs.

"MFZ" means machine free zone. It is measured from the outside edge of the stream bank and extends to a minimum of 5 meters. Machine tracks and tires must stay out of MFZ, but trees can be felled if permitted. MFZ does not apply at stream crossings.

"Non-Merch" means, with regards to management strategies in RMA, the retention of understory vegetation, deciduous species, and non-merchantable conifers.

"Retain" or **"Retention"** relates to standing live or dead trees. Blowdown of retained trees following harvest of the RMZ are considered retention. A tree felled for safety or windthrow management and left on site is considered retention. A stub is also considered retention.

"Sensitive S6 Stream" means the first 500-meter portion of an S6 stream greater than 1.0 meter width and measured from its confluence with a fish bearing stream.

FDU	Results or Strategies
Bulkley Morice Lakes North	1) In respect of FPPR S. 8, as a Result, the Holder will adopt the FPPR sections listed below: (a) S. 47 – Stream Riparian Classes, except 47(4) (b) S. 48 – Wetland Riparian Classes, except 48(3) (c) S. 49 – Lake Riparian Classes, except 49(2) (d) S. 50 – Restrictions in a Riparian Management Area (e) S. 51 – Restrictions in a Riparian Reserve Zone (f) S. 52(2) – Restrictions in a Riparian Management Zone 2) In respect to FPPR S. 8 and 12 (3), to address retention of trees in a RMZ instead of sections 47(4), 48(3) and 49(2), as a Result the Holder will establish the minimum retention in all RMZ as specified in Table 3.

3) Retained basal area shall count both live and dead merchantable and non-merchantable trees and be reasonably representative of the physical structure of all RMZ, as it was before harvesting.
4) Retained green and dead trees can be stubbed for worker safety.
5) Retain all non-merch timber and brush within the RMZ to the extent practicable.

Table 3 Riparian classification, management areas and corresponding retention strategies

Riparian Class	Width (m) or Area (ha)	Total RMA (m)	RRZ (m)	RMZ (m)	Retention in RMZ
S1-A	≥100	100	0	100	≥20% BA, 5m MFZ
S1-B	20-100	70	50	20	≥20% BA
S2	5-20	50	30	20	≥20% BA
S3	1.5-5	40	20	20	≥20% BA
S4	<1.5	30	0	30	≥50% BA, 5m MFZ
S5	>3	30	0	30	≥50% BA, 5m MFZ
Sensitive S6	1-3	20	0	20	≥50% BA, 5m MFZ
Large S6	1.5-3	20	0	20	≥50% BA, 5m MFZ
Small S6	<1.5	20	0	20	≥20% BA, 5m MFZ
W1	≥5	50	10	40	≥10% BA
W3	1-5	30	0	30	≥25% BA, 5m MFZ
W5	complex ≥5	50	10	40	≥10% BA
L1-A	≥1000	0	0	0	5m MFZ
L1-B	5-1000	10	10	0	
L3	1-5	30	0	30	≥10% BA, 5m MFZ

3.5.Fish

3.5.1. Fisheries Sensitive Watersheds

<table>
<tr><th>Summary of Objectives</th><th>Legal Reference</th><th>Date in Effect</th></tr>
<tr><td colspan="5">For each of the Fisheries Sensitive Watersheds identified by this Order, the objective is to provide, within the normal forest rotation, special management in the Fisheries Sensitive Watersheds of the amount, timing, and distribution of primary forest activities, in order to:
(a) conserve the natural hydrological conditions, natural stream bed dynamics and integrity of stream channels,
(b) conserve the quality, quantity and timing of water flows required by fish, and
(c) prevent the cumulative hydrological effects of primary forest activities from resulting in a material adverse impact on the fish habitat of the watershed.
For the purpose of the FDU, the objective applies to the fisheries sensitive watershed specified in Table 4.
Table 4 Fisheries sensitive watersheds in Bulkley FDU</td><td rowspan="4">Order – Fisheries Sensitive Watersheds – Skeena Region
F-6-005</td><td rowspan="4">December 28, 2005</td></tr>
<tr><td>Watershed Common Name</td><td>Watershed Gazetted Name</td><td>Forest District</td><td>GIS FSW Identifier</td><td>Watershed Code</td></tr>
<tr><td>West Babine</td><td>Five Mile Creek</td><td>Skeena-Stikine</td><td>F-6-005</td><td>4804523</td></tr>
</table>

Definitions

“Equivalent Clearcut Area” refers to the proportion of a watershed that responds hydrologically as a clearcut. It can be composed of cumulative areas of forest disturbance and forest regrowth.

“Peak Flow Index” means the maximum flow rate that occurs within a specified period of time, usually on an annual or event basis.

“Open Road Density” means the linear distance of open roads per square kilometer in the polygon as defined in the result or strategy.

“Stream Crossing Density” means the number of stream crossings per square kilometer in the polygon as defined in the result or strategy. Stream crossings include all temporary and permanent structures.

<table>
<tr><th>FDU</th><th>Results or Strategies</th></tr>
<tr><td>Bulkley</td><td>
<h3>Fisheries Sensitive Watershed F-6-005</h3>
1) For any harvesting or road construction activity within a fisheries sensitive watershed located in Bulkley FDU, the Holder will not, at the conclusion of such activity, cause a target specified in Table 5 to be exceeded.
2) If timber is in danger of being damaged, significantly reduced in value, lost or destroyed, and/or poses a hazard risk to public safety, the Holder may develop harvest plans, subject to District Manager approval, that facilitate harvesting of the affected timber specified in Table 5.
Table 5 Fisheries sensitive watershed targets
<table>
<tr><th rowspan="2">FSW Gazetted Name</th><th colspan="4">Targets</th></tr>
<tr><th>Equivalent Clearcut Area (% of Total FSW Area)</th><th>Peak Flow Index associated with the FSW</th><th>Open Road Density (km/km^2 in the FSW)</th><th>Stream Crossing Density (#/km^2 in the FSW)</th></tr>
<tr><td>Five Mile Creek</td><td>35</td><td>45</td><td>1.3</td><td>0.6</td></tr>
</table>
</td></tr>
</table>

3.5.2. Fish Habitat for Wilderness Lakes

Summary of Objectives	Legal Reference	Date in Effect
Provide for lakes containing high-value fish habitat by maintaining lakes in a full spectrum of settings including semi-primitive and primitive.	Bulkley LRMP Objective 3.0	November 6, 2006

Definitions

"Wilderness Lake" means a lake that has been designated by the District Manager to be a wilderness lake.

Wilderness Lakes are lakes with High Value Fish Habitat and include the following lakes:

Lake Name	BCGS Mapsheet	Location (Lat/Long)
Nichyeskwa 1	93M 047	55° 24' 58" / 126° 47' 30"
Babine n/n	93M 057	55° 31' 08" / 126° 46' 25"

FDU	Results or Strategies
Bulkley	The FSP Holder will: 1) not construct a **permanent road** within 1 kilometer of a **wilderness lake**; and 2) for any **temporary road** constructed within 1 kilometer of a wilderness lake, deactivate the road so that it does not provide **motorized access** to that wilderness lake, upon completion of tree planting.

3.6.Biodiversity

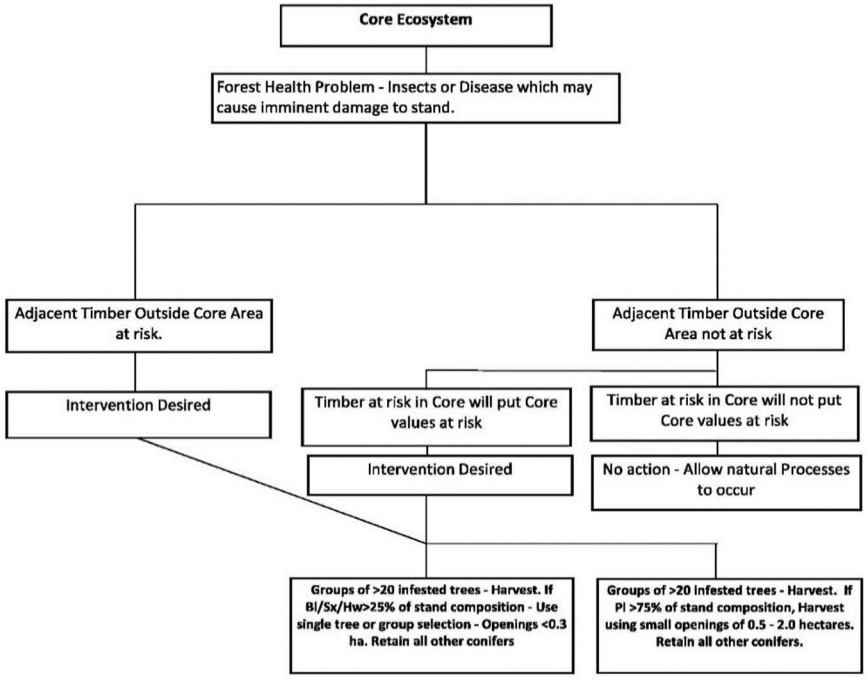
3.6.1. Core Ecosystem

Summary of Objectives	Legal Reference	Date in Effect
Maintain biodiversity by (a) representing a cross section of naturally occurring ecosystems; (b) maintaining some areas with forest interior conditions; and (c) retaining representative examples of rare and endangered plant communities in core ecosystems on map 5 of the Bulkley LRMP; by a) not expending range use in core ecosystem; and b) not harvesting timber in core ecosystems unless it is necessary for: i) protecting the integrity and function of the ecosystems; ii) mineral and energy exploration and development; iii) providing access to timber outside the core ecosystem that would otherwise be isolated, or iv) forest health control where there is a risk to operable timber outside of the core ecosystem.	Bulkley LRMP Objective 1.2	November 6, 2006

Definitions

"Core Ecosystem" means a core ecosystem as shown on Map 5 from the Bulkley LRMP.

"Rare or Endangered Plant Communities" means plant species or plant communities that have been red listed, or blue listed by the BC Ministry of Environment Conservation Data Center that are endangered or threatened in British Columbia.

FDU	Results or Strategies
Bulkley	1) If harvesting for forest health reasons is necessary within a **Core Ecosystem** in the Bulkley FDU, the FSP Holder will: (a) only harvest where timber in a Core Ecosystem is in danger of being damaged, significantly reduced in value, lost or destroyed, and/or poses a hazard to public safety and the original Core Ecosystem values are at risk. In these circumstances the FSP holder may develop harvest plans, subject to District Manager approval, that facilitate harvesting of the affected timber. In all cases the Bulkley LRMP balance must be maintained through the introduction of an offsetting constrained area deemed acceptable by the District Manager (b) undertake that harvesting in accordance with Figure 2. (c) ensure timber harvesting and road building do not occur within **rare and endangered plant communities** located in Core Ecosystems 2) in the case of a road, the Holder will not carry out or authorize road construction within an identified Core Ecosystem unless: (a) it is the only practicable option for accessing operable timber inside or outside the Core Ecosystem; and (b) will ensure that roads constructed under strategy (2)(a) are deactivated within one (1) year of planting completion, except where the road is accessing timber beyond the Core Ecosystem and is required for future access.  Figure 2 Decision matrix for harvesting in Core ecosystems

3.6.2. Landscape Corridors or Connectivity

Summary of Objectives	Legal Reference	Date in Effect
Maintain, within a managed forest setting, (a) habitat connectivity across the landscape by maintaining landscape corridors dominated by mature tree cover and containing most of the structure and function associated with old forest; and (b) movement and dispersal of organisms in landscape corridors.	Bulkley LRMP Objective 1.3	November 6, 2006
Maintain habitat connectivity within the Landscape Connectivity Matrix.	Ministerial Order to Amend Objective 4 of the Lakes North SRMP Order 2009	March 8, 2017

FDU	Results or Strategies
Bulkley	Definitions **"Functional Old Forest"** means coniferous species leading forest older than 80 years or a deciduous species leading forest older than 60 years; and **"Landscape Corridor"** means a landscape corridor shown on Map 5 in the Bulkley LRMP. **"Infested"** means an area of timber where on average greater than 30% of the gross volume has been affected by spruce or pine bark beetles. 1. If harvesting a cutblock or constructing a road within a **Landscape Corridor** in the Bulkley FDU, the FSP Holder will: (a) not cause, as a result, and as of the conclusion of that harvesting, the area of **Functional Old Forest** on Crown forested land associated with a cutblock within a Landscape Corridor to be less than 70% of such area; (b) ensure the area of Functional Old Forest associated with a cutblock in a Landscape Corridor is contained within the landscape corridor being harvested and is not associated with any previous timber harvesting activities 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. (c) ensure that harvesting within a Landscape Corridor will not result in a condition where more than 30% of the width of the Landscape Corridor is younger than 80 years old for coniferous and 60 years old for deciduous.

	(d) limit the size of each clear-cut opening within the cutblock, so that it does not exceed the greater of: i) 3.0 hectares; or ii) if the Landscape Corridor is **infested** by insects; (1) the area necessary to harvest the infested timber and, (2) if the clear-cut opening of a block is greater than 3.0 hectares maintain a minimum 100m wide Functional Old Forest corridor associated with the clear-cut opening within the Landscape Corridor. (e) within harvested areas greater than 1ha, retain to the extent practicable, a minimum of 60 stems per hectare of which 50% are greater than or equal to 15 cm at DBH. (f) not construct a road outside a cutblock but within the Landscape Corridor unless no other practicable option exists for accessing or extracting timber outside the Landscape Corridor. (g) ensure that roads constructed within a Landscape Corridor are deactivated within one (1) year of planting completion, except where the road is accessing timber beyond the Landscape Corridor and is required for future access".
Lakes North	Definitions **"Landscape Connectivity Matrix"** or **"LCM"** means a network of habitat landscape corridors as outlined in the Lakes North SRMP Order. 1) The Holder will maintain each LCM in a contiguous mature and old condition as follows: (a) at least 70% of the forested area within each LCM is >100 years old in SBS or >120 years old in ESSF at any time; and (b) cutblocks are spatially distributed as follows within each LCM: i) a new cutblock cannot be adjacent to an existing cutblock unless at least 70% of the net area to reforest on the existing cutblock has developed attributes that area consistent with a mature seral condition and; ii) harvesting must not result in a condition where more than 30% of the width of an LCM is younger than mature + old. 2) For each LCM, the Holder will retain 100% of the forested area within the red- and blue-listed ecological communities identified in Table 6. Table 6 Blue and Red-listed plant communities within LCM SBSdk – 04, 08, 81, 82 SBSmc2 – 81, 82

3) The Holder will maintain 100% of the hydro-riparian ecosystems identified in Table 7.

Table 7 Hydro-riparian ecosystem criteria

SBSdk – 04, 07, 08, 09, 10
SBSmc2 – 07, 09, 10, 12
ESSFmc – 07, 08, 09, 10
ESSFmv1 – 04, 05
ESSFmv3 – 07

4) Despite 1) above:

   (a) Live stems and non-merchantable understory in a stand must be retained where the salvage of dead trees within an LCM occurs. Salvage may only occur where 50% or more of the total mature and old stems are composed of dead trees, and only where harvesting of these dead trees maintains connectivity; and

   (b) Connectivity of cover with be maintained 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; and

   (c) Where no practicable alternative exists, access can be constructed in landscape corridors, but must be permanently deactivated within 2 years of planting.

3.7.Biodiversity at the Landscape Level

Summary of Objectives	Legal Reference	Date in Effect
The objective set by government for wildlife and biodiversity at the landscape level is, 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.	FPPR S. 9	January 31, 2004

<table>
<tr><th>FDU</th><th>Practice Requirements</th></tr>
<tr><td>Bulkley
Morice
Lakes North</td><td>1. The Holder will comply with practice requirements outlined in FPPR sections:
64 – Maximum cutblock size
65 – Harvesting adjacent to another cutblock
Each Holder(s), within their tenure area, will undertake to comply to manage towards achieving and maintaining the patch size targets specified in the Biodiversity Guidebook by utilizing FPPR 64 (2) and 65 (4).</td></tr>
<tr><td>Bulkley</td><td>1. Where other Licensee’s have overlapping chart area within the Bulkley FDU, the FSP Holder will participate in the joint-licensee Bulkley HLPO Analysis group and collaborate with the results of the “cumulative effects” monitoring approach to ensure the patch size targets are met. The Holder will limit the size of cutblocks it harvests such that the Patch size distribution created by that harvesting, by landscape unit and natural disturbance types, will trend over time towards the applicable ranges specified in Table 8.
Table 8: Patch Size Distribution by Natural Disturbance Type (NDT)
<table>
<tr><td>Natural Disturbance Type</td><td colspan="3">Patch Size Distribution</td></tr>
<tr><td rowspan="2">NDT 1 and 2a</td><td><40 hectares</td><td>40-80 hectares</td><td>>80 hectares</td></tr>
<tr><td>30 – 40%</td><td>30 – 40%</td><td>20 – 40%</td></tr>
<tr><td rowspan="2">NDT 3b</td><td><40 hectares</td><td>40-250 hectares</td><td>>250-1000 hectares</td></tr>
<tr><td>10 - 20%</td><td>10 - 20%</td><td>60 - 80%</td></tr>
<tr><td colspan="4">a includes ESSFmk/wv, MHmm2, CWHws2, ESSFmc and ICHmcl/mc2
b includes SBSdk/mc2</td></tr>
</table>
</td></tr>
</table>

3.7.1. Seral Stage Distribution

Summary of Objectives	Legal Reference	Date in Effect
Maintain biodiversity by maintaining a natural seral-stage distribution specified in the objective.	Bulkley LRMP Objective 1.1	November 6, 2006
Maintain a diversity of seral classes across the Morice LRMP area.	Morice LRMP Objectives 1-3, 7	September 13, 2016
Maintain a range of forest seral stages by biogeoclimatic zone within each landscape unit.	Lakes North SRMP Objective 1	January 26, 2009

FDU	Results or Strategies
Bulkley	Definitions **"Forested Area"** means the productive forested land that contributes towards meeting forest cover values and indicator thresholds, as spatially defined in accordance with the methodology outlined in section 5.1 of the December 2012, Bulkley TSA Timber Supply Review Updated Data Package. **"Mature"** means >120 years in ESSFmc/mk/wv; >100 years in the SBSdk/mc2. **"Old"** means >250 years in all subzones except SBSdk/mc2 where it is >140 years. **"Young"** means ≤ 40 years in all subzones. 1) The FSP Holder(s) will not apply for a cutting permit that causes the amount of: (a) **Old**, or **Mature and Old** timber to fall below; or (b) **Young** timber to exceed, the applicable seral stage target in each Landscape Unit as specified in Table 9.

Table 9 Seral-stage targets by landscape units and BEC subzone

Landscape Unit	NDT	BEC Variant	Minimum Old (%)	Minimum Mature + Old (%)	Maximum Young (%)
Intermediate Biodiversity Emphasis					
Babine	2	ESSFmc	9	28	36
	3	SBSmc2	11	23	54
Low Biodiversity Emphasis					
Blunt	2	ESSFmc	9	14	n/a
	3	SBSmc2	11	11	n/a
Chapman	2	ESSFmc	9	14	n/a
	3	SBSmc2	11	11	n/a
Torkelson	2	ESSFmc	9	14	n/a
	3	SBSmc2	11	11	n/a

<table>
<tr><td></td><td>The Forest Management Land Base[1] (FMLB) of the Landscape Unit (LU), including any area outside of the Bulkley FDU, is to be used in the calculation for determining if the seral stage targets are being met in the Landscape Unit. The FSP Holder will manage for those seral stage targets listed in Table 9 for those areas of the Landscape Unit within the LBN Bulkley FDU. Forested areas that are inoperable, in core ecosystems, or in parks, are considered as contributing to the target they would belong to based on their age and BEC zone.</td></tr>
<tr><td>Lakes North</td><td>Definitions
“Early” means <40 years for both SBS and ESSF and applies to man-made disturbances.
“Forested Area” means areas that contribute to Crown forest management objectives in the context of the Lakes TSA AAC determination.
“Mature” means >100 years for SBS and >120 years for ESSF.
“Old” means>250 years in all subzones except SBSdk/mc2 where it is >140 years.
1) The FSP Holder(s) will not apply for a cutting permit that causes the amount of:
(a) Old, or Mature and Old timber to fall below; or
(b) Early timber to exceed,
the applicable seral stage target in each Landscape Unit as specified in Table 10.
Table 10 Seral stage distribution for the Lakes North SRMP area
<table><tr><th>Landscape Unit</th><th>BEC</th><th>Early Maximum %</th><th>Mature + Old Minimum %</th><th>Old Minimum %</th></tr><tr><td>Taltapin</td><td>SBS</td><td>n/a</td><td>11</td><td>11</td></tr><tr><td>Babine West</td><td>ESSF</td><td>n/a</td><td>14</td><td>9</td></tr><tr><td>Bulkley</td><td>SBS</td><td>54</td><td>23</td><td>11</td></tr><tr><td>Fleming</td><td>ESSF</td><td>36</td><td>28</td><td>9</td></tr></table>The Forest Management Land Base (FMLB) of the Landscape Unit (LU), including any area outside of the Lakes North FDU, is to be used in the calculation for determining if the seral stage targets are being met in the Landscape Unit. The FSP Holder will manage for those seral stage targets listed in Table 10 for those areas of the Landscape Unit within the Lakes North FDU. Forested areas that are inoperable, in core ecosystems, or in parks, are considered as contributing to the target they would belong to based on their age and BEC zone.</td></tr>
</table>

1 The forest management land base (FMLB) is the portion of the total area with forest cover that contributes to Crown forest management objectives in the context of TSA timber supply, such as landscape-level biodiversity or visual quality objectives.

Morice

Definitions

"Early" means <40 years.

"Forested Area" means the forested area of the TSA that the provincial government manages for a variety of natural resource values.

"Mature" means 100-140 years.

"Old" means >140 years in all subzones except for crown forested land within OGMAs in which case all crown forested land within the OGMAs are considered old.

"Mature + Old" means >100 years.

"General Forested Area" is as outlined on Map 1 of the Morice LRMP Order. For the purpose of meeting early and old seral class requirements, Area Specific Management Areas, No Timber Harvest Areas and Parks and Protected Areas are part of the General Forested Area.

"High Biodiversity Emphasis Areas" or HBEA are as outlined on Map 2 of the Morice LRMP Order.

"Area Specific Management Areas" are as outlined on Map 3 of the Morice LRMP Order.

"No Timber Harvesting Areas" are as outlined on Map 5 of the Morice LRMP Order.

1) The FSP Holder(s) will not apply for a cutting permit that causes the amount of:
   (a) **Old**, or **Mature and Old** timber to fall below; or
   (b) **Early** timber to exceed,

   the applicable seral stage targets in each Landscape Unit as specified in Table 11.

Table 11 Seral class distribution requirements for the Morice LRMP

Area or HBEA	BEC	Early Seral Maximum %	Mature + Old Seral Minimum %	Old Seral Minimum %
General Forested Area	ESSFmc and ESSFmv3	38	37	34
	SBSdk	64	10	8
	SBSmc2 and SBS wk3	48	20	17
Upper Morice River	ESSFmc and ESSFmv3	28	70	42
	SBSdk	50	70	16
	SBSmc2 and SBSwk3	37	70	26
Friday/ Nakinilerack/ Hautete Lakes	ESSFmc and ESSFmv3	28	48	42
	SBSdk	50	21	16

	Morison Lake	SBSmc2 and SBSwk3	37	33	26

2) The Holder will retain a minimum of 70% of the forested area as **Mature + Old** for the following **Area Specific Management Areas:**

   a. Grease Trail – within the 400m buffer beyond the 100m No Timber Harvesting Area.

   Meeting the requirements of this objective can contribute to meeting the requirements in Table 11**.**

3) The Holder will retain a minimum of 50% of the forested area as **Mature + Old** for the following **Area Specific Management Areas**:

   (a) Le Talh Giz (Old Fort Mountain).

   Meeting the requirements of this objective can contribute to meeting the requirements in Table 11.

4) The Holder will retain 100% of the forested area within the **No Timber Harvesting Areas**.

3.7.2. Old Growth Management Areas

Summary of Objectives	Legal Reference	Date in Effect
Preserve Old Growth Management Areas (OGMA).	Lakes North SRMP Objective 2	July 7, 2016
Manage for old growth forests by retaining all the crown forested area located within Old Growth Management Areas (OGMAs).	Morice LRMP Objectives 4	Sept. 13, 2016

FDU	Results or Strategies
Lakes North	1) For the term of this FSP, the Holder will not harvest or construct a road within an established OGMA unless the OGMA is amended for one of the following: (a) where timber outside the OGMA would be isolated and there is no other practicable alternative to access the timber. (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 the OGMA is amended, the Holder will identify replacement area that is consistent with the factors set out in the Old Growth Management Area Amendment Policy, Skeena Region, August 2010.
Morice	1) When conducting Primary Forest Activities within the Morice FDU, the Holder will manage for old growth forests by retaining all the Crown Forest area located within Old Growth Management Areas (OGMA's), as identified on map 4 of the Morice LRMP Order.

3.8.Biodiversity at the Stand Level

3.8.1. Wildlife Tree Retention Areas

Summary of Objectives	Legal Reference	Date in Effect
The objective set by government for wildlife and biodiversity at the stand level is to retain wildlife trees.	FPPR S. 9.1	January 31, 2004
Maintain a diversity of attributes of old forest, such as coarse woody debris and standing dead and lie trees, in managed stands.	Bulkley LRMP Objective 1.5	November 6, 2006
Maintain stand level structural diversity by retaining wildlife tree retention areas (WTRAs).	Lakes North SRMP Objectives 3	January 26, 2009
Ensure that all wildlife tree retention areas include high value wildlife tree attributes.	Morice LRMP Objectives 5-6	September 13, 2016

FDU	Results or Strategies
Bulkley	1) When completing harvesting on one or more cutting permits within a landscape unit, the Holder will ensure that, at the end of that 12 month period, beginning on April 1 of any calendar year, the total area covered by wildlife tree retention areas that relate to the combined cutblocks harvested by the FSP holder, will be a minimum percentage of the total harvested area, in each landscape unit and BEC subzone combination identified in Table 12.

Table 12 Percentage of cutblock to area to retain in WTRAs by BEC subzone and landscape unit.

LU	ESSFmc	ESSFwv	SBSdk	SBSmc2
Babine	3			7
Blunt	3			7
Chapman	5			11
Torkelson	3			7

2) If harvesting a cutblock in the Babine LU, that is 15 hectares or greater in size, the Holder:

	(a) will, subject to clause 3), retain at the completion of that harvesting, a wildlife tree retention area that relates to the cutblock of not less than the amount specified in Table 12; (b) may relate a wildlife tree retention area required under clause 1) to more than one cutblock if all the cutblocks that relate to the wildlife tree retention area collectively meet the applicable requirements of clause 1). 3) The FSP Holder will ensure that the WTRAs applicable under this clause or the trees within such WTRAs include one or more of the following attributes: (a) diversity of habitat types; (b) internal decay (heart rot or natural/excavated cavities present); (c) crevices present (loose bark or cracks suitable for bats); (d) large brooms present; (e) active or recent wildlife use; (f) tree structure suitable for wildlife use (e.g., large nest, hunting perch, bear den); (g) large trees for the site (height and diameter) and veterans; (h) representative of the size, age, and species of the pre-harvest stand. 4) The FSP Holder will not harvest a wildlife tree retention area referred to in clause 1) unless: (a) the trees on the net area to be reforested of the cutblock to which the wildlife tree retention area relates have developed attributes that are consistent with a mature seral condition; or (b) the FSP Holder specifies one or more wildlife tree retention areas that provide an area, number of trees or habitat that is equivalent to the portion of the wildlife tree retention area that is harvested. 5) Where large scale salvage operations occur in areas that overlap with BCTS operating areas, the Holder will establish a higher percentage of retention based on opening size as follows: (a) where timber is harvested in a cutblock less than 100 ha, at the completion of harvesting the total amount of WTR areas of Old Forest within each cutblock will be a minimum of 7%. (b) where timber is harvested in a cutblock greater than or equal to 100 ha, at the completion of harvesting the total amount of WTR areas of Old Forest within each cutblock will be a minimum of 10%. (c) where timber is harvested in a cutblock greater than or equal to 200 ha, at the completion of harvesting the total amount of WTR areas of Old Forest within each cutblock will be a minimum of 15%.
Lakes North	1) The Holder will maintain stand level structural diversity by complying with the following on any cutblock over 3 ha: (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 WTRAs that relate to the cutblocks is a minimum 10% of the total area of the cutblocks; (b) where timber is harvested in a cutblock greater than 3 ha, at the completion of harvesting the total amount of WTRAs 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 Holder 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. 2) For the term of this FSP, the Holder will not harvest or construct a road within an established WTRA unless the WTRA is amended for one of the following: (a) where timber outside the WTRA would be isolated and there is no other practicable alternative to access the timber. (b) a substantiated forest health factor exists within a WTRA which poses a significant and substantiated forest health risk to forests outside the WTRA 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;
Morice	1) For the term of this FSP, the Holder will maintain stand level structural diversity by ensuring: (a) where timber is harvested in a cutblock that is less than 250 ha, at the completion of harvesting the total amount of WTRAs 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 WTRAs that relate to the cutblock will be equal to or greater than the targets outlined in Table 13. 2) The Holder will ensure that all areas contributing to WTRAs include one or more of the following high value wildlife tree attributes: (a) diversity of habitat types; (b) internal decay; (c) crevices; (d) large brooms; (e) active or recent wildlife use; (f) tree structure suitable for wildlife use; (g) large trees or veterans for the site; (h) representative of the size, age, and species of the pre-harvest stand.

Table 13 Proportion of Mature and Old Forest to be Established as WTRA by Resource Management Zone for cutblocks ≥250ha.

Resource Management Zone	BEC Variant	Average % WTRA	Minimum % WTRA
General Forested Area	ESSF, SBSdk, SBSmc, SBSwk	15	10
Area Specific Management Areas	ESSF, SBSdk, SBSmc, SBSwk	15	10
High Biodiversity Emphasis Area	ESSF, SBSdk, SBSmc, SBSwk	25	20

3.8.2. Tree Species Diversity

Summary of Objectives	Legal Reference	Date in Effect
Maintain a diversity of coniferous and deciduous species representing the natural species composition for each biogeoclimatic subzone.	Bulkley LRMP Objective 1.4	November 6, 2006

FDU	Results or Strategies
Bulkley	1) If harvesting a cutblock where the volume of deciduous species in the cutblock is greater than 10% of the net merchantable volume, the Holder will: (a) retain at the conclusion of that harvesting, deciduous species in wildlife tree retention areas or riparian reserve zones that relate to the cutblock; and (b) retain advanced regeneration, poles, and saplings where practicable to do so; and (c) reforest cutblocks as per the Stocking Standards in the appendices which have been designed to maintain a diversity of coniferous species representing the natural species composition for each biogeoclimatic subzone and variant.

3.9.Visual Quality

Summary of Objectives	Legal Reference	Date in Effect
Maintain identified viewpoints and associated scenic areas.	Bulkley LRMP grandparented through FRPA S. 181	December 29, 2000
For the Lakes North and Morice FDUs, attain the visual quality classes assigned to landscapes within the designated scenic areas.	GAR 17 FRPA 180(c) GAR 7(1) GAR 7(2)	March 2005 (GAR 17) April 2010 (GAR 7)

Definition

“Alteration” means changing or making something different as a result of conducting harvesting or road construction.

"Category of Altered Forest Landscape" refers to the definitions specified in FPPR S. 1.1.

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

“Significant Public Viewpoint” means on-the-ground or water-based locations accessible to the public, from which the surrounding landscape can be viewed or observed in the Bulkley LRMP, Lakes North SRMP or Morice LRMP areas.

“VQEE” means a Visual Quality Effectiveness Evaluation, which assesses management and conservation of views in designated scenic areas, and whether recent harvests have achieved an established VQO.

FDU	Results or Strategies
Bulkley Morice Lakes North	1) If the FSP Holder harvests timber in a cutblock to which this FSP applies that is in a scenic area, and for which there is no Visual Quality Objective, the holder will ensure that the altered forest landscape for the scenic area: (a) In visual sensitivity class 1 is in either the preservation or retention category, (b) In visual sensitivity class 2 is in either the retention or partial retention category, (c) In visual sensitivity class 3 is in either the partial retention or modification category, (d) In visual sensitivity class 4 is in either the partial retention or modification category, and (e) In visual sensitivity class 5 is in either the modification or maximum modification category. 2) If the FSP Holder harvests timber in a cutblock to which this FSP applies and that is in a scenic area, the cutblock will, at the conclusion of harvesting, be

consistent with the corresponding category of visually altered landscape as defined in Table 14.

Table 14 Categories of altered forest landscape

Visually Altered Forest Landscape	Extent of alteration resulting from the size, shape, and location of cutblocks and roads
Preservation	Alteration, when assessed from a significant public viewpoint, is; (i) very small in scale, and (ii) not easily distinguishable from the pre-harvest landscape;
Retention	Alteration, when assessed from a significant public viewpoint, is; (i) difficult to see, (ii) small in scale, and (iii) natural in appearance;
Partial Retention	Alteration, when assessed from a significant public viewpoint, is; (i) easy to see, (ii) small to medium in scale, and (iii) natural and not rectilinear or geometric in shape;
Modification	Alteration, when assessed from a significant public viewpoint, is; (i) is very easy to see, and (ii) is; a. large in scale and natural in its appearance, or b. small to medium in scale but with some angular characteristics;
Maximum Modification	Alteration, when assessed from a significant public viewpoint, is; (i) is very easy to see, and (ii) is; a. very large in scale, b. rectilinear and geometric in shape, or c. both.

3) The characteristics in Table 14 are assessed for a cutblock:

   (a) from the **Significant Public Viewpoint** applicable to the cutblock; and

   (b) evaluated to the perspective landform(s).

4) A visual impact assessment (VIA) will be carried out by a QP in accordance with the methodology identified in the most current version of the Visual Impact

	Assessment Guidebook and will be attached or referred to in the Site Plan for blocks that are located within known scenic areas. 5) Following harvest completion, where a VIA has been completed, the Holder will conduct a VQEE to assess how well the VQO has been met.

3.10. Cultural Heritage Resources

Summary of Objectives	Legal Reference	Date in Effect
To conserve, or, if necessary, protect cultural heritage resources that are (a) the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and (b) not regulated under the Heritage Conservation Act.	FPPR S. 10	January 31, 2004

Definition

"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.

"Cultural Heritage Resource Evaluation" means a documented process conducted by a **qualified person** and consisting of the following steps:

(a) Record the location and nature of any cultural heritage resource;

(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 CHR considering the factors in FPPR Schedule1(4), to address the objectives of FPPRs.10.

FDU	Results or Strategies
Bulkley Morice Lakes North	1) The FSP Holder will: (a) Provide information on proposed harvesting and road building activities to affected aboriginal groups as per consultation processes defined by government and document **CHR** brought to the attention of the FSP Holder through this process; and (b) Before applying for a cutting permit or a road permit the FSP Holder will carry out a **Cultural Heritage Resource Evaluation** within all blocks and roads; and (c) Where CHR features are found, provide copies of completed CHR Evaluations to affected aboriginal groups to solicit input to develop a mitigation strategy, which will be included, when applying for a cutting permit or road permit; and (d) Conduct all harvesting, road construction and mechanical site preparation activities consistent with recommendations given in the mitigation strategy referred to in subparagraph (c). (e) If the FSP Holder encounters a previously unidentified CHR during harvesting, road construction or mechanical site preparation activities: i) modify the activity to the extent necessary to protect the unidentified CHR until a CHR Evaluation is completed;

	ii) communicate the results of the CHR Evaluation to the affected aboriginal group(s) to solicit input to develop a mitigation strategy and inform appropriate government staff within 30 days; and iii) ensure subsequent harvesting, road construction, or mechanical site preparation activities that are carried out in the CHR area are consistent with recommendations given in the CHR Evaluation.

3.11. Recreation

3.11.1. Recreation Opportunities

Summary of Objectives	Legal Reference	Date in Effect
Maintain or enhance a diverse range of recreational values and opportunities.	Bulkley LRMP Objective 5.1	November 6, 2006
	FRPA S. 180(i)(j)(k) and 181	October 31 1997

Definitions:

"Established Recreational Site" means a recreation site established under FRPA s. 56(1) and identified within the BC Government Warehouse recreation data layers.

"Established Recreational Trail" means a recreation trail established under FRPA s. 56(1) and identified within the BC Government Warehouse recreation data layers.

FDU	Results or Strategies
Bulkley Morice Lakes North	The Holder of this FSP will conduct primary forest activities within an **Established Recreational Site** or **Established Recreational Trail**, whether they are established under an Order referred to above, or if they are part of a Recreation Reserve, or if they are authorized under S. 57 of the FRPA, as follows: • Adhering to the objectives established for each **Established Recreation Site**, **Established Recreation Trail**, or Interpretive Forest Site, and • to fall danger or hazard trees for worker/public safety, and • as agreed to in an approved plan developed in collaboration with a representative of Recreation Sites and Trails BC.
Lakes North	The Old Babine Road recreation trail has an established objective to manage for a Natural (roaded) recreation experience in order to provide opportunities for hiking, horseback riding, snowmobiling, and ATV activities. The Holder of the FSP will maintain coniferous vegetation features within 10m on either side of the trail.

3.11.2. Recreation Access

Summary of Objectives	Legal Reference	Date in Effect
Maintain reasonable access to a diverse range of recreational values and opportunities.	Bulkley LRMP Objective 5.2	November 6, 2006

FDU	Results or Strategies
Bulkley	During the term of this FSP, the Holder will repair, within one (1) year, any existing motorized access to an established recreational trail or established recreational site in the event that it is damaged by a primary forest activity.

3.12. Resource Management Zones

Summary of Objectives	Legal Reference	Date in Effect
For Babine River Resource Management Zone (Sub-unit 2-2) Maintain the following river-based resource values adjacent to Babine River Provincial Park: • wilderness recreation opportunities, • water clarity and hydrologic stability for fish habitat in the tributaries of the Babine River, • visual quality within view of the Babine River, and • travel and denning habitat for grizzly bears by: • developing timber in a manner which minimizes the effects on these values, • not constructing new, permanent, unrestricted road access north of the Babine River bridge, • avoiding road construction to the Babine River corridor boundary, and • logging by selection harvesting or small clearcuts only.	Bulkley HLP Objective 22	December 19, 2000

FDU	Results or Strategies
Bulkley	1) During the term of this FSP, the Holder will harvest utilizing clearcut with reserve silviculture systems within the identified Babine River Special Management Zone 2-2, and limit cutblocks to less than fifteen (15.0) hectares of net area to be reforested, unless it is necessary to recover timber damaged by fire, insect infestation, wind, or other similar events. 2) The Holder will ensure that harvest openings utilizing a clearcut with reserve silviculture system will retain a minimum 100m of unharvested timber between adjacent harvest openings, until the harvest openings have met the requirements of FPPR 65(3). 3) During the term of this FSP, within the Babine River Special Management Zone 2-2, the Holder will not conduct harvesting, hauling or decking operations between May 1st to November 1st.

	4) Despite 3 above, the Holder may deck and/or haul in the Babine River Special Management Zone 2-2 between July 1st and August 14th if required to remove beetle infested logs. A condition of the decking and hauling during this period will be that a gate will be locked each night during this period. 5) During the term of this FSP, the Holder will not authorize any new roads within 300 metres of the identified Babine River Protected Area. 6) During the term of this FSP, within the Babine River Special Management Zone 2, the Holder will ensure that all roads that access one or more cutblocks under this FSP are temporary access structures and are deactivated within 1(one) year of planting completion of the cutblocks. 7) During the term of this FSP, within the Babine River Special Management Zone 2-2, the Holder will ensure new roads will have a maximum line of sight of 300m, unless longer straight sections of road are required for safety reasons. 8) During the term of this FSP, the Holder will not construct a new, permanent, unrestricted road access north of the Babine River Bridge

4. MEASURES

4.1. Measures to Prevent the Introduction or Spread of Invasive Plant Species

Summary of Objectives	Legal Reference	Date in Effect
A person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plants Regulation, if the introduction or spread is likely to be the result of the person's forest practices.	FPPR S. 17	January 31, 2004

Definitions

"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.

"Seed", "Seeded" or "Seeding" means seed that meets or exceeds Canada Common Number 1 Forage Mixture 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.

FDU	Measures
Bulkley Morice Lakes North	1) Prior to undertaking any forest practice that will result in soil disturbance, the Holder will review the Invasive Alien Plant Program (IAPP) database, to determine the presence of invasive plants near the prescribed forest practice. A field review will be completed to determine if new invasive plants exist or if existing invasive plants have spread beyond the location identified in the IAPP database. When new invasive plant locations are identified or are seen to have spread beyond the reported location, the Holder will report this information to the IAPP database within 48 hours. 2) The Holder will minimize soil disturbance in areas where invasive plants are present by timing harvest to a season less prone to soil disturbance, where practicable to do so. 3) During the term of this FSP, the Holder will ensure that all field staff, as well as contractors conducting field work, have annual training to identify invasive plants, and will ensure that they notify the Northwest Invasive Plant Council and the Invasive Alien Plant Program of all new invasive plant sites found. 4) Additional measures to be implemented to prevent the introduction and/or spread of invasive plants will be specified in a plan developed by a qualified professional. This plan may include: (a) the timing of grass seed application, (b) washing equipment capable of disturbing soils in the harvesting or road building phase to ensure that invasive plant reproductive material is removed.

	(c) no storage of equipment in areas of infestation, (d) no use of material from infested soils, and (e) maintain records of the location and timing of grass seeding. 5) Preferred grass seed will be used and must have the following attributes: (a) high sod-forming content, except in areas that are planted with tree seedlings, (b) certified by the Canadian Seed Growers Association that the seed meets Common #1 Forage Grade or better standards for varietal purity established by the Association for seed of that kind of species (*Seeds Act, Seeds Regulation S. 2(1)*), and (c) is of native origin. 6) Timing of grass seeding is based on the following: (a) Within the calendar year of harvest completion, or 12 months, apply grass seed when germination has the best probability of success, (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. 7) Newly disturbed soils in the following areas will not be grass seeded: (a) soils that will be occupied by seedlings as part of the Net Area to be Reforested, (b) soils where there are no known invasive plants within 500m of disturbed soils. 8) Grass seed will be applied where: (a) disturbed soils exceed 0.01ha of contiguous area created as a result of forest harvesting or road construction activities, (b) disturbed soil has been created within 20m of the high water mark of any stream, and sediment may flow from that disturbed area into the stream, (c) forest harvesting or road construction activities are within an RMA of adjacent water bodies that are capable of transporting reproductive invasive plant material.

4.2. Measures to Mitigate the Effect of Removing and/or Rendering Ineffective Natural Range Barriers

Summary of Objectives	Legal Reference	Date in Effect
A person who prepares a forest stewardship plan must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.	FPPR S. 18	January 31, 2004

Definitions

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

FDU	Measures
Bulkley Morice Lakes North	1) During the term of this FSP, the Holder will (a) inform the District Range Officer and holders of range tenures who may be affected by proposed timber harvesting and road construction activities by mail and follow up with a phone call if no response is received. (b) provide a 60-day period to allow written comments regarding harvesting or road construction activities, and 2) If a range tenure holder, or other qualified person, indicates that the planned development will remove or render ineffective a natural range barrier, the Holder 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 Holder and the range tenure holder; (c) if the Holder and the range tenure holder cannot come to an agreement, the Holder will work with the District Range Officer to develop a mitigative measure and will implement the mitigative measure within one (1) season of harvest completion, unless an alternative timeframe is agreed upon; (d) within a year of the mitigative measure being implemented, check with the range tenure holder, by mail, telephone call, or in person, to verify the effectiveness of the mitigative measure;

	(e) if the mitigative measure has proven ineffective, work to reach an agreement with the range tenure holder and the District Range Officer to develop a mitigative measure and will implement the mitigative measure within one (1) season of the agreement, unless an alternative timeframe is agreed upon.

5. Stocking Standards

Summary of Objectives	Legal Reference	Date in Effect
A person who prepared a forest stewardship plan must specify stocking standards required to establish free growing stands.	FPPR S. 16 & S. 44(1)	January 31, 2004

5.1. Application of Stocking Standards

For the purposes of FPPR S. 16(1), FPPR S. 44(1) applies to all areas where the Holder is required to establish a free growing stand in accordance too FRPA S. 29.

For all cutblocks harvested under this FSP, the Holder will establish free growing stands in accordance with Appendix 1 Stocking Standards.

For the purposes of FPPR S. 16(4), FPPR S. 44(4) applies to this FSP. The Holder does not propose to carry out harvesting activities listed in FPPR S. 44(3)(i). The stocking standards specified in section 16 (4) will be adhered to, where commercial thinning is carried out, for a period of 12 months after completion of harvest.

No uneven-aged silviculture systems are proposed under this FSP and therefore the standards in Appendix 1 are limited to the application of even-aged silviculture strategies.

Enhanced stocking standards from the 2017 Nadina District Forest Health Strategy apply to those areas within the Bulkley, Lakes North and Morice FDUs where various rust species are common in forest stands and nearby plantations.

Within the Bulkley FDU, enhanced or reduced stocking standards from the Bulkley TSA Integrated Silviculture Strategy will apply to those cutblocks within the polygons shown in the Strategy, as amended from time to time.

5.2. Ecologically Suitable Species

The stocking standards outlined in Appendix 1 are from the *Reference Guide for Forest Development Plan Stocking Standards (September 7, 2021) – Prince Rupert Forest Region, the 2017 Nadina District Forest Health Strategy, the Updates to the Reference Guide for FDP Stocking Standards (2014): Climate-Change Related Stocking Standards, and the Bulkley TSA Integrated Silviculture Strategy*.

5.3. Mixed Wood Management

Mixed Wood Management is not applicable in the Bulkley Enhanced Timber Development Areas.

Direction from the Lake Babine Nation is given to the Holder through the following documents:

- Lake Babine Nation Stand Level Biodiversity Best Management Practices
  - Focus on retaining key features such as deciduous patches
  - Retain more complex stand structures over simpler stand structures
- Lake Babine Nation Forestry Best Management Practices and Moose Best Management Practices
  - Maintain deciduous stems within stand where possible (minimize brushing)
  - Willow, birch and cottonwood are identified as medicinal plant resources

To promote biodiversity, create moose forage, and provide for medicinal plants, and where soil disturbance or pile burning results in site occupation by broadleaved trees on areas up to 1 hectare, brushing will not occur.

Where broadleaved trees are acceptable in stocking standards, they may account for up to 20% of free growing stems.

Where broadleaved species are accepted as part of the free growing stand, the free growing heights are from the *Establishment to Free Growing Guidebook, Prince Rupert Forest Region, footnote on page 90*.

While paper birch is not shown in the SBSmc2 subzone in the *Establishment to Free Growing Guidebook, Prince Rupert Forest Region,* it is a common broadleaved tree in that subzone and has been included in these stocking standards.

5.4. Commercial Thinning

Each block under a commercial thinning prescription will have an individual retention stocking standard approved that results in an ecologically appropriate stand that is adequately stocked.

Access trails contribute to the quantity of the stand removed and must not occupy >25% of the thinned area (excluding reserves and permanent access structures).

Where a stand is harvested consistent with the Forest Planning and Practices Regulation (FPPR) section 44 (4) it shall be deemed a commercial thinning where the harvested stand complies with the conditions specified below for a minimum period of 12 months following the completion of harvesting:

- Meet the requirements in Table A1a.2 of the April 1, 2025, Thinning Guidance for British Columbia, as amended from time to time, and
- Trees contributing to the retained basal area must be the species identified as preferred, or acceptable in the even-aged stocking standards for the BEC site series in this FSP, and
- Trees that contribute to the post-thinning average crop residual basal area must comply with the stem wound decay, bark mining, deformation, dwarf mistletoe infection, defoliation, live crown vigour, and root disease attributes defined in the FS660 Silviculture Survey Reference Card table "Free Growing Damage Criteria for Layered, Interior DFP, and SEDRSS Managed Stands"[2], as amended from time to time.

The compliance assessment will be conducted using the Commercial Thinning Survey Procedures in the Silviculture Surveys Procedures Manual, as amended from time to time.

Where harvesting is deemed to be a commercial thinning based on the condition a minimum of 12 months following the completion of harvesting, the standard unit is exempt from the requirements to produce a free growing stand, consistent with FPPR section 44(3)(h).

If during the 12 months period following the completion of harvesting the conditions specified above are not maintained, the commercial thinning standards unit may be further stratified and the site plan amended to delineate where the licensee shall hold a free growing obligation on the harvested area and the appropriate stocking standard in the intermediate cutting or even-aged stocking standards in this FSP, including target and minimum density, shall be applied.

[2] https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/silviculture/silviculture-surveys/fs_660_march_22_2023_v2.pdf

Commercial thinning will account for no more than 5% of the volume of a Holder's licence during a five year cut control period.

5.5. Regeneration Delay

Regeneration delay, or regeneration date, means the calendar date by which the minimum number of well spaced and well spaced preferred species must be established.

5.6. Late Free Growing Date

The late free growing expiration date for all areas subject to a stocking standard under this FSP will be 20 years.

5.7. Crop Tree Relative to Competing 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 1.0-meter radius of the stem as defined in Table 15 to be assessed free growing.

Table 15 Percent height above competing brush by BEC at free growing

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

For an opening that is being managed as an even stand, any overstory deciduous stems that were retained at the time of harvest will be considered non-deleterious competition for the purpose of conducting a free growing assessment.

5.8. Minimum Inter-Tree Distance Variance Request

When the DDM approves this FSP they will have approved the following variances:

1) Brush species within 10.0 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.
2) The standard minimum inter-tree distance (MITD) for assessing well-spaced trees is 2.0 m except in the following cases where target density cannot be met:
   (a) The MITD is reduced to 1.6 m where:
      i) obstacle planting is applied in areas with a high potential for cattle grazing damage;
      ii) there is a high potential for cattle congregation;
      iii) there is a significant number of dispersed wildlife trees (≥50 uniformly distributed trees/ha);
      iv) stump avoidance strategy is employed to manage root rot;
      v) there are site moisture limitations and/or elevated microsites are preferred given the limitations of the harvest site ecology;

vi) fill planting or under planting is being applied due to plantation failure;

vii) very rocky sites;

viii) site preparation is prescribed and there is insufficient distance between mounds or trenches.

(b) The MITD can be reduced to 1.5 m in the SBSwk SS07 and 08, as per the 2014 Nadina District Reference Guide for FSP Stocking Standards.

(c) The MITD can reduced to 1.0 m where cluster planting is prescribed to create small openings for wildlife forage while providing some protection for crop trees.

(d) The MITD can be reduced to 1.0 m, in the following subzones and site series, as per the 2014 Nadina District Reference Guide for FSP Stocking Standards:

i) ESSFmc SS07,08, 09 or 10.

ii) SBSdk SS07, 08, 09 or 10.

iii) SBSmc2 SS07, 09 or 10.

Stocking Standards Tables

BGC Classification		*Regeneration and Free Growing Stocking Standard*								
Zone/SZ	Site Series	FDU	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Minimum Height at Free Growing
						Target	MIN pa	MIN p		Species-Height (m)
						(well-spaced/ha)				
ESSFmc	01	All	85087	Bl Sx	Pl[34]	1200	700	600	7	Pli-1.6, Bl, Sx-0.8
Pli - Enhanced		Bulkley	1077944	Pli[34] Bl Sx		1600				
Sx - Enhanced			1077940	Bl Sx	Pli[34]	1400				
ESSFmc	02*	All	85088	Pli	Bl Sx	1000	500	400	7	Pli-1.2, Bl, Sx-0.6
Reduced		Bulkley	1080718	Bl Sx		800	400			Bl, Sx-0.6
ESSFmc	03*	All	85089	Pli	Bl Sx	1000	500	400	7	Pli-1.2, Bl, Sx-0.6
Reduced		Bulkley	1080719	Bl Sx		800	400			Bl, Sx-0.6
ESSFmc	04	All	85090	Pli Bl Sx		1200	700	600	7	Pli-1.6, Bl, Sx-0.8
Pli - Enhanced		Bulkley	1077945	Pli[34] Bl Sx		1600				
Sx - Enhanced			1077941	Sx Bl Pli[34]		1400				
Reduced			1080720	Bl Sx		800	400	400		Bl, Sx-0.8
ESSFmc	05	All	85091	Bl Sx	Pli[34]	1200	700	600	4	Pli-1.6, Bl, Sx-0.8
Pli - Enhanced		Bulkley	1077946	Bl Sx Pli[34]		1600	700	700		
Sx - Enhanced			1077942	Bl Sx	Pli[34]	1400	700	600		
Reduced			1080721	Bl Sx		800	400	400		Bl, Sx-0.8
ESSFmc	06	All	85092	Bl Sx	Pli[34]	1200	700	600	4	Pli-1.6, Bl, Sx-0.8
Pli - Enhanced		Bulkley	1077949	Bl Sx Pli[34]		1600	700	700		
Sx - Enhanced			1077947	Bl Sx	Pli[34]	1400	700	600		
ESSFmc	07	All	85093	Bl Sx[32]		1200	700	700	4	Bl, Sx-0.8
Pli - Enhanced		Bulkley	1077950	Bl Sx[32] Pli		1600	700	700		Pli-1.6, Bl, Sx-0.8
Sx - Enhanced			1077948	Bl Sx[32]	Pli	1400	700	600		
Reduced			1080722	Bl Sx[32]		800	400	400		Bl, Sx-0.8
ESSFmc	08*	All	1076279	Bl Sx[32]		1000	500	400	4	Bl, Sx-0.6
Reduced		Bulkley	1077951			800	400			
ESSFmc	09	All	1076280	Bl[1] Sx[1,32]		1000	500	400	4	Bl, Sx-0.6
Reduced		Bulkley	1077952			800	400			
ESSFmc	10	All	85096	Bl[1] Sx[1,32]		1000	500	400	4	Bl, Sx-0.6
Reduced		Bulkley	1077953			800	400	400		
Planting Density for Enhanced Regimes is 1600 for spruce leading and 1800 for pine leading stands in the specific polygons in the Bulkley ISS of the Bulkley FDU										

BGC Classification		*Regeneration and Free Growing Stocking Standard*								
Zone/SZ	Site Series	FDU	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Minimum Height at Free Growing
						Target	MIN pa	MIN p		Species-Height (m)
						(well-spaced/ha)				
ESSFmv3	01	**Lakes and Morice**	85104	Bl Se	Pli[34]	1200	700	600	4	Pli-1.6, Bl, Se-0.8
ESSFmv3	02*		85105	Pli[34]	Se[28] Bl[28]	1000	500	400	4	Pli-1.2, Bl, Se-0.6
ESSFmv3	03		85106	Bl Se	Sb Pli[34]	1000	500	400	4	Pli-1.2, Bl, Sb, Se-0.6
ESSFmv3	04		85107	Bl Se	Pli[34]	1200	700	600	4	Pli-1.6, Bl, Se-0.8
ESSFmv3	05		85108	Bl Se	Pli[34]	1200	700	600	4	Pli-1.6, Bl, Se-0.8
ESSFmv3	06		85109	Bl Sx	Pli[34]	1200	700	600	7	Pli-1.6, Bl, Sx-0.8
ESSFmv3	07		85110	Bl[1] Se[1,32]	Pli[1,34]	1000	500	400	4	Pli-1.2, Bl, Se-0.6

BGC Classification		*Regeneration and Free Growing Stocking Standard*								
Zone/SZ	Site Series	FDU[2]	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Minimum Height at Free Growing
						Target	MIN pa	MIN p		Species-Height (m)
						(well-spaced/ha)				
ESSFwv	01	**Bulkley**	85111	Bl Se	Hm Hw Pli[34]	1200	700	600	7	Pli-1.6, Bl, Se, Hm, Hw-0.8
ESSFwv	02*		85112	Pli	Bl Hm Se	1000	500	400	7	Pli-1.2, Bl, Hm, Se-0.6
Reduced			1080723	Bl Sx	Pl	800	500	400	7	Pli-1.2, Bl, Sx-0.6
ESSFwv	03*		85113	Pli	Bl Hm Se Hw	1200	700	600	7	Pli-1.6, Bl, Hm, Se, Hw-0.8
Reduced			1080724	Bl Sx	Pl	800	500	400	7	Pli-1.6, Bl, Sx-0.8
ESSFwv	04		85114	Pli Bl	Se Hm	1200	700	600	7	Pli-1.6, Bl, Se, Hm-0.8
Reduced			1080725	Bl Sx	Pl	800	500	400	7	Pli-1.6, Bl, Sx-0.8
ESSFwv	05		85115	Bl Se	Hm Hw Pli[34]	1200	700	600	4	Pli-1.6, Bl, Se, Hm, Hw-0.8
Reduced			1080726	Bl Sx	Pl	800	500	400	4	Pli-1.6, Bl, Sx-0.8
ESSFwv	06		85116	Bl Se[32]	Hm Hw	1200	700	600	4	Bl, Se, Hm, Hw-0.8
Reduced			1080727	Bl Sx	Pl	800	500	400	4	Pli-1.6, Bl, Sx-0.8
ESSFwv	07*		85117	Bl Se[32]	Hm Hw	1000	500	400	4	Bl, Se, Hm, Hw-0.6
Reduced			1080728	Bl Sx	Pl	800	500	400	4	Pli-1.6, Bl, Sx-0.6
ESSFwv	08		85118	Bl[1] Se[1,32]		1000	500	400	4	Bl, Se-0.6
Reduced			1080729	Bl Sx	Pl	800	500	400	4	Pli-1.6, Bl, Sx-0.6
ESSFwv	09		85119	Bl[1] Se[1,32]		1000	500	400	4	Bl, Se-0.6
Reduced			1080730	Bl Sx	Pl	800	500	400	4	Pli-1.6, Bl, Sx-0.6

[2] Reduced standards refers to the specific polygons in the Bulkley ISS stocking standards

BGC Classification		*Regeneration and Free Growing Stocking Standard*								
Zone/SZ	Site Series	FDU	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Minimum Height at Free Growing
						Target	MIN pa	MIN p		Species-Height (m)
						(well-spaced/ha)				
SBSdk	01	Lakes and Morice	1079465	Pli Sx Fdi[9,18,32] Lw[32] At[a] Ep[a]		1200	700	700	4	Pli-2.0, Lw-2.0, Fdi-1.4, Sx-1.0, At, Ep-2.0
>50% Pli - Enhanced			1079461			1600				
Sx - Enhanced			1077954			1400				
SBSdk	02*		1079466	Pli	Sx[28] At[b] Ep[b]	1000	500	400	4	Pli-1.4, Sx-0.8, At, Ep-1.4
SBSdk	03		1079467	Pli, Fdi[9,32] Lw[9,32]	Sb[28] Sx[28] At[b]	1200	700	600	4	Pli-2.0, Lw-2.0, Fdi-1.4, Sb, Sx-1.0, At-2.0
SBSdk	04		1079468	Fdi[9,18,32] Pli Sx[28] Lw[32] Ep[a]	At[b]	1200	700	700	4	Pli-2.0, Lw-2.0, Fdi-1.4, Sx-1.0, At, Ep-2.0
>50% Pli - Enhanced			1077955			1400				
SBSdk	05		1079469	Pl Sx[28] Fdi[9,18,32] Lw[32] At[a] Ep[a]		1200	700	700	4	Pli-2.0, Lw-2.0, Fdi-1.4, Sx-1.0, At, Ep-2.0
>50% Pli - Enhanced			1080848			1600				
Sx - Enhanced			1077956			1400				
SBSdk	06		1079470	Pli Sx Fdi[9,18,32] Lw[32] Act[a] At[a] Ep[a]		1200	700	700	4	Pli-2.0, Lw-2.0, Fdi-1.4, Sx-1.0, Act, At, Ep-2.0
>50% Pli - Enhanced			1080849			1600				
Sx - Enhanced			1077957			1400				
SBSdk	07a		1079471	Sx[1,32] Pli[1] Fdi[9,18,32] Lw[32]	Act[b] At[b] Ep[b]	1000	600	600	4	Pli-1.4, Lw-1.4, Fdi-1.0, Sx-0.8, Act, At, Ep-1.4
SBSdk	08		1079472	Sx[1,32] Pli Act[a] At[a] Ep[a]		1200	600	600	4	Pli-2.0, Sx-1.0, Act-2.0, At, Ep-2.0
SBSdk	09*		1076276	Pli[1] Sb[1]	Sx[1]	400	200	200	4	Pli-1.4, Sb, Sx-0.8
SBSdk	10*		1076277	Pli[1] Sb[1] Sx[1,32]		400	200	200	4	Pli-1.4, Sb, Sx-0.8
Planting Density for Enhanced Regimes is 1600 for spruce leading and 1800 for pine leading.										

BGC Classification		*Regeneration and Free Growing Stocking Standard*								
Zone/SZ	Site Series	FDU	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Minimum Height at Free Growing
						Target	MINpa	MINp		Species-Height (m)
						(well-spaced/ha)				
SBSmc2	01	All	1079479	Pli Sx Fdi[35] Lw[35] At[a] Ep[a]	Bl[29]	1200	700	600	4	Pli-1.6, Bl, Sx-0.8, Fdi-1.4, Lw-2.0 At, Ep-1.6
Pli - Enhanced			1077969			1600	800	700		
Sx - Enhanced			1077966			1400				
SBSmc2	02*	All	1079477	Pli	Bl Sx[32] Fdi[35] Lw[35] At[b] Ep[b]	1000	500	400	4	Pli-1.2, Bl, Sx-0.6, Fdi, Lw At, Ep–1.2
SBSmc2	03	All	1079478	Pli Sx[32]	Bl[29] Sb Fdi[35] Lw[35] At[b] Ep[b]	1200	700	600	4	Pli-1.6, Bl, Sx, Sb-0.8, Fdi-1.4, Lw, At, Ep-2.0
Pli - Enhanced			1077970			1600				
Sx - Enhanced			1077967			1400				
SBSmc2	05	All	1079480	Pli Sx Fdi[35] Lw[35] Act[a] At[a] Ep[a]	Bl[29]	1200	700	600	4	Pli, Fdi, Lw, Act, At, Ep-1.6, Bl, Sx-0.8
Pli - Enhanced			1077971			1600	800	700		
Sx - Enhanced			1077968			1400				
SBSmc2	06	All	1079481	Pli Sx Fdi[35] Lw[35] At[a] Ep[a]	Bl[29] Act[b]	1200	700	600	4	Pli-1.6, Bl, Sx, Fdi-0.8, Lw, Act, At, Ep-2.0
Pli - Enhanced			1077974			1600	800	700		
Sx - Enhanced			1077972			1400				
SBSmc2	07*	All	1079482	Pli Sb Sx[32]	Bl At[b] Ep[b] Fdi[35] Lw[35]	1000	500	400	4	Pli-1.2, Bl, Sx, Sb-0.6, At, Ep, Fdi, Lw-1.6
SBSmc2	09	All	1079474	Sx Bl[29] At[a]	Pli Act[b] Ep[b] Fdi[35] Lw[35]	1200	700	600	4	Fdi, Lw,1.4, Pli, At, Act, Ep-1.6, Bl, Sx-0.8
Pli - Enhanced			1077975	Sx Bl[29] Pli At[a]	Act[b] Ep[b] Fdi[35] Lw[35]	1600	800	700		
Sx - Enhanced			1077973	Sx Bl[29] At[a]	Pli Act[b] Ep[b] Fdi[35] Lw[35]	1400	800	700		
SBSmc2	10	All	1079476	Sx[1,32] Bl[1,29]	Pli[1] Act[b] At[b] Ep[b] Fdi[35] Lw[35]	1000	500	400	4	Pli-1.2, Bl, Sx-0.6 Fdi, Lw, Act, At, Ep-1.2
SBSmc2	12*	All	85212	Sb[1] Sx[1,32]	Pli[1] Bl[1]	400	200	200	4	Pli-1.2, Bl, Sx-0.6
Planting Density for Enhanced Regimes is 1600 for spruce leading and 1800 for pine leading stands in the specific polygons in the Bulkley ISS of the Bulkley FDU										

BGC Classification		*Regeneration and Free Growing Stocking Standard*								
Zone/SZ	Site Series	FDU	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Minimum Height at Free Growing
						Target	MIN pa	MIN p		Species-Height (m)
						(well-spaced/ha)				
SBSwk3	01	Lakes and Morice	1079486	Pli Sx At[a] Ep[a]	Bl[29] Fdi[35] Lw[35] Act[b]	1200	700	600	4	Pli, Lw, At, Act, Ep-2.0, Bl, Sx-1.0, Fdi-1.4
>50% Pli - Enhanced			1079484			1600				
Sx - Enhanced			1079485			1400				
SBSwk3	02		1079492	Pli	Bl[28] Sx[28]	1000	500	400	4	Pli-1.4, Bl, Sx-0.8
SBSwk3	03		1079487	Fdi[16, 35] Pli Sx[28] Lw[35]	At[b] Ep[b]	1200	700	600	4	Pli, Lw, At, Ep-2.0, Fdi-1.4, Sx-1.0
>50% Pli - Enhanced			1079488			1600				
SBSwk3	04		1079489	Pli Sx Fdi[35] Lw[35] At[a] Ep[a]	Bl	1200	700	600	4	Pli, Lw, At, Ep-2.0, Bl, Sx-1.0, Fdi-1.4
>50% Pli - Enhanced			1079490			1600				
SBSwk3	05		1079493	Pli	Sb Sx At[b]	1200	700	600	4	Pli, At-2.0, Sb, Sx-1.0
SBSwk3	06		1079494	Pli Sx At[a] Ep[a]	Bl[29] Fdi[35] Lw[35] Act[b]	1200	700	600	4	Pli, Lw,At, Ep, Act-2.0, Fdi-1.4, Sx, Bl-1.0
>50% Pli - Enhanced			1079495			1600				
SBSwk3	07		1079496	Sx[32] At[a] Ep[a]	Pli Bl[29] Fdi[35] Lw[35] Act[b]	1200	700	600	4	Pli, Lw, At, Ep, Act-2.0, Fdi-1.4, Sx, Bl-1.0
SBSwk3	08		1079497	Sx[1,32] Act[a] At[a]	Pli[1] Bl[1,29]	1000	500	400	4	Pli-1.4, Sx, Bl-0.8

Stocking Standards Footnotes

* Avoid logging

Conifer Tree Species

"Bl" means subalpine fir;
"Fdi" means Douglas-fir;
"Hm" means mountain hemlock;
"Hw" means western hemlock;
"Lw" means western larch;
"Pli" means lodgepole pine;
“Sb” means black spruce;
“Se” means Engelmann spruce;
"Sx" means hybrid spruce or interior spruce;

Broadleaf Tree Species

“At” means trembling aspen
“Ep” means common paper birch
“Act” means black cottonwood

Conifer Management Constraints

1	suitable on elevated microsites
9	suitable on warm aspects
16	suitable for the southern portion of the biogeoclimatic unit
18	suitable in the eastern portion of biogeoclimatic unit
28	limited by moisture deficit
29	risk of heavy browsing by moose
32	limited by growing-season frosts
34	risk of snow damage
35	suitable on mid to upper slopes

Broadleaf Management Constraints

a	productive, reliable, and feasible regeneration option
b	limited in productivity, reliability and/or feasibility

MAP 1 - 9