



## Long Term Community Forest Agreement K1A

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## Forest Stewardship Plan 2023-2028

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## List of Acronyms

ADA	Agricultural Development Areas
BCTS	BC Timber Sales
BCWS	BC Wildfire Service
BEC	Biogeoclimatic Ecosystem Classification (subzone)
BEO	Biodiversity Emphasis Option
BLCF	Burns Lake Community Forest
CFA	Community Forest Agreement
CHR	Cultural Heritage Resources
CMT	Culturally Modified Tree
CWD	Coarse Woody Debris
CWPP	Community Wildfire Protection Plan
DBH	Diameter at Breast Height
EDI	Environmental Dynamics Inc.
FDU	Forest Development Unit
FLNRORD	Forest Lands Natural Resource Operation and Rural Development
FPPR	Forest Planning and Practice Regulation
FREP	Forest and Range Evaluation Program
FRPA	Forest and Range Practices Act
FSP	Forest Stewardship Plan
GAR	Government Actions Regulation
GBHC	Grizzly Bear habitat Complex
HCVA	High Conservation Value Assessment
LFMP	Landscape Fire Management Plan
LRMP	Land and Resource Management Plan
LU	Landscape Unit
MFZ	Machine Free Zone
MITD	Minimum Inter-tree Distance
MP	Management Plan
MPB	Mountain Pine Beetle
MPBMP	Mountain Pine Beetle Management Plan
NDT	Natural Disturbance Type
NDU	Natural Disturbance Unit
NRB	Natural Range Barrier
OGMA	Old Growth Management Area
RMZ	Riparian Management Zone
RRZ	Riparian Reserve Zone
RSTBC	Recreation Site and Trails BC
SFMP	Sustainable Forest Management Plan
SPH	Stems per Hectare
SRA	Settlement Reserve Areas
SRMP	Sustainable Resource Management Plan
THLB	Timber Harvesting Land Base

TSA	Timber Supply Area
UWR	Ungulate Winter Range
VIA	Visual Impact Assessment
VQO	Visual Quality Objective
WHA	Wildlife Habitat Area
WUI	Wildland Urban Interface

## 1.0 Introduction

A Forest Stewardship Plan (FSP) must be prepared by all forest agreement holders (Licensees) and approved by the provincial government before associated permits can be issued to the Licensee. As per the *Forest and Range Practices Act* (FRPA), an FSP must specify results or strategies that describe how the Licensee will ensure that their operations on the ground are consistent with government set objectives for soil, timber, wildlife, water, fish, biodiversity, visual quality, cultural heritage, recreation, invasive plants and natural range barriers. An FSP also describes how a Licensee will re-establish a healthy productive forest stand after harvest.

This FSP builds upon the ideas and concepts behind the Burns Lake Community Forest Management Plan (2019) and the requirements of the Lakes LRMP, which was developed with public input, and two (2) Sustainable Resource Management Plans (SRMPs) which demonstrates how specific sets of goals are met using indicators, by setting measurable or verifiable targets, and discussing how those targets will be met. Specifically, this FSP outlines how the Licensee will be accountable for all the management strategies and actions to which they have committed as either a result or a strategy (see definitions below). By ensuring that every action is measurable or verifiable, the Licensee can show on an ongoing basis sustainable forest management and continual review and improvement of their practices.

The structure of this document is non-traditional. The information which would have typically been found in the FSP supporting material documents is combined into this FSP for clarity and ease of reading by the public. Not all statements in this plan are intended to create legally binding obligations. Plain language summaries are provided under the heading 'Context'; this includes the information which would have previously been found in the supporting information package. Each section then includes the legal reference and the legally enforceable results or strategies, as well as how the results or strategies can be verified or measured. Legally binding results and strategies have been labelled and outline in a **red box** and all other statements are considered non-legally binding contextual information.

## 2.0 Applications

This FSP applies to the Burns Lake Community Forest Agreement (CFA) K1A. The agreement is held by Burns Lake Community Forest Ltd., which is owned by Comfor Management Services – a subsidiary of the Village of Burns Lake.

A community forest is an area-based forest license operating on Crown land that is managed by a local government, community group, First Nation, or a combination there of.

### **DEFINITIONS**

**Result** – A description of measurable or verifiable outcomes for a particular established objective, and the situations or circumstances that determine where in a forest development unit these outcomes will be applied.

**Strategy** – A description of measurable or verifiable steps or practices that will be carried out for a particular established objective, and the situations or circumstances that determine where in a forest development unit the steps or practices will be applied.

*Forest Planning and Practices Regulation, Section 1 (2)*

Licenses are long-term, 25 years, and provide exclusive rights to harvest timber and often management of botanical forest products within the CFA area.

The FSP in effect at the time of harvest applies and will continue to apply to those cutblocks until such time they are removed from the Licensee's responsibility (typically once declared free to grow).

## 2.1 Changes to Legislation

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.

## 2.2 Objectives Cancelled

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

# 3.0 Definitions

For purposes of this plan, "Licensee" refers to Burns Lake Community Forest Ltd. (BLCF) and Comfort Management Services, and "the plan" means this Forest Stewardship Plan.

*"Substantiated forest health concern"* means forest health concerns that are substantiated through field verification methods such as cruise data collection, high resolution drone photography, beetle probing or other accepted methods for data collection in each cutblock. The accepted data collection methods may vary depending on the forest health factor being considered.

*"Qualified"* means maintaining sufficient knowledge, skill and ability to be competent in identified practice area(s) and having previously completed professional work which demonstrates competence and qualification.

*"Qualified registered professional"* means

- (a) a professional engineer or professional geoscientist, or
- (b) in relation to a forestry operation, a person referred to in paragraph (a) or a Registered Professional Forester, Registered Forest Technologist, or a holder of a Special Permit under the *Foresters Act*; or
- (c) other professions governed by professional associations that have ethics and educational requirements for scope of practices including but not limited to Registered Professional Biologists and Registered Professional Agrologists.

Unless otherwise expressly indicated, or indicated by context, terms used in this FSP have the definition given to them in the *Professional Governance Act*, *Forest and Range Practices Act* (FRPA), and regulations under them, such as the Forest Planning and Practices Regulation (FPPR), as amended from time to time.

# 4.0 Submission Approval and Term

The Licensee has an extensive management plan for the BLCF that is based off inventory and analysis work completed since 2017, was approved in September 2020 and has a term of 10 years. This FSP is an integral

part of the BLCF Management Plan #4 and both plans create the foundation for forest and resource management in the BLCF.

The term of this FSP will be five (5) years, effective from the date of approval.

## 5.0 Forest Development Units

There are four (4) Forest Development Units (FDUs) which comprise the entire area under the Community Forest Agreement as shown in Figure 1 and identified on the FSP Overview Map (Appendix 1) and content maps (Appendix 2). This FSP proposes to add FDU 3 and FDU 4 that include where the BC Wildfire Service (BCWS) established Wildland Urban Interface (WUI) associated with the community of Burns Lake and surrounding residences overlap with the BLCF as well as the hazard areas of note described in the 2019 BLCF Landscape Wildfire Management Plan (LFMP). The general intent of FDUs 3 and 4 is to implement forest management practices that address public safety concerns associated with wildfire risk in areas of the community forest that will have the greatest impact in wildfire mitigation. However, although the entirety of the hazard areas of note within the LFMP have been included in FDUs 3 and 4, the intent is not to apply fuel management and wildfire mitigation practices on the entirety of FDUs 3 and 4, but rather within strategic locations on the landscape that will provide the most benefit in wildfire hazard mitigation. These areas primarily include the WUI around the community of Burns Lake and are spatially defined on the Key Wildfire Mitigation Zone Map (Map #1, Appendix 2). Since these sites have not all been ground-truthed at the time of writing this FSP, spatially defined boundaries for these areas may shift with improved information over time regarding field conditions such as timber type, topography, riparian features, etc. The Key Wildfire Mitigation Zone Map will be updated as required to reflect this. Results and strategies associated with FDUs 3 and 4 and the areas shown on the Key Wildfire Mitigation Zone Map are further detailed in the sections below.

FDU 1 falls within the Lakes District North SRMP area and FDU 2 falls within the Lakes District South SRMP area. FDUs 3 and 4 fall within the area of the community forest that contains WUI associated with surrounding communities and residences and identified wildfire hazard areas of note from the BLCF LFMP, with FDU 3 overlapping with the Lakes District North SRMP area, and FDU 4 overlapping with the Lakes District South SRMP. This FSP incorporates the objectives established under FRPA and associated results and strategies from both SRMPs. The results and strategies within this FSP apply to the entirety of all FDUs and to the term of the FSP unless otherwise stated.

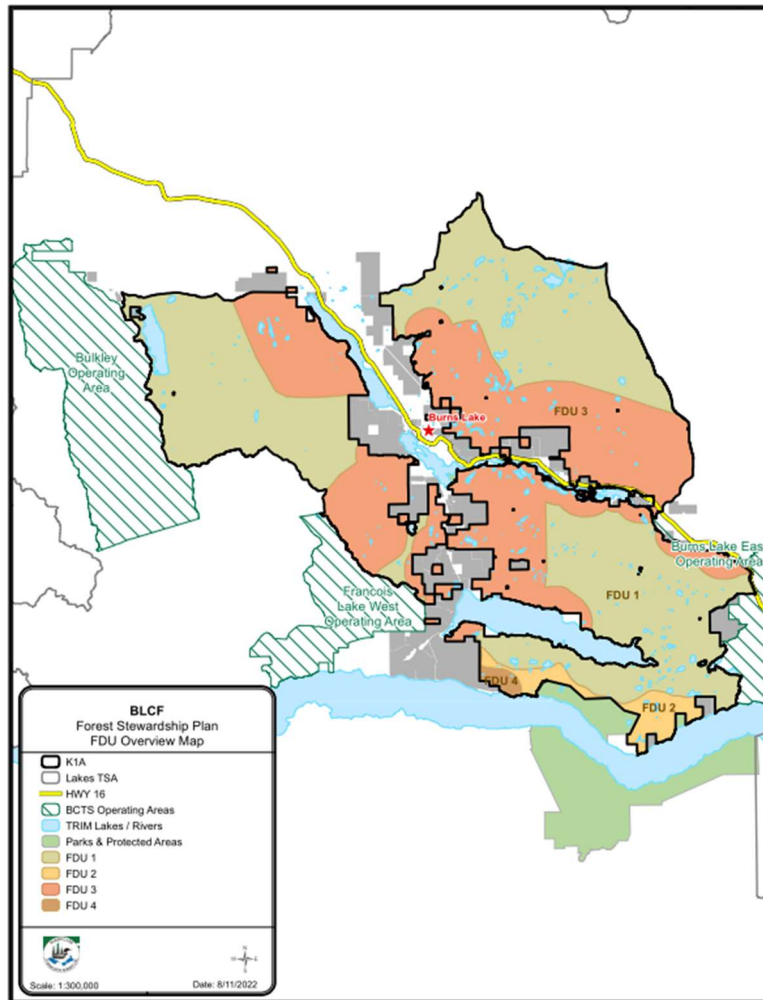


Figure 1: Overview of the Burns Lake Community Forest Forest Development Units.

## 6.0 Results or Strategies

The following essential elements are applicable to each result or strategy unless otherwise stated in the result or strategy:

- Who: the Licensee
- What: primary forest activities
- Where: the FDU
- When: for the term of this FSP or until such time cutblocks harvested under this FSP are removed from the Licensee's responsibility (typically once declared free to grow).

The sub-sections below have been organized with **legally binding results and strategies** (outlined in a red box) as well as non-legally binding context (background and references) and description of how the result or strategy will be measured and/or verified. This modified FSP format has been developed in response to recommendations provided in the "Forest Stewardship Plans: Are They Meeting Expectations?" special investigation completed by the Forest Practices board in 2015.

## 6.1 Landscape Biodiversity Objective – Established under the *Land Act*

### Context

Maintenance of biological diversity of forests and a viable forest industry is dependent upon sustainable use of forests and forest resources. CFA agreements were developed to give local communities the opportunity to manage local forests for the benefit of those communities in a manner consistent with locally defined objectives and values. Community forestry involves three (3) pillars of sustainable forest management – social, ecological, and economic sustainability.

Current harvesting practices attempt to replicate the size, timing and frequency of disturbances that would otherwise occur on the landscape, such as wildfires and insect or pathogen outbreaks. The intention is that by mimicking natural disturbances and keeping them within the natural range of variability that occurs in these events, that forest harvesting will be sustainable.

The first efforts made to provide guidance based on natural disturbances was the Biodiversity Guidebook.<sup>1</sup> The guidebook's recommendations were based on the concept of "natural range of variability" but represented a compromise between biodiversity and timber management objectives.

Since then, natural disturbance types (NDTs) have been used to guide management regimes and were widely adopted into a number of Land and Resource Management Plans (LRMPs) including the Lakes District LRMP.<sup>2,3,4</sup> More recently, Natural Disturbance Units (NDUs) have been proposed as even more comprehensive guidance based on an increased knowledge of disturbance processes, subsequent stand development, and temporal and spatial landscape patterns.<sup>5</sup>

Additionally, the Lakes North and South SRMPs establish objectives for seral stage distribution and landscape connectivity for the Lakes Timber Supply Area (TSA). The goal of seral stage distribution objectives is to maintain the range of forest stand ages that were historically found within the various biogeoclimatic (BEC) zones, whereas the objectives for establishing landscape connectivity corridors is to provide opportunities for the distribution of species, populations, and genetic material as ordered in the Lakes North and South SRMPs.

The BLCF landbase has been significantly impacted by MPB epidemic and salvage program. Analysis undertaken during the development of the current BLCF MP was provided to the Ministry in a Decision Request which indicated that some of the guidelines in the LRMP and SRMPs were unduly impacting timber supply and forcing bimodal timber supply distribution and age class of old seral stage targets have not been found in the NDT.

<sup>1</sup> Forest Practices Code of British Columbia Biodiversity Guidebook (1995))

<sup>2</sup> DeLong, C. 2002. Natural Disturbance Units of the Prince George Forest Region: Guidance for Sustainable Forest Management.

<sup>3</sup> DeLong, S.C. and Tanner, D. 1996. Managing the pattern of forest harvest: lessons from wildfire. Biodiversity and Conservation 5, 119-1205.

<sup>4</sup> Lakes District Land and Resource Management Plan (January 2000).

<sup>5</sup> DeLong, S.C. 2011. Land units and benchmarks for developing natural disturbance-based forest management guidance for northeastern British Columbia. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Tech. Rep. 059.

Landscape units (LUs) are established across the province to provide boundaries within which all landscape level land resource use direction is applied to operational planning.<sup>6</sup> There are six (6) LUs within the FDUs: Burns Lake West, Burns Lake East, Francois East, Taltapin, Bulkley, and Francois West. The LUs that are applicable to this FSP were established through *The Order to Establish the Lakes South Landscape Units and Objectives* (effective September 1, 2003) and *The Ministerial Order to Establish the Lakes North SRMP* (effective January 26, 2009).

Additionally, the Licensee has completed a number of analysis and inventory projects within the BLCF that aid in the effective management and retention of biodiversity in the BLCF. This work includes the Mountain Pine Beetle Mitigation Plan, Range of Natural Variability Analysis, High Conservation Value Forest Assessment, and Environmental Value Assessment. The Licensee is also certified through the Forest Stewardship Council (FSC) which requires adherence to a code of ethics and a set of ten (10) principles and 70 criteria in forest management practices. Included in this, is a set of objectives for landscape biodiversity that generally exceed the standard legislated requirements in British Columbia. As part of BLCF First Nation Stewardship Commitments, standard operating procedures and best management guiding principles have been established and they will dictate the attributes by which the BLCF will manage blue and red listed species that are not covered by GAR orders.

To manage for landscape level objectives, the Licensee will meet the legal requirements in the Lakes South and North SRMPs. Further to this, the Licensee will adhere to certification requirements and implement results-based management practices from the various analysis projects mentioned above. Should the opportunity arise for a more comprehensive examination of landscape level management and tracking of disturbances using an NDU approach or other analysis, the Licensee would participate in that process.

### 6.1.1 Objectives Set by Government for Wildlife and Biodiversity – Landscape Level

#### **Definitions:**

“*Design*” refers to the establishment of harvest or treatment boundaries that are determined by a Qualified Registered Professional along with a set of objectives – such as to mimic natural disturbance or meet visual quality objectives.

“*Temporal*” refers to an activity’s occurrence in time. A temporal distribution means distribution over time, or not occurring all at once.

“*Clustered harvest pattern*” refers to a pattern of harvesting where multiple cutblocks of varying size and silviculture regime are harvested in close proximity to each other.

<sup>6</sup> Landscape Units of British Columbia - Current - Datasets – British Columbia government Data Catalogue

Biodiversity Objectives: Natural Disturbance Type Patch Distribution	
Legal Reference	Result
<ul style="list-style-type: none"> <li>➤ <i>FPPR</i> Sections 9, 64, and 65</li> <li>➤ Lakes South SRMP (May 2007) - Objective 5</li> </ul>	<p><b>In FDU 1 and 3</b>, the Licensee will undertake to comply with the practice requirements of <i>FPPR</i> Sections 9, 64, and 65 (Landscape Level Wildlife and Biodiversity).</p> <p><b>In FDU 2 and 4</b>, the Licensee will ensure compliance with the Lakes South SRMP.</p> <p>For all FDUs these results will be achieved through the following:</p> <ol style="list-style-type: none"> <li>1. Designing areas that mimic, both spatially and temporally, the patterns of natural disturbance that occur within the landscape;</li> <li>2. Achieve the NDT patch size distribution targets for each landscape unit, as outlined in Table 1 for FDUs 1 and 3, and as outlined in Table 2 for FDUs 2 and 4.</li> </ol>
<b>Scale of Measurement:</b>	Landscape Unit
<b>Map Reference:</b>	Appendix 1: Overview Map of the Forest Development Unit

Monitoring (Measures and Verification):
<p>The Licensee is limited in their ability to manage for landscape level objectives in the BLCF since all of the landscape units overlap the BLCF and are not wholly contained within the community forest tenure. As a result, the Licensee can only manage to these objectives to the best of their knowledge and ability to address landscape level objectives on the portion of the landscape unit that falls within the BLCF. Where information is available, the Licensee will consult with the Nadina Natural Resource District to gather landscape level information for areas outside the BLCF on an annual basis.</p> <p>The Licensee is engaged in regular planning processes that track primary forest activities and monitor patch size and tree retention targets within the FDUs. In 2018, the BLCF completed a five-year plan and landscape level analysis with the objective of monitoring patch size distribution. Progress on this plan is reviewed annually.</p> <p>As circumstances regarding patch size change and the need arises to establish other designated areas, the Licensee will amend this FSP accordingly.</p>

**Table 1.** FDU 1 and 3 patch size distribution targets

Patch Size Distribution by Landscape Unit						
	Patch Size		<40 ha	40-80 ha	80-250 ha	>250ha
FDU 1	NDT 2	ESSF	30-40%	30-40%	20-40%	N/A
	NDT 3	SBS	20-30%	25-40%	30-50%	40-80%
FDU 3	NDT 2 & 3	ESSF & SBS	10-30%	10-30%	40-80%	NDT 2 – N/A NDT 3 - 40-80%

Patch size distribution targets in Table 1 were established through the recommendations of the BLCF Range of Natural Variability Assessment<sup>7</sup> in combination with the Lakes North SRMP natural disturbance type distribution guidance (non-legal).

**Table 2.** FDU 2 and 4 patch size distribution targets

Patch Size Distribution by Landscape Unit				
NDT	BEC	Patch Size		
2	ESSF	<40 ha	40-80 ha	80+ ha
		30-40%	30-40%	20-40%
3	SBS	<40 ha	40-250 ha	250+ ha
		10-30%	10-30%	40-80%

Patch size distribution targets in Table 2 are based on the Percent of forested area by NDT as per the Lakes South SRMP guidance.

**Other References:**

1. Lakes North SRMP (2009).
2. Lakes South SRMP (2007).
3. Burns Lake Community Forest Management Plan (2020)
4. Nadina District Forest Health Strategy 2016-2017
5. Implementing the Range of Natural Variability Approach for BLCF (Craig DeLong, 2018)

### 6.1.2 Objectives for Seral Stage Distribution

**Definitions:**

*“Early Seral Forest”* refers to forest that is <40 years old in either the SBS or ESSF BEC classification.

*“Mature Seral Forest”* refers to forest that is >100 years old for the SBS BEC classification and >120 years for the ESSF BEC classification.

*“Old Seral Forest”* refers to forest that is >140 years old for the SBS BEC classification and >250 years for the ESSF BEC classification.

<sup>7</sup> Range of Natural Variability Assessment, 2017. Completed by Homewood Silviculture and Keystone Wildlife Research.

## Context

The current condition of Mature + Old and Old seral forests within the Lakes TSA is not fully understood. All manner of land uses have an impact on forest seral stages at the landscape level and while work is being completed by government to understand the full extent of the cumulative effects on biodiversity and old growth within the TSA, this information is not available to inform this FSP. The RNVA completed within the BLCF indicates that current conditions within community forest boundaries are such that targets for Old Seral forests within the SBS BEC zone are not being met. For this reason, the Licensee has proposed additional strategies to be implemented in an effort to increase the presence of Old and Mature + Old seral forests within the BLCF over time.

**Table 3. Seral Stage Targets by BEC and Biodiversity Emphasis Option**

<b>BEC</b>	<b>Seral Stage</b>	<b>Old</b>		<b>Mature + Old</b>		<b>Early</b>	
	<i>Biodiversity Emphasis (BEO)</i>	<i>Low BEO</i>	<i>Intermediate BEO</i>	<i>Low BEO</i>	<i>Intermediate BEO</i>	<i>Low BEO</i>	<i>Intermediate BEO</i>
<b>ESSF</b>	Target Objectives	>9%	>9%	>14%	>28%	N/A	<36%
	<b>Seral Stage</b>	<b>Old</b>		<b>Mature + Old</b>		<b>Early</b>	
	<i>Biodiversity Emphasis (BEO)</i>	<i>Low BEO</i>	<i>Intermediate BEO</i>	<i>Low BEO</i>	<i>Intermediate BEO</i>	<i>Low BEO</i>	<i>Intermediate BEO</i>
<b>SBS</b>	Target Objectives	>11%	>11%	>11%	>23%	N/A	<54%

By focusing on the retention of multiple age classes, stand structure, and species diversity within cutblocks on the BLCF not only increases the retention of Mature + Old and Old seral forests as this retention matures over time, but increased retention also ensures that maximum targets for early seral forests are not exceeded as a result of primary forest activities. Employing alternative silviculture systems such as partial cutting improves overall retention in cutblocks as well as maintains age classes and varied stand structure on the site. Partial cutting is particularly helpful in BEC zones where tree growth can be slower as result of site conditions, such as in the ESSF. If all trees are removed from these sites, the vegetative recovery of the site can be slow and therefore take a long time to regain varied ages classes and structure that is consistent with Old and Mature forests in that BEC zone. If some trees are retained through partial cutting, Old and Mature forest characteristics return to the site more quickly.

Additionally, timely management of substantiated forest health concerns plays an important role in the seral stage distribution management on the landscape – particularly in those areas where forest pathogens can reach levels of severe impact, like the mountain pine beetle did in the SBS BEC zone. In the BLCF (and the Region in general) mountain pine beetle is responsible for killing many thousands of hectares of forests that exist in various states of reforestation (or not) in the SBS. As a result, significant components of Mature + Old and Old seral forests in the SBS BEC zone of the BLCF have been killed with (in some portions of the BLCF) limited reforestation beyond natural regeneration. While all efforts are being made by the Licensee to address the large impacts of mountain pine beetle in the BLCF, timely management of any new forest health concerns will be important in the effort to minimize further impacts to mature and old forests.

<b>Biodiversity Objectives: Maintain a range of seral stages by landscape units and biogeoclimatic zone.</b>	
<b>Legal Reference</b>	<b>Result</b>
<ul style="list-style-type: none"> <li>➤ Lakes North SRMP (January 2009) – Objective 1</li> <li>➤ Lakes South SRMP (May 2007 – Objective 1</li> </ul>	<p>In addition to adopting the seral stage targets established within the Lakes North and South SRMPs, the Licensee through the following strategies will improve current seral stage condition over time in all FDUs:</p> <ol style="list-style-type: none"> <li>1. Maintaining a range of silviculture systems in the ESSF that promote variable stand structure, such as partial cutting, as defined within site plans for each cutblock; and</li> <li>2. Timely management of substantiated forest health factors in the SBS.</li> </ol> <p>Through the employment of these strategies over time, it is predicted that seral stage distributions will increase to levels that exceed current minimum targets for Mature + Old and Old Seral forests in the BLCF.</p>
<b>Scale of Measurement:</b>	Landscape Unit and BEC combination
<b>Map Reference:</b>	Appendix 1: Overview Map of the Forest Development Unit

<b>Monitoring (Measures and Verification):</b>
<p>The Licensee is limited in their ability to manage for landscape level objectives in the BLCF since all of the landscape units overlap the BLCF and are not wholly contained within the community forest tenure. As a result, the Licensee can only manage to these objectives to the best of their knowledge and ability to address landscape level objectives on the portion of the landscape unit that falls within the BLCF. Where information is available, the Licensee will consult with the Nadina Natural Resource District to gather landscape level information for areas outside the BLCF on an annual basis.</p> <p>The Licensee is engaged in regular planning processes that track primary forest activities and monitor patch size and tree retention targets within the FDUs. In 2018, the BLCF completed a five-year plan and landscape level analysis with the objective of monitoring landscape level seral stage retention. Progress on this plan is reviewed annually.</p> <p>As circumstances regarding seral stage distribution change and the need arises to establish other designated areas, the Licensee will amend this FSP accordingly.</p>

### 6.1.3 Objectives for Old Growth Management Areas

<p><b>Context</b></p> <p>Old Growth Management Areas (OGMAs) are areas means an area that is subject to old growth management objectives established under section 3 (resource management zones and objectives) or 4 (landscape units and objectives) of the Forest Practices Code of British Columbia Act. Many of the legally</p>
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established OGMA within the BLCF contain significant components of dead and downed lodgepole pine as a result of the mountain pine beetle epidemic. These areas of dead timber often have higher risks for wildfire as a result increased surface fuel loading and ladder fuels within the forested stands. With the objective of reducing wildfire hazards to the adjacent community of Burns Lake, the BCLF may seek exemptions to OGMA retention requirements to address substantiated forest health concerns within these areas. The potential exemptions in this case could include designation of alternative OGMA where mature timber is still alive or limited incursions to existing OGMA. Each exemption would be pursued on a case-by-case basis that provides for site specific recommendations from a Qualified Registered Professional that will ensure adequate replacement or management of important habitat as well as old and mature forest characteristics.

Biodiversity Objectives: Preserve Old Growth Management Areas	
Legal Reference	Result
<ul style="list-style-type: none"> <li>➤ Lakes North SRMP (January 2009) – Objective 2</li> <li>➤ Lakes South SRMP (May 2007)</li> <li>➤ <i>Order to Amend Objectives 2 and 3 (Old Growth Forest Retention Objectives) Lakes South SRMP 2003</i> (March 2007)</li> </ul>	<p>The Licensee commits to comply with the requirements established by the <i>Order to Amend Objectives 2 and 3 (Old Growth Forest Retention Objectives) Lakes South SRMP 2003</i> (March 2007) in all FDUs through the following:</p> <ul style="list-style-type: none"> <li>➤ Not conducting primary forest activities (including road construction) within boundaries of established OGMA.</li> </ul> <p>Primary forest operations in FDU 3 and FDU 4 may require amendments to OGMA as a means to address substantiated forest health concerns contributing to severe wildfire hazards and public safety concerns in and around the BLCF.</p> <p>Where this occurs, the Licensee commits to:</p> <p>Implementing strategies outlined in the BLCF Management Plan;</p> <ol style="list-style-type: none"> <li>1. Utilizing new silvicultural and harvesting technology including partial cutting to ensure due concern for all OGMA characteristics, as verified by site plans for each cutblock; and</li> <li>2. Notify the District Manager where amendments to OGMA are required and follow the GAR process for exemptions.</li> </ol>
<b>Scale of Measurement:</b>	Old Growth Management Areas
<b>Map Reference:</b>	Appendix 1: Overview Map of the Forest Development Unit

**Monitoring (Measures and Verification):**

As circumstances regarding OGMA's change and the need arises to establish other designated areas, the Licensee will amend this FSP accordingly.

**Other References:**

1. Lakes North SRMP (2009).
2. Lakes South SRMP (2007).
3. Burns Lake Community Forest Management Plan (2020)
4. Lakes District Land and Resource Management Plan (January 2000).

**6.1.4 Objectives for Landscape Connectivity**
**Biodiversity Objectives: Maintain habitat connectivity through the retention of the structure and function of old forests across the landscape.**

Legal Reference	Results and Strategies
<ul style="list-style-type: none"> <li>➤ Lakes North SRMP (January 2009) – Objective 4</li> <li>➤ <i>Ministerial Order to Amend Objective 4; Lakes North SRMP Order 2009</i> (March 2017)</li> <li>➤ Lakes South SRMP (May 2007) – Objective 4</li> </ul>	<p>The Licensee will meet the requirements for habitat connectivity within the Landscape Connectivity Matrix (LCM) section of the <i>Ministerial Order to Amend Objective 4; Lakes North SRMP Order 2009</i> (March 2017) for FDUs 1 and 3 through the results and strategies listed below.</p> <ol style="list-style-type: none"> <li>1. Maintain habitat connectivity within the LCM shown on Map #3 (Appendix 2) and in <i>Ministerial Order to Amend Objective 4; Lakes North SRMP Order 2009</i> by:             <ol style="list-style-type: none"> <li>a) Ensuring that harvesting and road construction will maintain at least 70% of the forested area greater than 100 years old in established LCMs within the SBS or 120 years old in the ESSF ;</li> <li>i. Ensuring that at least 70% of the net area to be reforested on an existing cutblock has developed attributes that are consistent with a mature seral condition before harvesting an area adjacent to the cutblock within a LCM;</li> <li>ii. Ensuring that no harvesting occurs within a LCM that would result in more than 30% of the width of the LCM being younger than 100 years old;</li> <li>b) Retaining 100% of the forested area within the red and blue-listed ecological communities identified in Table 4;</li> <li>c) Retaining 100% of the hydro-riparian ecosystems identified in Table 5.</li> </ol> </li> <li>2. Despite subsection 1(a) above:             <ol style="list-style-type: none"> <li>a) A road permit may be submitted if no practicable access alternatives exist, and the road will be</li> </ol> </li> </ol>

	<p>deactivated within one year of completion of primary forest activities; and</p> <ul style="list-style-type: none"> <li>b) Live stems and non-merchantable understory in a stand will be retained where the salvage of dead trees within an LCM occurs. Salvage will only occur where 50% or more of the total mature and old trees are dead, and only where harvesting of these dead trees maintains connectivity.</li> <li>c) If the LCM contains a composition of dead trees between 30-50%, then a partial harvest treatment will be implemented to maintain habitat connectivity and address substantiated forest health and public safety concerns as they pertain to wildfire hazards and risk reduction.<sup>8</sup></li> </ul> <p>The Licensee will meet the requirements for habitat connectivity within the LCM section of the Lakes South SRMP for FDUs 2 and 4 through the results and strategies listed below.</p> <ol style="list-style-type: none"> <li>1. Maintain at least 70% of the Crown forest land within a landscape corridor segment consistent with any of the attributes contained in Table 6.</li> <li>2. Maintain connectivity of cover within a landscape corridor by restricting the size of the harvest units to an average of 2.0 hectares with a maximum opening size not exceeding 3.0 hectares. <ul style="list-style-type: none"> <li>➤ A 4.0 hectare average and maximum opening size will apply when a corridor contains substantiated forest health factors and beetle control or salvage are the primary management objectives.</li> </ul> </li> <li>3. Despite subsections 1 and 2 above: <ul style="list-style-type: none"> <li>a) Live stems and non-merchantable understory in a stand will be retained where the salvage of dead trees within an LCM occurs. Salvage will only occur where 50% or more of the total mature and old trees are dead, and only where harvesting of these dead trees maintains connectivity.</li> <li>b) If the LCM contains dead trees between 30-50%, then a partial harvest treatment will be implemented to maintain habitat connectivity and address substantiated forest health and public safety concerns as they pertain to wildfire hazards and risk reduction.</li> </ul> </li> </ol>
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<sup>8</sup>File #:19460-25/K1A; Response letter from Eamon O'Donoghue, Regional Executive Director, indicates that the District is willing to review alternative proposals for forest management in LCMs that fall within the BLCF.

	<p>4. Where beetle control activities require harvest strategies that exceed those included in Lakes South SRMP in the short term, mitigation strategies include:</p> <ul style="list-style-type: none"> <li>a) Maximizing retention of non-infected mature and old trees (non-target species) and advanced regeneration; and</li> <li>b) Rehabilitation of new access structures created for beetle control activities within one year of completed treatments. <ul style="list-style-type: none"> <li>➤ In this case, rehabilitation includes deactivation activities – removal of riparian crossing structures and culverts – and may include planting of coniferous and/or deciduous species or grass seeding.</li> </ul> </li> </ul>
<b>Scale of Measurement:</b>	Landscape Connectivity Matrix and Landscape Corridors
<b>Map Reference:</b>	Appendix 1: Overview Map of the Forest Development Unit

#### Monitoring (Measures and Verification):

The Licensee is limited in their ability to manage for landscape level objectives in the BLCF since all of the landscape units overlap the BLCF and are not wholly contained within the community forest tenure. As a result, the Licensee can only manage to these objectives to the best of their knowledge and ability to address landscape level objectives on the portion of the landscape unit that falls within the BLCF. Where information is available, the Licensee will consult with the Nadina Natural Resource District to gather landscape level information for areas outside the BLCF on an annual basis.

The Licensee is engaged in regular planning processes that track primary forest activities and monitor landscape connectivity within the FDUs. In 2018, the BLCF completed a five-year plan and landscape level analysis with the objective of monitoring of LCMs. Progress on this plan is reviewed annually.

As circumstances regarding LCMs change and the need arises to establish other designated areas, the Licensee will amend this FSP accordingly.

#### Other References:

1. Burns Lake Community Forest Management Plan (2020)
2. Nadine District Forest Health Strategy 2016-2017
3. Burns Lake Community Forest Mountain Pine Beetle Mitigation Program
4. Burns Lake Community Forest Wildfire Management Plan

**Table 4.** Red and Blue Listed Ecological Communities by BEC zone – Applicable to FDU 1 and FDU 3.

Red and Blue Listed Ecological Communities					
BEC Zone	Site Series				
SBSdk	02	04	08	81	82
SBSmc2	81	82			

\* BC Species and Ecosystems Explorer

**Table 5.** Hydro-Riparian Ecosystems Criteria as outlined in the Lakes North SRMP– Applicable to FDU 1 and FDU 3.

Hydro-Riparian Ecosystems Criteria				
BEC Zone	Site Series			
SBSdk	07	08	09	10
SBSmc2	07	09*	10	12
ESSF mc	07	08	09	10*
ESSF mv1	04	05		
ESSF mv3	07			

\* These site series were not mapped but may be found in the field.

**Table 6.** Minimum criteria for forests providing connectivity in landscape corridors as outlined in the Lakes South SRMP– Applicable to FDU 2 and FDU 4.

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

## 6.2 Stand Level Biodiversity Conservation Objectives – Wildlife Tree Retention

### Context

The intent of stand-level retention is to provide for ecological characteristics, including structure, tree species, nesting cavities, and food sources, that are important for wildlife habitat at a smaller scale. Natural disturbances such as fire or insects create a mosaic of intact older forest and younger seral forests; this variability on the landscape provides key habitat and habitat connectivity for many species of wildlife.

The legal requirements for stand level wildlife tree retention have been established through *FPPR* Sections 66 and 67 as well as the Lakes North and South SRMPs. Wildlife tree retention is referred to as Wildlife Tree Retention Areas (WTRAs) in the Lakes North SRMP, while these areas are referred to as Wildlife Tree Patches (WTPs) in the Lakes South SRMP.

**Biodiversity Objectives: Maintaining the integrity of structural diversity in managed stands through single tree and tree patch retention**

Legal Reference	Results and Strategies
<ul style="list-style-type: none"> <li>➤ Lakes North SRMP (January 2009) – Objective 3</li> <li>➤ Lakes South SRMP (May 2007) – Objectives 6-8</li> <li>➤ 17730-02/LAKS – Letter of notification by Regional Executive Directors- end of accelerated cut for AAC.</li> </ul>	<p>The Licensee will meet the wildlife tree retention requirements as described in Objective 3 of the Lakes North SRMP (in FDU 1 and 3) and Objectives 6-8 of the Lakes South SRMP (FDUs 2 and 4) through the results and strategies outlined below.</p> <p><u>In FDU 1 and 3, the Licensee commits to:</u></p> <ol style="list-style-type: none"> <li>1. Maintain stand level structural diversity by retaining WTRAs, and:               <ol style="list-style-type: none"> <li>a) Where harvesting is completed in one or more cutblocks during any 12 month period beginning 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;</li> <li>b) Where timber is harvested in a cutblock, 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;</li> <li>c) The Licensee will ensure that high wildlife value trees/areas (as described in Table 7) are retained after harvest. Where there are few trees with high value wildlife attributes available, the Licensee will locate retention on a priority basis as follows:                   <ul style="list-style-type: none"> <li>➤ in micro-riparian areas to reduce visibility of wetlands for moose cover,</li> <li>➤ in areas most suitable for long-term wildlife tree recruitment, and</li> <li>➤ in areas that are representative of the pre-harvest stand as verified with accepted data collection such as cruise compilation data (see Table 7).</li> </ul> </li> </ol> </li> <li>2. Not conducting primary forest activities within wildlife tree retention areas unless the trees on the net area to be reforested of the cutblock to which the wildlife tree</li> </ol>

	<p>retention area relates have developed attributes that are consistent with a mature seral condition.</p> <p><u>In FDUs 2 and 4, the Licensee commits to:</u></p> <ol style="list-style-type: none"> <li>1. Maintain structural diversity in managed stands by retaining WTPs in each cutblock to the characteristics in Table 7. <ul style="list-style-type: none"> <li>➤ Shifting or varying targets among cutblocks within a harvest unit may be considered when risks to biodiversity are low or when based on a sound biological rationale substantiated by field verification and data collection.</li> <li>➤ Cutblocks that are smaller than 2.0 hectares, or harvest units where there are no cutblocks greater than 2.0 hectares, are exempted from this objective.</li> </ul> </li> <li>2. Ensure representation of pre-harvest stand wildlife tree values (as verified by field data collection for each cutblock and described in site plans) by: <ol style="list-style-type: none"> <li>a) establishing WTPs that contain a representative species composition with an average age that is generally consistent with the age of the stand harvested; and</li> <li>b) establishing WTPs with a forested crown closure of at least 25%. <ul style="list-style-type: none"> <li>➤ Harvested areas containing WTP with less than 25% crown closure or scattered wildlife trees will contribute to WTP requirements equivalent to the basal area left behind</li> <li>➤ WTP equivalent area will be calculated using the average basal area of the block harvested</li> </ul> </li> </ol> </li> <li>3. Not conducting primary forest activities within wildlife tree retention areas unless 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.</li> <li>4. Maintain old growth and wildlife tree values within WTPs by allowing natural processes to occur within WTPs unless substantiated forest health concerns in the WTP threatens to spread to the adjacent forested areas – as determined by a Qualified Registered Professional.</li> </ol>
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	<p>➤ Where intervention is required, treatment will retain a diversity of structural attributes consistent with section 6.1.2 and those strategies described above (1-4), or a suitable replacement WTP will be located.</p> <p>Subject to subsection 2, primary forest operations in FDUs 3 and 4 may require amendments to wildlife tree retention within the BLCF boundaries as a means to address substantiated forest health concerns contributing to severe wildfire hazards and significant public safety concerns in and around the BLCF. Where this occurs, the Licensee will notify the District Manager.</p> <p>➤ Increased riparian retention through the special management zones outlined in Table 9 will augment areas where wildlife tree patches are reduced for the purposes of wildfire mitigation activities in FDUs 3 and 4.</p>
<b>Scale of Measurement:</b>	Site plans and associated WTRA as reported annually into RESULTS.
<b>Map Reference:</b>	N/A

**Monitoring (Measures and Verification):**

Retention commitments are measurable and verifiable with the content of a site plan and with standard field verification methods. In addition, the Licensee maintains a spatial database of wildlife tree retention for blocks harvested under their Licence.

**Other References:**

1. Burns Lake Community Forest Management Plan (2020)
2. Burns Lake Community Forest Mountain Pine Beetle Mitigation Program
3. Burns Lake Community Forest Landscape Wildfire Management Plan

**Table 7.** Wildlife Tree Characteristics as described in Lakes South SRMP – Applicable to all FDUs.

<b>Wildlife Tree Characteristics</b>	
<i>Wildlife Tree Value</i>	<i>Characteristics</i>
HIGH *	<ul style="list-style-type: none"> <li>➤ Internal decay <ul style="list-style-type: none"> <li>• heart rot or natural/excavated cavities present</li> </ul> </li> <li>➤ Crevices present <ul style="list-style-type: none"> <li>• loose bark or cracks suitable for bats</li> </ul> </li> <li>➤ Large brooms present</li> <li>➤ Active or recent wildlife use</li> <li>➤ Current insect infestation</li> <li>➤ Tree structure suitable for wildlife use <ul style="list-style-type: none"> <li>• large nest, hunting perch, bear den, etc.</li> </ul> </li> <li>➤ Large, old trees <ul style="list-style-type: none"> <li>• including trees within the upper 10% of the diameter class</li> </ul> </li> <li>➤ Locally important wildlife tree species</li> </ul>
MEDIUM	Large, stable trees that will likely develop two or more of the above attributes for High
LOW	Trees not covered by High or Medium categories

\* A high-value wildlife tree has at least two of the characteristics listed in the adjacent column (some of these characteristics may need to be balanced with forest health priorities)

Other References:

1. Table 3: Attributes of high-Value Wildlife Tree Retention Strategies – Page 11 of Lakes North SRMP (2009).

## 6.3 Objectives Set by Government – Section 149 of the Forest and Range Practices Act

### Context

Objectives set by Government are defined in Section 149 of the *Forest and Range Practices Act* for the purpose of managing and protecting forest and range values. These are broad objectives for soil, timber, wildlife, water, fish, biodiversity, visual quality, cultural heritage, and recreation. Measures for invasive plants and natural range barriers are also established under FRPA sections 47 and 48. In addition to legislated requirements, the Licensee has established results and strategies pertaining to wildfire and human life and safety.

### 6.3.1 Objectives Set by Government for Soils

#### Context

Healthy and productive soils are integral to growing future forests and thus integral to all forestry practices. Road building must be carried out in a manner which limits soil disturbances and soil degradation as well as erosion, landslides, and sediment delivery to water systems. In order to minimize disturbances from primary forest activities, soil disturbance and permanent access structures (roads on the block, landings, gravel pits, etc.) are regulated.

The *Forest Planning and Practices Regulation* (FPPR) limits soil disturbance on the harvested portion of a cutblock as well as the percentage of permanent access structures.

#### Objectives for Soil: Conserve the productivity and the hydrologic function of soils.

Legal Reference	Result
➤ FPPR Section 5, 35, and 36	<p>In all FDU's, the Licensee will undertake to comply with the requirements of FPPR Sections 35 and 36, including the following:</p> <ol style="list-style-type: none"> <li>1. ≤5% soil disturbance on sites with sensitive soils;</li> <li>2. ≤10% soil disturbance on sites with non-sensitive soils;</li> <li>3. ≤25% of area covered by a roadside work area; and</li> <li>4. ≤7% of area as permanent access structures.</li> </ol> <p>In the select portions of FDU's 3 and 4 shown on the Key Wildfire Mitigation Zone Map (Map #1, Appendix 2), primary forest operations may require exceptions to soil disturbance limits within the BLCF boundaries to facilitate wildfire mitigation treatments, such as surface fuel redistribution or raking, that address severe wildfire hazards and significant public safety concerns in and around the BLCF.</p> <p>Where this exception is needed in the select areas of FDU's 3 and 4, the Licensee commits to:</p> <ol style="list-style-type: none"> <li>1. ≤5% soil disturbance on sites with sensitive soils within 95% of all cutblock Net Area to Reforest (NAR) in a landscape unit per year;</li> <li>2. ≤10% soil disturbance on sites with non-sensitive soils within 95% of all cutblock Net Area to Reforest (NAR) in a landscape unit per year;</li> <li>3. ≤25% of area covered by a roadside work area within 95% of all cutblock Net Area to Reforest (NAR) in a landscape unit per year;</li> <li>4. ≤7% of area as permanent access structures;</li> <li>5. Maintain drainage patterns; and</li> <li>6. Obtain District Manager approval.</li> </ol>
Scale of Measurement:	N/A

<b>Map Reference:</b>	None
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**Monitoring (Measures and Verification):**

The Licensee's commitments are measurable and verifiable at the site plan level in conjunction with accepted field verification methods. Strategies needed to meet this result are prescribed at the site plan level for each FDU.

### 6.3.2 Objectives Set by Government for Wildlife

**Context**

Three categories of wildlife are established under the *Forest and Range Practices Act* by the Minister responsible for the *Wildlife Act* (the Minister of Environment and Climate Change) – Species at Risk, Specified Ungulate, and Regionally Important Wildlife. These categories have been established because the wildlife or wildlife habitat attribute recognized under them require special management attention to address impacts of forest and range activities on Crown land. In BC, both categories – Species at Risk and Regionally Important Wildlife – are referred to as Identified Wildlife.

The Licensee has completed a High Conservation Value Forest Assessment (HCVA) as part of the requirements for FSC certification. This assessment considers which species at risk and regionally important wildlife are present and whether valuable habitat and important forests are present within the BLCF. The HCVA determined that species found within the BLCF are widely distributed and found abundantly throughout the region and that due to MPB attack and salvage harvesting, the forest is highly impacted and fragmented.<sup>9</sup> There are no areas of land in the BLCF that meet the 50,000 ha minimum threshold for regionally significant large landscape level forests as determined by criteria set by the FSC.

Much of the valuable habitat present within the BLCF that is important for species at risk and regionally important wildlife is protected within legally established reserves such as OGMAs, the LCM, and VQOs or contained within wetlands and riparian areas that are protected within the special management zone established in Section 6.3.3.

In BC, species and ecosystems are assigned to a red, blue or yellow list based on their conservation status rank. This listing process is intended to help set conservation priorities and provide a simplified view of the status of BC's species and ecosystems. Red listed species are those species or ecosystems that are at risk of being lost (extirpated, endangered, or threatened). Blue listed species are those species or ecosystems that are of special concern and yellow list includes any species or ecosystem that is apparently secure or secure (at least risk of being lost). Guided by Standard Operating Procedures and Best Management Practices, BLCF will manage blue and red listed species (if present) at the site level prior to harvest commencement.

<sup>9</sup> High Conservation Value Assessment, 2017. Completed by Homewood Silviculture and Keystone Wildlife Research.

### **Section 7 Notice - Species at Risk<sup>10</sup>**

Species at Risk include endangered, threatened, or vulnerable species of vertebrates and invertebrates, and endangered or threatened plants and plant communities that are negatively affected by forest or range management on Crown land. Species at Risk can also include those that are not adequately protected by other mechanisms.

#### **Grizzly Bear**

There is one Species at Risk Notice for grizzly bear, given authority under Section 7(2) of the *Forest Planning and Practices Regulation* that provides indicators of the amount, distribution, and attributes of wildlife habitat required for the survival of grizzly bear, and other species at risk within the Nadina Natural Resource District as a whole. While the Notice requires that grizzly bear habitat is managed for within 4,310 hectares (1,346 hectares in the THLB) in the Nadina Natural Resource District, there is no Notice spatial overlap with the BLCF tenure area.

However, BLCF has completed a grizzly bear habitat assessment for the entire CF to determine whether quality habitat is present within the tenure area. After extensive analysis of available government data and past wildlife habitat ratings models for the species in similar BEC subzones in adjacent areas, areas of higher concentrations of higher-value grizzly bear habitats were identified as Grizzly Bear Habitat Complexes (GBHCs) within the BLCF.<sup>11</sup> Fifteen (15) GBHCs were identified within the BLCF that range in size from 43 ha to 995 ha (See Appendix 2, Map #5). They encompass seasonal habitats for spring, summer, and fall – 13 of which consist of over 90% of at least one of these seasonal habitat types. Further to this, a total of 11,037 ha of moderately high and moderate spring, summer and fall habitats fall within areas of the BLCF that are already within reserved areas for other objectives, such as Ungulate Winter Range, OGMAs, and LCMs.

The Omineca Environmental Stewardship Initiative Risk Assessment shows that grizzly bears are at high risk within the BLCF due to high road density; risk becomes high at 0.6km/km<sup>2</sup> and very high at 0.75 km/km<sup>2</sup>. The road density for the BLCF at the time of assessment was 0.89km/km<sup>2</sup>.<sup>12</sup> In addition to assessing the presence and quality of grizzly bear habitat, the recently completed Grizzly Bear Habitat Assessment also considered GBHCs and their proximity to areas of the BLCF with varying impact road densities. It was determined that four (4) GBHCs are located within watersheds that currently have low impact road densities and the remaining 11 GBHCs are delineated in watersheds with high and very high impact road densities. The BLCF has completed an Access Management Plan to address the high risk to grizzly bears and minimize disturbances.

#### **Northern Caribou**

Northern Caribou are also considered in the Notice, however, caribou habitat does not overlap the BLCF.

WHAs are areas that have been deemed necessary to meet the habitat requirements of an Identified Wildlife element, such as salt licks or calving grounds. WHAs designate critical habitats in which human activities are managed to limit their impact on the Identified Wildlife element. The purpose is to conserve those habitats considered most limiting to a given wildlife species. Currently there are no established WHAs in the BLCF (as of January 2022).

<sup>10</sup> Section 7 Notices for Species at Risk.

<sup>11</sup> BLCF Grizzly Habitat Assessment completed by EDI Environmental Dynamics Inc, 2021.

<sup>12</sup> BLCF Access Management Plan

### **Ungulates**

The Regionally Important Wildlife category includes species that are considered important to a region of BC, rely on habitats that are not otherwise legally protected, and may be adversely impacted by forest or range practices.

#### **Ungulate Winter Range**

Ungulate Winter Range (UWR) is defined as an area that contains habitat necessary to meet the winter habitat requirements of an ungulate species such as caribou, mule deer, or mountain goat. UWRs are designed with an understanding of current scientific and management information, local knowledge, and other expertise from the region as to what is critical habitat for winter survival. Social and economic values also play a role in developing UWR units and objectives. Section 12 of the Government Actions Regulation (BC Reg. 582/2004) that supports *FRPA* describes the formal legislative basis for establishing UWRs.<sup>13</sup>

These orders include restrictions on harvesting within UWRs, restrictions on some forest harvesting in areas near UWRs, requirements to maintain forest cover in specific areas, road building restrictions, and limitations on resource development in general. UWR Orders that are listed as adjacent to the Licensee's FDU will be adhered to should development occur near these adjacent areas, as required by the Order itself.

There are currently ten (10) legally established UWR areas that overlap FDU 1 and are associated with one UWR Order (Appendix 2, Map #3). There are no UWRs in FDUs 2, 3, and 4.

#### **Mountain Goats**

Wildlife Orders, which contain General Wildlife Measures, are legally binding, and thus the Licensee is exempt from preparing Results or Strategies for UWR Order #U-6-017. The Licensee is legally required to comply with the strategies outlined within Winter Range Order #U-6-017 where mountain goat UWR is present within FDUs 1, 3, and 4.

#### **Moose**

Section 7(2) of *FRPA* provides indicators of the amount, distribution, and attributes of wildlife habitat required for the winter survival of moose within the Lakes TSA. The Notice requires that moose winter habitat is managed for within 218,142 hectares (156,427 hectares in the THLB) in the TSA as a whole. The Environmental Stewardship Initiative and the subsequent Skeena Sustainability Assessment Forum process has provided improved spatial information (October 2022) for this Notice that indicates a Moose Winter Range Habitat overlap of 32,416 hectares with the BLCF area. BLCF will extend this area responsibility to field-verified High, Moderately High, and Moderate Moose Winter Range Suitability specific to the BLCF tenure.<sup>14</sup>

#### **Mule Deer**

Section 7(2) of *FRPA* provides indicators of the amount, distribution, and attributes of wildlife habitat required for the winter survival of mule deer within the Lakes TSA. The Notice requires that mule deer winter habitat is managed for within 10,877 hectares (1,332 hectares in the THLB) in the TSA as a whole.

The establishment of identified wildlife as either species at risk, specified ungulates, or regionally important wildlife enables provisions under the *Forest and Range Practices Act* to manage species. Methods of this management can include wildlife habitat areas (WHAs), ungulate winter ranges

<sup>13</sup> Section 12 – Ungulate Winter Ranges and Objectives, Government Actions Regulation B.C. Reg. 582/2004.

<sup>14</sup> Moose Habitat within the Burns Lake Community Forest completed by Keystone Wildlife Research Ltd, 2017

(UWRs), or associated general wildlife measures and objectives. Section 9 of the Government Actions Regulation (BC Reg. 582/2004) established under *FRPA* describes the formal legislative basis for general wildlife measures<sup>15</sup>.

**Table 8.** Established Ungulate Winter Range Overlapping FDUs 1, 3, and 4.<sup>16</sup>

UWR - ID	Species	Area within the BLCF	Date	Total Hectares
U-6-017	Mountain Goat	189.9ha	01/01/2018	5,096

### 6.3.2.1 Objectives for Grizzly Bear

Objectives for Grizzly Bear: Conserve sufficient wildlife habitat, in terms of the amount of area, distribution of areas and attributes of those areas for the survival of grizzly bear.	
Reference	Result
<p>➤ <i>FPPR</i> Section 7 Notice entitled “Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Species at Risk in the Nadina Forest District”, issued December 30, 2004.</p>	<p>The Licensee commits to maintain the following condition within a minimum of 251 ha<sup>17</sup> of identified GBHCs (see Appendix 2, Map #5) delineated in Burns Lake to Fraser Lake watershed for the conservation of grizzly bear habitat:</p> <ol style="list-style-type: none"> <li>1. a maximum of 50% of the forested area (or 126 ha) is comprised of stands less than 121 years old at any given time; and</li> <li>2. a maximum of 33% of the forested area (or 83 ha) is comprised of stands less than 5 metres tall or 28 years old at any given time.</li> </ol> <p>This retention requirement will be met through retention of moderately high- and high-quality spring, summer and fall habitats identified within portions of the GBHCs (as delineated in the BLCF Grizzly Bear Habitat Assessment) that overlap other objectives such as LCM and OGMA. This accounts for a total of 380.6ha of retention within the highest quality grizzly bear habitat found within the BLCF (See Appendix 2, Map #5).</p> <p>In FDUs 3 and 4, primary forest operations may require alternative GBHCs where substantiated forest health concerns contributing to severe wildfire hazards and significant public safety concerns in and around the BLCF need to be addressed.</p> <p>Where this occurs, the Licensee commits to:</p> <ol style="list-style-type: none"> <li>1. Implementing strategies outlined in the BLCF LFMP and Management Plan #4;</li> </ol>

<sup>15</sup> Section 9 – General Wildlife Measures, Government Actions Regulation B.C. Reg. 582/2004.

<sup>16</sup> Approved Ungulate Winter Ranges – BC Government.

<sup>17</sup> Refer to Table 25 for the steps used to determine the required area for retention.

	<ol style="list-style-type: none"> <li>2. Retaining other GBHCs within the BLCF with high and moderately high habitat quality in lieu of those impacted by wildfire mitigation activities; and</li> <li>3. Utilizing partial cutting silviculture systems to promote retention of multiple age classes of trees through time.</li> </ol>
<b>Scale of Measurement:</b>	Grizzly Bear Predictive Habitat Model <sup>18</sup>
<b>Map Reference:</b>	Appendix 2: Map #5

#### Monitoring (Measures and Verification):

The Licensee is engaged in regular planning processes that track primary forest activities and monitor grizzly bear habitat within the FDUs.

- In 2018, the BLCF completed a five-year plan and landscape level analysis with the objective of monitoring grizzly bear habitat.
- In 2019, the BLCF completed an Access Management Plan that considers grizzly bear habitat and provides a plan for road rehab and deactivation.
- In 2021, the BLCF completed a Grizzly Bear Habitat Assessment leading to the proposed result and strategy
- The Licensee has also begun developing a monitoring program intended to track wildlife activity in the BLCF during the winter.

Progress on these plans is reviewed annually. If a collaborative TSA-wide cumulative effects analysis for compliance with grizzly bear habitat requirements is initiated at any point, the Licensee commits to participating in this process.

#### 6.3.2.2 Objectives for Moose

**Objectives for Moose: Conserve sufficient wildlife habitat in terms of the amount of area, distribution of areas and attributes of those areas, for the winter survival of moose.**

Legal Reference	Result
<ul style="list-style-type: none"> <li>➤ <i>FPPR</i> Section 7 Notice entitled “Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Requirements for the Winter Survival of Ungulate Species in the Lakes Timber Supply Area”, issued December 20, 2004</li> </ul>	<p>In all FDUs, the Licensee will meet the practice requirements of <i>FPPR</i> Section 7 (Wildlife) through the following:</p> <p>The Licensee commits to the retention targets referred to below within 22,213 hectares<sup>19</sup> of the BLCF within High, Moderately High, and Moderate Moose Habitat Capability as shown by the Moose Habitat Capability</p>

<sup>18</sup> BLCF Grizzly Habitat Assessment completed by EDI Environmental Dynamics Inc, 2021

<sup>19</sup> Refer to Table 23 (Appendix 6) for the steps used to determine the required area for retention.

	<p>Map (Map #6, Appendix 2) and within the FDUs under this FSP:</p> <ul style="list-style-type: none"> <li>a) a minimum of 30% of the area (or 6,664 hectares) is comprised of stands greater than 101 years old at any given time;</li> <li>b) a maximum of 33% of the area (or 7,330 hectares) is comprised of stands less than 3 metres tall or 17 years old at any given time; and</li> <li>c) recommendations from a Qualified Registered Professional Biologist will be incorporated into site plans where appropriate.</li> </ul> <p>In FDUs 3 and 4, primary forest operations may require alternative habitat areas or areas of retention where substantiated forest health concerns contributing to severe wildfire hazards and significant public safety concerns in and around the BLCF need to be addressed.</p> <p>Where this occurs, the Licensee commits to:</p> <ul style="list-style-type: none"> <li>1. Implementing strategies outlined in the BLCF LFMP and Management Plan #4;</li> <li>2. Retaining other habitat areas within the BLCF with high habitat quality in lieu of those impacted by wildfire mitigation activities</li> <li>3. Utilizing new silvicultural and harvesting technology including partial cutting to ensure due concern for all visual resource values.</li> </ul>
<b>Scale of Measurement:</b>	Moose Habitat Suitability Model
<b>Map Reference:</b>	Appendix 2: Map #6

#### Monitoring (Measures and Verification):

The Licensee is engaged in regular planning processes that track primary forest activities and monitor winter habitat conditions for moose within the FDUs.

- In 2018, the BLCF completed a five-year plan and landscape level analysis with the objective of monitoring moose winter habitat.
- The 2018 landscape analysis will be updated in Fall 2022 to ensure consistency with the Section 7 commitments within the BLCF tenure area.
- In 2019, the BLCF completed an Access Management Plan that considers moose habitat and provides a plan for road rehab and deactivation.
- The Licensee has also begun developing a monitoring program intended to track wildlife activity in the BLCF during the winter.

Progress on these plans is reviewed annually. If a collaborative TSA-wide cumulative effects analysis for compliance with moose habitat requirements is initiated at any point, the Licensee commits to participating in this process.

### 6.3.2.3 Objectives for Mule Deer

**Objectives for Mule Deer: Conserve sufficient wildlife habitat in terms of the amount of area, distribution of areas and attributes of those areas, for the winter survival of mule deer.**

Legal Reference	Result
<p>➤ <i>FPPR</i> Section 7 Notice entitled “Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Requirements for the Winter Survival of Ungulate Species in the Lakes Timber Supply Area”, issued December 20, 2004</p>	<p>In all FDUs, the Licensee will meet the practice requirements of <i>FPPR</i> Section 7 (Wildlife) through the following:</p> <p>The Licensee commits to the retention targets referred to below within 533 hectares<sup>20</sup> of the BLCF that contain moderate to high habitat qualities as predicted by the Mule Deer Predictive Habitat Model (Appendix 2, Map #7) and within the FDUs under this FSP:</p> <ol style="list-style-type: none"> <li>1. a minimum of 50% of the area (or 266 hectares) is comprised of stands greater than 101 years old at any given time;</li> <li>2. a maximum of 33% of the area (or 176 hectares) is comprised of stands less than 3 metres tall or 17 years old at any given time; and</li> <li>3. recommendations from a Qualified Registered Professional Biologist will be incorporated into site plans where appropriate.</li> </ol> <p>In FDUs 3 and 4, primary forest operations may require alternative habitat areas or areas of retention where substantiated forest health concerns contributing to severe wildfire hazards and significant public safety concerns in and around the BLCF need to be addressed.</p> <p>Where this occurs, the Licensee commits to:</p> <ol style="list-style-type: none"> <li>1. Implementing strategies outlined in the BLCF LFMP and Management Plan #4;</li> <li>2. Retaining other habitat areas within the BLCF with high habitat quality in lieu of those impacted by wildfire mitigation activities; and</li> <li>3. Utilizing new silvicultural and harvesting technology including partial cutting to ensure due concern for all visual resource value.</li> </ol>

<sup>20</sup> Refer to Table 24 (Appendix 6) for the steps used to determine the required area for retention

<b>Scale of Measurement:</b>	Mule Deer Predictive Habitat Model
<b>Map Reference:</b>	Appendix 2: Map #7

#### **Monitoring (Measures and Verification):**

The Licensee is engaged in regular planning processes that track primary forest activities and monitor winter habitat conditions for mule deer within the FDUs.

- In 2019, the BLCF completed an Access Management Plan that considers ungulate habitat and provides a plan for road rehab and deactivation.
- The Licensee has also begun developing a monitoring program intended to track wildlife activity in the BLCF during the winter.

Progress on these plans is reviewed annually. If a collaborative TSA-wide cumulative effects analysis for compliance with ungulate winter range requirements is initiated at any point, the Licensee commits to participating in this process.

### **6.3.3 Objectives Set by Government for Water, Fish, Wildlife and Biodiversity in Riparian Areas**

#### **Context**

The Licensee's goals for riparian areas are to prevent or minimize any adverse impacts of primary forest activities on water quality. To do this, the BLCF intends to implement recommendations from the Forest and Range Evaluation Program (FREP) and the Forest Stewardship Council (FSC) in addition to legislative requirements.

To do this the BLCF intends to:

- implement recommendations from the FREP;
- implement the recommendations of the FSC;
- incorporate First Nation water quality concerns;
- incorporate Public water quality concerns (Tchesinkut Watershed Quality Society);
- implement standard operating procedures and training; and
- update operational stream level inventory for the BLCF.

While current practices provide sufficient protection for larger fish bearing streams, research and monitoring from the FREP suggests that the legal requirements for smaller stream protection are not always adequate.<sup>21,22,23,24,25</sup> FREP findings indicate that increasing tree (and vegetation) retention within

<sup>21</sup> Densmore, N., and A.F. Nemec. 2008. Resource stewardship monitoring: stand-level biodiversity analysis of 2005/2006 field season data by biogeoclimatic zone. FREP Report #17..

<sup>22</sup> Rex, J., D. Maloney, and P. Tschaplinski. 2016. Small Stream Riparian Management. BC Forest Professional. Jan-Feb 2016: 16-17.

<sup>23</sup> Tschaplinski, P.J. 2010. State of Stream Channels, Fish Habitats, and their Adjacent Riparian Areas: Resource Stewardship Monitoring to Evaluate the Effectiveness of Riparian Management, 2005–2008. FREP Report # 27.

<sup>24</sup> Tschaplinski, P.J. and K. Brownie. 2010. Forest and Range Evaluation Program Riparian Protocol – Why these Indicators? FREP Report # 9.

<sup>25</sup> Tripp, D., L. Nordin, J. Rex, P. Tschaplinski, and J. Richardson. The Importance of Small Streams in British Columbia. FREP Report #38.

6-10 metres directly adjacent to a small stream assists in maintaining function in terms of filtering, ability to withstand peak floods, and connectivity to fish habitat. Stream temperature, large woody debris, and water storage are also maintained. Increased retention on smaller streams (less than 3 metres wide) further mitigates adverse impacts of primary forest activities including wind throw, fine sediment from roads, and bank instability. Recent research has shown that increased retention up to 10 metres has less than a 3% impact to timber supply.<sup>26,27</sup> Higher levels of retention also assists with the recruitment of large woody debris and can provide valuable habitat for wildlife.

FSC includes in this a set of requirements for riparian retention to be applied when forest cover in the riparian management zone is composed of live trees.<sup>28</sup> The FSC requirements for riparian retention are included in the Special Management Zone outlined in Table 9 and will be implemented where the riparian management zone is primarily composed of live trees and contains valuable habitat features.

In addition, the BLCF retained Environmental Dynamics Inc. (EDI) to provide detailed operational level stream inventory for proposed timber harvest areas within the community forest.<sup>29</sup> This work began in 2019 and continues to present day. EDI has completed stream classifications within the BLCF Wildfire Management Area where harvesting is proposed, supported classification of several streams for the broader five-year harvest plan, and provided supporting documentation for the BLCF to meet key performance indicator requirements for FSC certification. Additional inventory objectives include assessing stream habitat quality at proposed stream crossing sites to support crossing structure design and regulatory review processes (both federal and provincial).

Forest retention around streams will be carried out in consideration of ecological suitability and natural disturbance factors. Riparian reserve zones (RRZ) and riparian management zones (RMZ) are given high priority for retention of wildlife trees and for the maintenance of biodiversity, habitat and stream integrity. The amount of timber and vegetation retained in any given riparian area will be determined through a consideration of factors, such as stream channel degradation potential, safety hazards, percent of merchantable versus non-merchantable stems, and habitat function.

Riparian Management Areas (RMA) consist of a riparian management zone (RMZ) and a riparian reserve zone (RRZ) (Figure 2) and are implemented to minimize or prevent impacts of forest and range uses on stream channel dynamics, aquatic ecosystems, and water quality of all streams, lakes, and wetlands.<sup>30</sup>

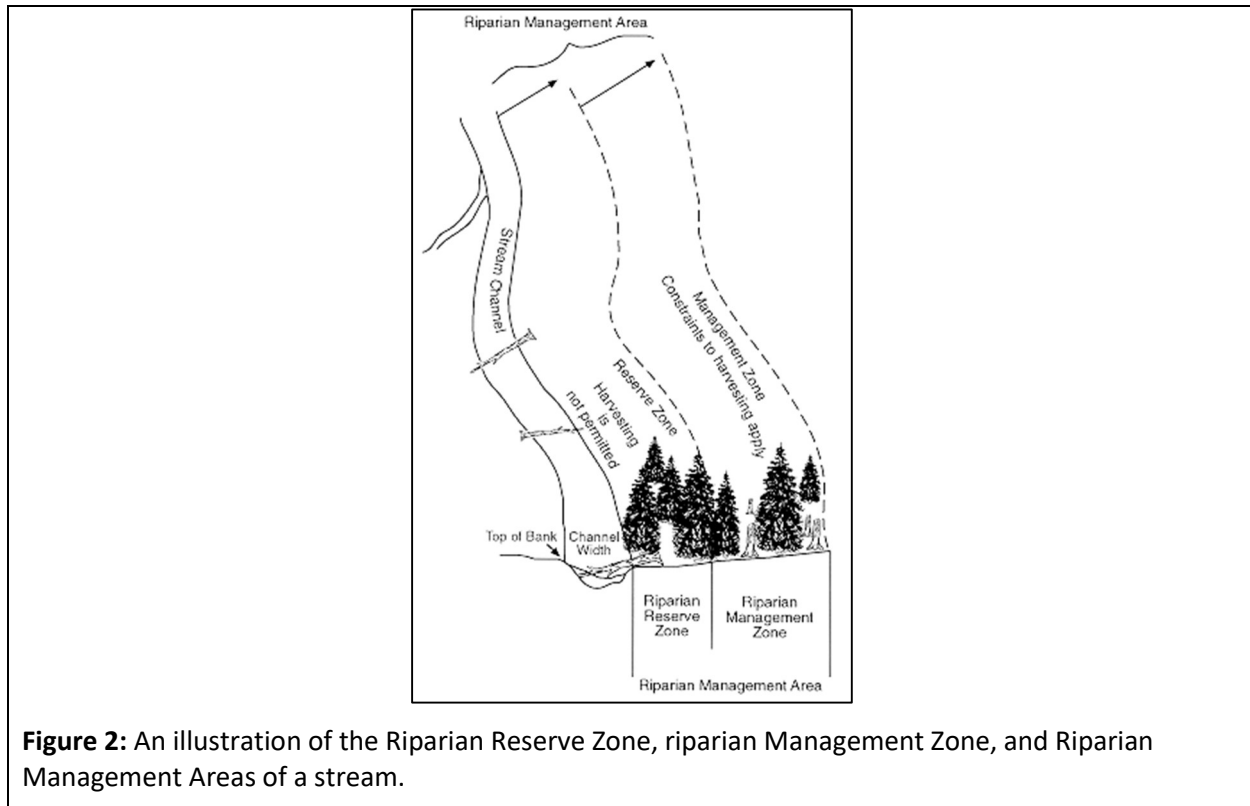
<sup>26</sup> BC Ministry of Forests, Lands and Natural Resource Operations. May 15, 2015. Riparian Indicators Assessment. Draft Report. Forsite Project 1281-1.

<sup>27</sup> Rex, J., D. Maloney, E. MacIsaac, H. Herunter, P. Beaudry, and L. Beaudry. 2011. Small stream riparian retention: the Prince George Small Streams Project. B.C. Min. For. Range, For. Sci. Prog., Victoria, B.C. Exten. Note 100.

<sup>28</sup> FSC BC Guidance – A companion document to FSC-Regional Standards for British Columbia.

<sup>29</sup> Burns Lake Community Forest: Fish Stream Identification – 2019, 2020. EDI Environmental Dynamics INC. Eric O'Bryan.

<sup>30</sup> Riparian Management Area Guidebook – Forest Practices Code of British Columbia Act



**Figure 2:** An illustration of the Riparian Reserve Zone, riparian Management Zone, and Riparian Management Areas of a stream.

### **Definitions:**

*“Non-classifiable Drainage (NCD)”* means a watercourse which does not satisfy the definition of stream.

*“S5a stream”* means a stream where fish are absent, that is not in community watershed, >3 metres wide, and:

- a) In a domestic watershed, and/or
- b)  $\leq 500$  metres upstream of fish-bearing stream, and/or
- c)  $> 10$  metres wide, and
- d) Is a direct tributary to a S1, S2, S3 streams and lakes.

*“S5b stream”* means a stream where fish are absent, that is not in a community watershed, 3-10 metres wide, non-domestic watershed, and  $> 500$  metres upstream of a fish bearing stream. It is also a direct tributary to a S1, S2, S3 streams and lakes.

*“S6a stream”* means a stream where fish are absent, not in community watershed, 0.5-3m wide in the interior (1-3 meters on the coast), and;

- a) In a domestic watershed, and/or
- b)  $< 250$ m upstream of fish bearing stream, and
- c) Is a direct tributary to a S1, S2, S3 streams and lakes.

*“S6b stream”* means a stream where fish are absent, not in a community watershed, and:

- a) 0.5-3m wide in the interior and Not in a domestic watershed, and  $> 250$ m upstream of fish bearing stream, or
- b)  $< 0.5$ m wide in the interior ( $< 1$ m in the coast), and

c) Is a direct tributary to a S1, S2, S3 streams and lakes.

<b>Objective for Riparian Areas: conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with riparian areas.</b>	
<b>Legal Reference</b>	<b>Result</b>
<ul style="list-style-type: none"> <li>➤ <i>FPPR</i> Sections 8 and 12(3)</li> <li>➤ <i>FPPR</i> Section 47, 48, 49, 50, 51, 52(2) and 53</li> <li>➤ <i>FPPR</i> Schedule 1, Section 2</li> </ul>	<p>The Licensee undertakes to comply with Sections 47 (Stream Riparian Classes), 48 (Wetland Riparian Classes), 49 (Lake Riparian Classes) and 50, 51, and 53 of the <i>FPPR</i> as a result for water, fish, wildlife and biodiversity in riparian areas.</p> <p>Additionally, a riparian reserve zone (RRZ) on S4 and S5 streams as well as a special management zone have been included in forest retention strategies (Table 9) on riparian features to meet FSC riparian retention requirements in all FDUs.</p> <ul style="list-style-type: none"> <li>➤ Specifically, the Licensee undertakes to comply with the requirements of Section 52(2) (Restrictions on Riparian Management Zones) and includes an additional 10 metre RRZ for S4 and a 6 metre RRZ for S5 streams when these streams are direct tributaries to S1, S2, S3 streams or to fish bearing lakes (Table 9).</li> <li>➤ The FSC's riparian retention requirements are outlined in Table 9 as "Special Management Zone" and will be applied where forest cover in the RMZ is composed of more than 50% live trees as substantiated by accepted field verification procedures.</li> </ul>
<b>Scale of Measurement:</b>	Site Plans
<b>Map Reference:</b>	None

**Monitoring (Measures and Verification):**

The Licensee completes a riparian assessment for each cutblock, which is filed and incorporated into the site plan. These FSP commitments are measurable and verifiable at the planning level (assessments, timber cruise, and site plan) and with field verification methods pre and post-harvest such as field surveys.

Minimum retention requirements will be calculated from pre-harvest merchantable tree density information (stems per hectare) as surveyed in the timber cruise, LiDAR cruise or drone pre-harvest resolution photography. A Qualified Registered Professional will determine the amount and location of the retention following Table 9, as well as by considering the factors set out in *FPPR* Schedule 1, Section 2 and whether FSC retention requirements are applicable.

Machine free zones (MFZ) will be applied to those small streams, lakes and wetlands which are not tributary to S1, S2 and S3 fish bearing streams (Table 9 – streams without a reserve zone). The intent of the MFZ is to ensure a planned focus to vegetation management within the RMZ. A MFZ increases protection of streamside vegetation and the stream bank while still allowing for the safe harvest of merchantable trees and trees impacted by forest health agents. MFZs will also be applied to all non-classifiable drainages (NCD).

In RMZs, all brush species, advanced regeneration, non-merchantable conifers and deciduous stems (live or dead) will be retained.

**Table 9.** Riparian Classes and Corresponding Retention Levels.

Riparian Class	Riparian Reserve Zone Minimum Width (m)	Riparian Management Zone Minimum Width (m)	Riparian Management Area Minimum Width (m)	Minimum Retention of standing trees per hectare-dispersed over the length of the Riparian Management Zone <sup>1,2,3,4,5</sup>	Special Management Zone (m) <sup>8</sup> – FSC Riparian Retention Requirements
NCD	All NCDs require a 5 metre MFZ				
Larger, fish bearing streams, wetlands and lakes					
S1 - A	0	100	100	25%	56
S1 - B	50	20	70		56
S2	30	20	50		56
S3	20	20	40		43
W1 and W5	10	40	50		24.5
L1-A	0	0	0		19.5
L1-B	10	0	10	0%	19.5
Small streams which <u>are</u> direct tributary to S1, S2, and S3 streams and lakes					
S4	10	30	30	15%	43
S5a	6	30	31		33

Riparian Class	Riparian Reserve Zone Minimum Width (m)	Riparian Management Zone Minimum Width (m)	Riparian Management Area Minimum Width (m)	Minimum Retention of standing trees per hectare-dispersed over the length of the Riparian Management Zone <sup>1,2,3,4,5</sup>	Special Management Zone (m) <sup>8</sup> – FSC Riparian Retention Requirements
S5b (NDT 2)	6	30	31		4.5
S5b (NDT 3)	6	30	31		1.5
S6a <sup>5</sup>	0	20	20	15% and 5-6 m MFZ <sup>6</sup>	33
S6b (NDT 2)	0	20	20		5.0
S6b (NDT3)	0	20	20		5.0
Small streams, lakes and wetlands which <u>are not</u> direct tributary to S1, S2, and S3 streams					
S4	0	30	30	Within 10 m of stream, minimum 15 overstory trees per 100 m of stream length <sup>4</sup> and 6-10 m MFZ <sup>7</sup>	The same retention targets listed above apply.
S5	0	30	30		
S6	0	20	20		
W3	0	30	30		
L3	0	30	30		
<p><sup>1</sup> The primary objective of retention in the RMZ is to manage the risk of wind throw to the RRZ, protecting the integrity of the corresponding riparian feature. If a Qualified Registered Professional performs or oversees a wind throw hazard assessment and determines that the potential for wind throw is moderate to high, an alternate prescription may be made that utilizes the following proactive management techniques:</p> <ul style="list-style-type: none"><li>a) Up to 7m MFZ extending into the RMZ where brush species will be retained</li><li>b) A “feathered” (irregular) boundary edge that gives more potential stability</li><li>c) Operation under dry or frozen conditions to ensure riparian zone integrity</li><li>d) No machine operation parallel to the riparian features</li></ul> <p>This will be identified and documented within the site plan and accompanying wind throw hazard assessment and may result in ≥ 0% retention over short sections of the RMA length only (&lt;60m). Percent retention will be verified through timber cruise, LiDAR cruise or drone pre-harvest high resolution photography data.</p> <p><sup>2</sup> Regardless of wind throw potential, brush species, advanced regeneration, and non-merchantable conifers and deciduous stems (live or dead) will be retained within the RMZ.</p> <p><sup>3</sup> Trees retained must be reasonably representative of the pre-harvest stand structure of the RMA; live and/or dead stems as determined through timber cruise, LiDAR cruise or drone pre-harvest high resolution photography data.</p> <p><sup>4</sup> If there are less than 15 overstory trees within 10 metres of the stream along ≥ 100 metres of stream bank due to existing conditions or to the necessity of removing danger trees then all overstory trees stems within 10 metres of the stream will be retained.</p> <p><sup>5</sup> If heavy blowdown is present, blowdown may be removed from the RMZ to the extent to which no damage is incurred to the stream or surrounding banks, all MFZs and harvest boundaries are maintained, and activities are completed under frozen conditions.</p> <p><sup>6</sup> The MFZ of an S6 can be increased by a Qualified Registered Professional up to 6 metres in areas where there are no merchantable trees in order to further buffer the stream bank and vegetation.</p>					

Riparian Class	Riparian Reserve Zone Minimum Width (m)	Riparian Management Zone Minimum Width (m)	Riparian Management Area Minimum Width (m)	Minimum Retention of standing trees per hectare-dispersed over the length of the Riparian Management Zone <sup>1,2,3,4,5</sup>	Special Management Zone (m) <sup>8</sup> – FSC Riparian Retention Requirements
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<sup>7</sup> The MFZ of an S4 or S5 can be increased by a Qualified Registered Professional up to 10 metres in areas where there are no merchantable trees in order to further buffer the stream bank and vegetation.

<sup>8</sup> The Special Management Zone (SMZ) will be used to implement FSC riparian reserve requirements where forest cover is composed of more than 50% live trees. The SMZ has the same Minimum Retention of standing trees per hectare-dispersed over the length of the SMZ as does the RMZ. Where live trees do not dominate the forest cover, the FSC Buffer System will apply. The BLCF will increase riparian retention wherever possible within the FDU's using the FSC riparian reserve criteria.

### 6.3.4 Objectives Set by Government for Visual Quality

#### Context

The purpose of visual quality objectives (VQOs) is to ensure that the scenic qualities of a forested hillside continue to meet the expectations of the public and the tourism industry while providing opportunities for timber harvesting. These scenic areas are typically steep forested hillsides which are important to the tourism industry and public social values. Management of the area does not always exclude timber harvesting in these areas, but instead requires harvesting practices to be carried out in a manner whereby the designated objective for the area continues to be met.

Visual quality objectives are established in the Lakes TSA through Government Action Regulation (GAR) Orders 7(1) and 7(2) dated March 15, 2010. These Orders establish scenic areas around features, such as lakes, highway corridors, and recreation trails throughout the TSA, and provide regulations on the level of acceptable forest disturbance within those areas. There are established VQOs within the BLCF that require partial retention and retention of forest cover.

The BLCF has experienced significant forest health and disturbance events since its inception that have impacted the existing forest cover in the community forest, including areas with established VQOs. It is estimated that approximately 27.5% of the BLCF area contains forest stands with some degree of mountain pine beetle attack that have not been salvaged up to the end of 2018.<sup>31</sup> Mountain pine beetle impact has left much of the forest cover contained within VQO polygons in various states of standing dead and downed trees, significantly increasing surface fuel loading and wildfire hazards in the area. The proximity of the BLCF and its VQO's to the village of Burns Lake has contributed to the wildfire risk that threatens the community. This level of disturbance and wildfire risk creates significant challenges when considering forest stewardship, VQOs, impacts to the timber harvesting landbase, ecosystem restoration, and human life and safety in forest management planning.

The Burns Lake Community Forest Landscape Wildfire Management Plan (2019) (LFMP) was developed with the intent to address wildfire concerns and public safety for members of the community of Burns Lake and surrounding area. The LFMP recommends wildfire hazard reduction treatments be conducted where forest cover is greater than 30% dead. Recommended treatments include a combination of partial and clear-cut harvesting depending on the forest cover type and condition at the site specific level.<sup>39</sup>

<sup>31</sup> Burns Lake Community Forest Landscape Fire Management Plan (2019)

**Definitions:**

“Design” refers to the establishment of harvest or treatment boundaries that are determined by a Qualified Registered Professional along with a set of objectives – such as to mimic natural disturbance or meet visual quality objectives.

Visual Quality Objectives	
Legal Reference	Strategy
<ul style="list-style-type: none"> <li>➤ GAR 7(1) and 7(2) – March, 2010</li> <li>➤ FPPR Section 1.1</li> <li>➤ FPPR Section 25.1</li> </ul>	<p>In All FDU's:</p> <ol style="list-style-type: none"> <li>1) Subject to subsection 2 below, when the licensee harvests cut blocks or constructs roads during the term of this plan, the licensee will               <ol style="list-style-type: none"> <li>a. Ensure a Qualified Registered Professional designs cutblock harvesting and roads such that the visual alteration that results from the design is consistent with the Categories of Visually Altered Forest Landscapes described in <i>FPPR</i> Sec 1.1 (Categories of Visually Altered Forest Landscapes); and</li> <li>b. Conduct cutblock harvesting and road building that is consistent with <i>FPPR</i> Sec 1.1 and is in accordance with the design.</li> </ol> </li> <li>2) Where the following conditions exist –               <ul style="list-style-type: none"> <li>➤ High wildfire hazards exist as defined by BC Wildfire Service Provincial Strategic Threat Analysis (PSTA) or as determined by a Qualified Registered Professional and is &lt;5 km from a local community or infrastructure;</li> <li>➤ Salvage of substantiated forest health concerns or fire killed timber is required as determined by Qualified Registered Professional; or</li> <li>➤ Where the spread of substantiated forest health concerns is to be limited through sanitation or salvage activities as determined by a Qualified Registered Professional;</li> </ul> <p>– as per <i>FPPR</i> 25(1), substantiated forest health concerns impact Visual Quality Objectives within the BLCF. When the licensee harvests cutblocks or constructs roads during the term of this plan in these areas, the licensee will</p> <ol style="list-style-type: none"> <li>a. Ensure a Qualified Registered Professional designs cutblock harvesting and road construction such that the visual alteration that results from the design is consistent with the applicable category described in <i>FPPR</i> Sec 1.1 (<i>Categories of Visually Altered Forest Landscapes</i>) in all aspects except for references to scale and visible acuity which will meet the definitions of a visual class no more than a one level increase to <i>FPPR</i> 1.1 categories of visually altered landscape than that shown in the Visual Landscape Inventory (VLI) for the site;</li> </ol> </li> </ol>

	<ul style="list-style-type: none"> <li>b. Ensure that a Qualified Registered Professional completes a comprehensive visual quality assessment prior to harvest and/or road construction;</li> <li>c. Implement the cutblock harvesting and road building in accordance with the design; and</li> <li>d. Notify the District Manager.</li> </ul>
<b>Scale of Measurement:</b>	Areas with Established Visual Quality Objectives
<b>Map Reference:</b>	Appendix 1: Overview Map of the Forest Development Unit

#### Monitoring (Measures and Verification):

The strategy outlined above will allow the Licensee to meet the established VQOs. All scenic area polygons for the FDUs are available spatially. A Qualified Registered Professional will complete a visual impact assessment (VIA) prior to harvesting that will guide the harvest and site plans. VQOs are verifiable at the planning stages as well as post-harvest in the field. If field circumstances during harvest itself indicate that the VQO will not be achieved despite the guidance of the VIA, then corrective action and potential re-engagement with a QRP will take place.

The Licensee understands that scenic area designations may change over time (additions and subtractions) and will remain current on their status through ongoing communication with the District.

#### 6.3.5 Objectives Set by Government for Cultural Heritage Resources

##### Context

The *Forest Act* defines a cultural heritage resource as, "an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people." This may include culturally modified trees, medicinal plants, or traditional use sites. In this FSP, the following applies:

**Cultural Heritage Resource (CHR)** – in addition to the above definition, CHR refers solely to those resources that are the focus of traditional use by First Nations people that are of continuing importance to that people and are not regulated under the *Heritage Conservation Act*. This includes but is not limited to bear dens, trails, berry patches, lithic sites, and any other feature(s) identified through the processes outlined below.

**Cultural Heritage Resource (CHR) Assessment** – is a process conducted by a Qualified Professional and consists of the following:

1. If the CHR contains only culturally modified trees (CMTs), then:
  - a. The Licensee will work with First Nations to conduct a CMT survey where CMT tallies are collected; and
  - b. If the CHR is in addition to the CMTs or other than CMTs then:
    - i. The location of the CHR is documented;
    - ii. The nature of the CHR is documented; and
    - iii. The direct impact of the proposed forest practice on the CHR is evaluated.
2. Recommendations to mitigate the impact, conserve or, if necessary, protect the CHR are prepared in consideration of:

- a. The relative value or importance of the CHR to traditional use by a First Nation;
- b. The relative abundance or scarcity of the CHR; and
- c. The historical extent of the traditional use of the CHR.

A Qualified Registered Professional in this instance is an individual who has the education and demonstrated experience in the archeological field in British Columbia and abides by the principles of the *Heritage Conservation Act*.

The First Nations' whose Traditional Territories are located within the Licensee's proposed FDU's were identified and confirmed by the Nadina Natural Resource District as:

1. Yekooche First Nation
2. Lake Babine Nation
3. Skin Tyee Nation
4. Wet'suwet'en First Nation
5. Office of the Wet'suwet'en Hereditary Chiefs
6. Nee Tahi Buhn Band
7. Stellat'en First Nation
8. Ts'il Kaz Koh (Burns Lake Indian Band)
9. Nadleh Whut'en Band

The Licensee has also incorporated a Communication and Engagement Framework within Management Plan #4 that outlines specific engagement practices and First Nation specific stewardship principles that are being integrated in resource management within the BLCF. The Wet'suwet'en Yin'tah Stewardship report includes 23 stewardship principles that can influence harvesting, silviculture, and cultural heritage resources.

**Objectives for Cultural Heritage Resources: 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.**

Legal Reference	Strategy
➤ <i>FPPR</i> Section 10(a) and (b)	<p>In all FDU's, the Licensee will ensure consistency with <i>FPPR</i> Section 10 (Cultural Heritage Resources) through the following:</p> <ol style="list-style-type: none"> <li>1. Field staff will be trained to recognize CHR's in the field so a Qualified Professional maybe notified to complete further assessments as needed.</li> <li>2. CHR assessments will be conducted for areas where: <ol style="list-style-type: none"> <li>a. CHR's are identified by the Licensee or their contractors during reconnaissance and/or field activities; or</li> <li>b. Site-specific information regarding CHR's is brought forward or made available to the Licensee by First Nations, government employees or others.</li> </ol> </li> <li>3. When CHR's are discovered during primary forest activities, the operations will cease to ensure their protection until a CHR assessment is completed.</li> <li>4. The Licensee will invite First Nations whose Traditional Territories overlap the forestry operation to view, assess and provide input regarding CHR's in the field within 30 days of identification.</li> </ol>

	<ol style="list-style-type: none"> <li>5. A Qualified Professional will complete the CHR Assessment and include, at minimum:               <ol style="list-style-type: none"> <li>a. The location of the CHR and what it is;</li> <li>b. An evaluation of the direct impact of the proposed forest activities on the CHR;</li> <li>c. Recommendations to mitigate the impact, conserve or, if necessary, protect the CHR are prepared in consideration of the factors listed in <i>FPPR</i> Schedule 1 Section 4:                   <ol style="list-style-type: none"> <li>i. The relative value or importance of the CHR to traditional use by First Nations;</li> <li>ii. The relative abundance or scarcity of the CHR;</li> <li>iii. The historical extent of the traditional use of the CHR;</li> <li>iv. The impact of the impact of the timber harvesting rights on conserving or protecting the CHR; and,</li> <li>v. Options for mitigating the impact that a forest practice might have on the CHR.</li> </ol> </li> </ol> </li> <li>6. The results of the assessment of the CHR will be provided to the applicable First Nation(s) for consideration and comment. Feedback from First Nations will be incorporated into the site plan where appropriate.</li> <li>7. The Licensee will provide a summary of CHR assessments, locations of CHRs, and applicable proposed or completed management for the CHR to First Nations and the District on an annual basis (by May 31<sup>st</sup>). This information will not be made public.</li> <li>8. The Licensee will conduct primary forest activities consistent with the recommendations provided in the CHR assessment and in consideration of input from applicable First Nations in clauses 4-6 above.</li> <li>9. The Licensee will retain documentation of all CHRs, related information, meetings, reconnaissance surveys and referrals until such time cutblocks harvested under this FSP are removed from the Licensee's responsibility (typically once declared free to grow).</li> <li>10. If the Licensee and First Nations disagree on the course of action to address the potential impact to CHRs, the matter will be referred to the Nadina Natural Resource District staff. The Licensee will provide District staff with a supporting rationale for their plans.</li> </ol>
<b>Scale of Measurement:</b>	N/A
<b>Map Reference:</b>	None

**Monitoring (Measures and Verification):**

Commitments to CHR protection are measurable and verifiable at the site plan level and with standard field verification methods. The following monitoring efforts will be completed where CHRs are present:

- CHRs identified during reconnaissance, field activities, and primary forest activities are documented in field notes and on maps.
- CHR assessments completed prior to harvesting are incorporated into site plans and the assessment reports are sent to First Nations whose Traditional Territories overlap the proposed development.
- CHRs are communicated to operational crews during pre-works, which are documented and signed off prior to commencing any primary forest activities.
- CHR assessments which must be completed during harvesting may require a site plan amendment and the assessment reports are sent to the applicable First Nations.
- First Nations' input is solicited when the CHR is identified and documented.
- Conformance with the CHR assessment can be verified at the site planning level and in the field.

**6.3.6 Objectives Set by Government for Recreation Resources****Context**

In BC, there are more than 1,350 recreation sites and over 800 trails managed as recreation resources by Recreation Sites and Trails BC (RSTBC). These sites include rustic camping sites in remote areas, single track trails, and well maintained wide tracked rail trails. It also includes trails with historical significance to the Province. These sites and trails are important to the public, local communities, and the tourism industry.

The value of recreation in the Nadina Natural Resource District is considered very high. The BLCF collaborates regularly with local recreation clubs to facilitate recreation within the community forest. These clubs include:

- Omineca Ski Club
- Lakes District Rock and Gem Club
- Ride Burns
- Burns Lake Snowmobile Club
- Eagle Creek Recreation Society (Fair Grounds)
- Tweedsmuir Rod & Gun Club

The Licensee has completed an Access Management Plan (2020) to establish a framework for managing the interface between resource values and road access. This plan incorporates First Nations and stakeholder feedback into access management to mitigate the impacts of roads on wildlife and recreational values in the BLCF.

Communication and information sharing with local First Nations, residents, and other tenure holders will help provide guidance to the Licensee with regards to future recreation objectives. The Lakes North and South LRMPs will also be used for guidance.

In the BLCF, there are five (5) areas identified as recreation subzones in the Lakes LRMPs, three (3) of which are legally designated recreation areas (as of January 2022).

Legally designated recreation areas in the BLCF include:

- Eagle Creek Opal Beds

- Guyishton Lake
- Boer Mountain/Kager-Star Lakes
- Bear Dens Trail
- Guyishton Lake Trail

Non-legally designated recreation areas identified in the Lakes North and South LRMPs:

- Boo Mountain/Fish Lakes
- Burns Lake South

While the focus for designated recreation areas is recreation, they are within the BLCF and considered part of the timber harvesting landbase. Should the limitation of harvesting activities within these areas create risks associated with forest health, wildfire, and human life and safety, the BLCF will propose treatments in collaboration with appropriate user groups to facilitate maintenance of recreational values – particularly if harvesting will occur near the maintained hiking trail associated with the Burns Lake South area.

The Omineca Ski Club is adjacent to the FDU's and, although it is entirely outside the area for this FSP, the BLCF collaborates with the user group to facilitate winter recreational use of close proximity roads when there are no harvesting activities in the area.

As circumstances regarding recreation resources change and the need arises to establish other legally established sites and trails, the Licensee will amend this FSP accordingly.

Objectives for Recreation Resources: to conserve, or, if necessary, protect recreational resources	
Legal Reference	Strategy
<ul style="list-style-type: none"> <li>➤ <i>FRPA Sections 56, 180 and 181</i></li> <li>➤ <i>Forest Recreation Regulation Section 16</i></li> <li>➤ <i>Order to Establish Objectives For a Recreation Site, Recreation Trail or Interpretive Forest Site - October 31, 1997</i></li> </ul>	<p>In all FDU's, the Licensee will ensure consistency with <i>FRPA</i> Sections 56 (Interpretive Forest Sites, Recreation Sites, and Recreation Trails), 180 and 181 (Grandparenting Designations, Objective, and Measures), and Section 16 of the Forest Recreation Regulation through the following:</p> <p>The Licensee commits to the following in all FDU's:</p> <ol style="list-style-type: none"> <li>1. Conduct primary forest activities in a manner that maintains the values of legally designated recreation resources, including the following specific measures:             <ol style="list-style-type: none"> <li>a. Guyishton Lake Recreation Trail (Recreation Project File 900-6474):                 <ol style="list-style-type: none"> <li>i. Manage for a natural recreation experience, and</li> <li>ii. Maintain coniferous vegetation features within 10 metres on either side of the trail; and</li> </ol> </li> <li>b. Bears Den Recreation Site (Recreation Project File 900-5937):                 <ol style="list-style-type: none"> <li>i. Manage for a natural recreation experience consistent with original trail establishment conditions through the following:                     <ul style="list-style-type: none"> <li>• Remove all downed trees currently obstructing visitor passage along the</li> </ul> </li> </ol> </li> </ol> </li> </ol>

	<p>mapped trails, under frozen conditions only to avoid trail surface disturbance</p> <ul style="list-style-type: none"> <li>• Maintain all live vegetation within a Machine Free Zone extending 5 metres beyond a 10 metre trail right-of-way (RoW) while removing dead standing mature trees, also under frozen conditions only</li> <li>• Remove all danger trees (as identified by a Qualified Professional) within a tree-length (25m) of the edge of a 10 metre trail RoW through handfelling methods only,</li> </ul> <p>ii. Protect all bedrock formations within the site boundaries with No Harvest Zones, and</p> <p>iii. Maintain all overstorey vegetation within the site boundaries with the exception of the 15 metre (5 metres MFZ + 10 metres RoW) treatment zones surrounding the mapped trails and danger trees within a 25 metres of the trail RoW, and</p> <p>2. Obtain authorization from RSTBC and engage with appropriate user groups in advance of commencing primary forest operations that will impact legally designated recreation areas.</p> <p>In FDU 3 and 4, primary forest operations may result in harvesting and road building activities within legally designated recreation areas as a means to address substantiated forest health factors and natural disturbance events (i.e. windthrow and wildfire) contributing to significant public safety concerns in and around the BLCF.</p> <p>Where this occurs, the Licensee commits to:</p> <ol style="list-style-type: none"> <li>1. Obtain authorization from RSTBC; and</li> <li>2. Implementing strategies outlined in the BLCF LFMP and Management Plan #4; and</li> <li>3. Utilizing new silvicultural and harvesting technology recreation resource values.</li> </ol>
<b>Scale of Measurement:</b>	Recreation Trails and Recreation Reserves
<b>Map Reference:</b>	None

**Monitoring (measures and verification):**

The strategy outlined above will allow the Licensee to meet the objectives for recreation resources. Recreational sites and trails are available spatially, and consistency with the strategy above can be verified during the planning stages and in the field post-harvest.

## 6.4 Wildfire Mitigation

### **Context**

Over the past 20 years, wildfire seasons have increased both in numbers and the area burned across the province. Large expenditures in wildfire suppression and forest resource losses have occurred in 2003, 2004, 2009, 2010, 2014, 2015, 2017 and 2018.<sup>32</sup> Three forest conditions that may contribute to increase wildfire hazards include:

- increases in fuel loads associated with long-term fire suppression, insects, and disease;
- a period of increasing drought during the fire season; and
- a forest management regime that protects static reserves that are often impacted by abiotic and biotic disturbance.

These factors create additional high hazard fuels that can be constrained within the current planning and legislation model. This is particularly the case within the BLCF. The community forest contains a number of visually sensitive areas (VQOs), old growth reserves (OGMAs), landscape connectivity corridors (LCMs), and wildlife habitat areas that contain a significant component of dead standing and downed forest cover. Primary forest activities, such as removal of dead timber and surface fuel removal, are heavily regulated in these areas and often result in the prevention of wildfire hazard mitigation activities. The retention requirements for mature timber in VQOs, OGMA, and LCMs do not consider whether the mature timber present within the management areas is alive or dead. For this reason, much of the retention within these areas in the BLCF contain significant components of dead and downed lodgepole pine that cannot be removed under current legislation, thus causing increased wildfire hazards in those areas without prevention measures taking place within them.

The BLCF boundary also contains many urban/rural interface areas which pose significant wildfire risk to the Village of Burns Lake and surrounding residents. To address this concern, the BLCF completed a Landscape Fire Management Plan (LFMP, 2019) that outlines fuel treatments in stands with a moderate to very high fire hazard rating. In addition, the BLCF's Management Plan #4 (2019) commits to implementing the LFMP and the Mountain Pine Beetle Mitigation Plan (MPBMP, 2018) to address wildfire threat and begin the work of ecosystem restoration as a result of forest health disturbance (MPB) and heavy fuel loading (windthrow) as a result. The LFMP identifies 6,704 ha (or 7% of the BLCF) for fuel management treatments within priority areas of the community forest. Of the total treatment areas proposed, 587 ha fall within OGMAs, 2,809 ha has VQOs, and 1,044 ha are within LCMs – just under 34% of the proposed treatment areas within the LFMP are eligible for treatments.

In general, there are two components to manage for wildfire risk on the landscape:

- *FireSmart* principles; and
- Landscape level wildfire risk management.

*FireSmart* principles were established as a joint effort by several provinces and the federal government of Canada, and focus on site level risk factors that fall within three priority zones: 0-10 metres away

<sup>32</sup> Burns Lake Community Forest Landscape Fire Management Plan (2019)

from a structure, 10-30 metres away, and 30-100 metres away.<sup>33</sup> The general intent is to reduce wildfire risk closest to infrastructure through intensive management (i.e. forest cover removal) within the first 10 metres and gradually reduce management intensity moving away from it.

Landscape level wildfire risk management is less intensive in nature but requires strategic planning to make it effective. The BLCF LFMP is an example of this type of planning. Primary risk reduction activities at this level include maintenance of key egress routes, strategically placed fuel breaks, and fuel management reduction activities within a specified radius of a community and key infrastructure.

The BLCF intends to proactively treat high risk stands within the FDUs to mitigate the hazard of infrastructure loss and will implement the recommendations for the LFMP completed in 2019.<sup>34</sup> This plan details areas of concern as they pertain to wildfire and provides recommendations for landscape fuel breaks and fuel management treatments to reduce wildfire threat to the surrounding community of Burns Lake.

The BLCF LFMP has identified 2,794 hectares of dead pine stands that require treatments to mitigate wildfire risk in the area. A large percentage of this area is contained within VQOs, OGMA's, and LCMs. The Licensee is working with the District Manager and BCWS to address the wildfire risk concerns in these areas.<sup>35</sup>

There has been concerted effort within the BLCF to accelerate salvage and reduce the hazardous area of dead lodgepole pine. The Licensee intends to continue this by expanding into partial cutting to facilitate the removal of high surface fuel loads of dead and downed pine that has accumulated within mixed stands.<sup>52</sup> A series of large fuel breaks and pine salvage treatments have also been identified in the BLCF to mitigate wildfire risk to the surrounding communities. The primary focus of proposed treatments in the LFMP is to ensure that surface fuels (<12.5 cm diameter) are reduced to 1kg/m<sup>2</sup> in treatment areas intended for landscape level fuel breaks. Other areas of the BLCF where harvesting occurs, surface fuels will be managed to 3 kg/m<sup>2</sup>.

Another tool for long-term wildfire hazard reduction includes fire-based stocking standards (Appendix 4) that will reduce tree species that are highly conducive to wildfire spread (such as lodgepole pine, spruce, and subalpine fir) and promote those that are less so where ecologically suitable (such as Douglas fir, western larch, and deciduous species). Fire-based stocking standards are particularly helpful in areas where a reduced forest cover is needed to maintain the best opportunities for wildfire suppression on the landscape for extended periods of time.

Additionally, FDUs 3 and 4 in this FSP were established to create distinct areas where wildfire mitigation is to be prioritized. The boundaries of this FDU are in keeping with hazard areas as identified by BCWS and the LFMP. The intent of these FDUs is not to implement fuel management practices and fire-based stocking standards on the entire landscape contained within it but rather to provide the flexibility in fuel treatment planning that allows for strategic location of treatments that will offer maximum hazard reduction in proximity to important values. Specific wildfire mitigation treatments and practices are to be applied only to the current proposed area shown on the Key Wildfire Mitigation Zone Map (Map #1, Appendix 2). Improved information over time may shift these areas slightly and Map 1 will be updated as required to reflect this.

<sup>33</sup> Fire Smart Priority Zones (graphic/diagram)

<sup>34</sup> Burns Lake Community Forest Landscape Fire Management Plan

<sup>35</sup> Burns Lake Community Forest Mountain Pine Beetle Mitigation Program

Wildfire Mitigation	
Reference (non-legal)	Strategy
<ul style="list-style-type: none"> <li>➤ BLCF MP #4</li> <li>➤ BLCF LFMP</li> <li>➤ BLCF MPBMP</li> </ul>	<p>While these strategies are not applicable to <i>FRPA</i> or <i>FPPR</i>, the Licensee intends to implement strategies designed to mitigate wildfire risk to Burns Lake and surrounding residents while promoting ecosystem restoration within the FDUs.</p> <p>In an effort to mitigate wildfire risks, the Licensee commits to the following in all FDUs:</p> <ol style="list-style-type: none"> <li>1. Continued and expanded efforts into alternative operating systems such as partial harvesting to allow for removal of high surface fuel loads;</li> <li>2. Manage surface fuel loads outside of designated landscape level fuel breaks to 3kg/m<sup>2</sup> within all FDUs (CWD retention requirements are to be maintained);</li> <li>3. Promote and participate in public education and communication on wildfire risk, risk reduction activities, and unwanted human caused ignitions; and</li> <li>4. Continued efforts to work with the Nadina Natural Resource District to implement fuel mitigation treatments within areas of high wildfire risks that are spatially designated for other values (i.e. VQOs, LCM, and OGMA's).</li> </ol> <p>The Licensee commits to the following in FDUs 3 and 4:</p> <ol style="list-style-type: none"> <li>1. Ensure that future harvesting is focused on high level of hazard abatement to reduce wildfire risk to the lowest possible level within strategic locations of the FDUs (current proposed locations as shown on the Key Wildlife Mitigation Zone Map - Map#1, Appendix 2;             <ol style="list-style-type: none"> <li>a. Primary forest operations may require exceptions from coarse woody debris (CWD) retention targets, to the extent necessary to address substantiated forest health concerns contributing to severe wildfire hazards and significant public safety concerns in and around the BLCF;</li> <li>b. Where this exception is needed, the District Manager will be notified;</li> </ol> </li> <li>2. Plan the establishment of large fuel breaks to reduce surface fuel loads (&lt;12.5cm in diameter) to 1kg/m<sup>2</sup>;</li> <li>3. Implementation of fire-based stocking standards (Appendix 4) within those areas requiring a maintained reduction in surface fuels for the long term such as in primary fuel breaks; and             <ol style="list-style-type: none"> <li>a. Those areas within FDUs 3 and 4 that are outside of the Key Wildlife Mitigation Zone intended to maintain improved opportunities for wildfire suppression activities on the landscape over time, will be subject to</li> </ol> </li> </ol>

	<p>the standard even and un-even aged stocking standards described in Appendix 3 and 5, respectively.</p> <p>4. Continued efforts to work with the Nadina Natural Resource District to implement fuel mitigation treatments within areas of high wildfire risks that are spatially designated for other values (i.e. VQOs, LCM, and OGMA's).</p> <p>Where reduced surface fuel loads, fire-based stocking standards, and other fuel management treatments are to be implemented within the priority areas of FDUs 3 and 4 as shown on Map #1, Appendix 2, the Licensee will complete the following:</p> <ol style="list-style-type: none"> <li>1. A Fuel Management Prescription completed by a Qualified Registered Professional that is compliant with the current BCWS Fuel Management Prescription Guidance and prescription templates. <ol style="list-style-type: none"> <li>a. BC Wildfire Service will be engaged during prescription development.</li> <li>b. All proposed treatment activities including the implementation of fire-based stocking standards are to be described in detail within the prescription along with a rationale for required treatments.</li> <li>c. Each prescription will describe the extent to which fuel treatments conflict with overlapping objectives and the actions necessary to manage the conflict. Appropriate District and BCWS staff will be engaged during this process.</li> </ol> </li> <li>2. The Fuel Management Prescription will be provided to applicable First Nation(s) for consideration and comment. Feedback from First Nations will be incorporated into the site plan where appropriate.</li> </ol>
<b>Scale of Measurement:</b>	N/A
<b>Map Reference:</b>	None

**Monitoring (Measures and Verification):**

The Licensee is engaged in regular planning processes that track primary forest activities and monitor wildfire hazards and fuel management treatments within the FDUs. Annual forest management planning is used in conjunction with the LFMP to monitor completion of LFMP treatment priorities and plan objectives. The Key Wildlife Mitigation Zone Map shown on Map#1, Appendix 2 may be periodically updated as a result of this process. All records of communications with the public and Nadina Natural Resource District are kept on file.

Additionally, stocking standards and harvesting practices can be verified through pre and post-harvest assessments and site plans.

## 7.0 Measures

### 7.1 Invasive Plants

#### Context

Invasive plants are species which are not native to British Columbia, can spread quickly, and may have economic or environmental impacts in areas in which they spread. These species have been unintentionally introduced into new ecosystems outside of their native habitat range. They often have no natural competitors or diseases, and are not typically a food source for animals, which means they can reproduce and outcompete native species easily.<sup>36,37</sup>

The Licensee is legally obligated to prevent the introduction or spread of invasive plants which would be caused by their primary forest activities. Generally speaking, the concern is when soil is exposed it will allow invasive species to germinate quickly and outcompete native plants, including newly planted tree seedlings. Soil is most often exposed, and sometimes left unplanted, during road building activities.

**Objectives for Invasive Plants: to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plant Regulation, if the introduction or spread is likely to be the result of the person's forest practices.**

Legal Reference	Measures
<ul style="list-style-type: none"> <li>➤ <i>FPPR</i> Section 17</li> <li>➤ <i>FRPA</i> Section 47</li> </ul>	<p>In all FDUs, the Licensee will undertake the following:</p> <p><u>Assessment:</u> Prior to conducting primary forest activities, the Licensee will:</p> <ol style="list-style-type: none"> <li>1. Ensure staff and contractors are trained and knowledgeable in identifying and documenting invasive plant species;</li> <li>2. Identify and document known locations of invasive plants if identified within the proposed block and road areas; and</li> <li>3. Annually review known locations on the Invasive Alien Plant Program website.</li> </ol> <p><u>Reporting:</u> Invasive plant infestations identified by the Licensee within proposed development areas will be reported as follows:</p> <ol style="list-style-type: none"> <li>1. All new invasive plant infestations will be reported through the Report Invasives BC app or online (<a href="#">Report an Invasive Species Form</a>) within one week of identification; and</li> <li>2. All new and existing invasive plant species information will be included in site plans and/or silviculture plans.</li> </ol> <p><u>Prevention and Mitigation of Introduction and Spread:</u> If working directly in an area of identified invasive species, the Licensee will work with the Invasive Plant Council to identify measures for containment of that species.</p> <p>For proposed development, the Licensee will prevent the introduction and spread of invasive plants by:</p>

<sup>36</sup> Northwest Invasive Plant Council Strategic Plan (updated April 21, 2015)

<sup>37</sup> Northwest Invasive Plant Council Target Invasive Plant List (updated April 26, 2016)

	<ol style="list-style-type: none"> <li>1. Thoroughly washing machinery prior to moving machines from one site to another;</li> <li>2. Seeding exposed soil &gt; 0.25 hectares in size immediately after the completion of primary forest activities to reduce the area of ground suitable for colonization by invasive plants, unless primary forest activities are ongoing in which case seeding will take place as soon as it is practical to do so where exposed soil: <ul style="list-style-type: none"> <li>➤ Was disturbed through road construction;</li> <li>➤ Will support the establishment and growth of vegetation; and</li> <li>➤ Will not be reforested;</li> </ul> </li> <li>3. Seed used will meet certification standards for forage mix specifications to ensure that invasive species are not introduced through seeding activities; <ul style="list-style-type: none"> <li>➤ Seed will be free of weeds and, at minimum, be Common No.1 Forage Mixture</li> </ul> </li> <li>4. The Licensee will track seed stock used and the timing of seeding activities and monitor seeded areas for 18 months to ensure successful establishment of the seeded and/or planted species. Successful establishment will be considered when 75% or more cover has been established within the 18-month time period; and</li> <li>5. If the area is not successfully established within 18 months of seeding, then the Licensee will re-seed the area.</li> </ol> <p>The licensee will continue to monitor the site for new infestations of invasive plant species for the length of time required for the stand to meet free to grow standards. If new infestations are found, the Assessment, Reporting, and Prevention and Mitigation procedures described above apply.</p>
<b>Scale of Measurement:</b>	Site Plans
<b>Map Reference:</b>	None

**Monitoring (Measures and Verification):**

The Licensee has committed to adopting the measures above which are verifiable at the site plan level where invasive species are identified and documented. Any seeding activities will also be documented. The Licensee will keep a record of correspondence with the Northwest Invasive Plant Council if and when rehabilitation plans are developed.

## 7.2 Natural Range Barriers

### Context

A Natural Range Barrier (NRB) is defined as a river, rock face, dense timber or any other naturally occurring feature that stops or significantly impedes livestock movement to and from an adjacent area for range management purposes.<sup>38</sup> The Licensee understands the importance of these naturally occurring features, and that ranchers rely on NRBs to assist them with keeping livestock from moving into unsafe or unwanted areas.

### Objectives for Natural Range Barriers: to mitigate the effect of removing or rendering ineffective natural range barriers.

Legal Reference	Measures
<ul style="list-style-type: none"> <li>➤ FPPR Section 18</li> <li>➤ FRPA Section 48</li> </ul>	<p>In all FDUs, the Licensee will undertake the following:</p> <ol style="list-style-type: none"> <li>1. Each year under the term of this FSP, the areas within the FDUs that are occupied by or adjacent to range tenures will be updated from information gathered from District range staff;</li> <li>2. While conducting information sharing with range tenure holders, they will be asked to provide information specific to the nature and location of NRBs necessary for control of their livestock;</li> <li>3. The Licensee will plan and carry out activities in a manner that does not remove an identified NRB or render it ineffective, with the exception of clause 4 below; and</li> <li>4. In the event that proposed primary forest activities requires the removal or alteration of an identified NRB (rendering it ineffective), the Licensee will work with the District Manager and the range tenure holder to identify reasonable mitigation measures prior to carrying out operations and implement those measures as soon as necessary afterward. Reasonable measures include the installation of cattle guards, stock trails, and drift fences.</li> </ol> <p>If the Licensee and range tenure holder disagree on the course of action to address the potential removal of or the rendering ineffective of a NRB, the matter will be referred to the Nadina Natural Resource District range staff. The Licensee will provide District staff with a supporting rationale for their plans.</p>
Scale of Measurement:	N/A
Map Reference:	None

### Monitoring (Measures and Verification):

<sup>38</sup> Natural Range Barriers (British Columbia government Data Catalogue)

All records of communication and information sharing will be kept on file. This includes information sharing requests and feedback received (e.g. emails, phone calls, journal notes). This information is available in block files for future reference. Results from information sharing and mitigation planning will be verifiable at the site plan level.

## 8.0 Stocking Requirements

### 8.1 Stocking Standards

#### Context

The intent of stocking standards applied on Crown land and without wildfire mitigation objectives in mind (FDUs 1 and 2) are to establish a healthy free growing stand of commercially valuable species that:

- addresses long-term health issues;
- meets the timber supply analysis and forest management assumptions that apply to the area covered by the plan on the Submission Date;
- meets the land and resource management objectives in the Lakes North and South LRMPs; and
- provides alternate fibre sources given uncertainty in forest health, climate change impacts, forest fires, and commercial market trends.

The intent of stocking standards applied on Crown land with wildfire mitigation objectives in mind are to reduce wildfire risks directly adjacent to communities and to increase defensible spaces should wildfires occur. Refer to Section 6.4 as well as the BLCF LFMP<sup>39</sup> for more information about wildfire and the WUI in the BLCF. Fire-based stocking standards have been designed to promote fire resilient tree species closest to the surrounding community of Burns Lake and consider several examples and guidance resources as outlined in Appendix 4.

The Wet'suwet'en Yin'tah Stewardship report includes 13 stewardship principles that apply to silviculture stewardship practices. The Licensee committed to integrate these stewardship principles into resource management within the BLCF in Management Plan #4. Specifically, the Licensee has agreed to implement partial and selective harvesting techniques as well as mixedwood, uneven aged, and fire-based stocking standards to address forest stewardship principles pertaining to forest resilience, herbicide use, stand structure, and biodiversity in the BLCF.

Additionally, fire-based stocking standards allow for wildfire hazard reduction objectives to be met within areas of the BLCF that fall within the WUI for the community of Burns Lake as well as within cutblocks or primary fuels breaks proposed in the LFMP that are intended to provide increase wildfire suppression opportunities on the landscape for the long term. For this reason, fire-based stocking standards are intended for potential strategic implementation in specific locations supported by the LFMP and the BCWS in key portions only of FDUs 3 and 4 as shown on the Key Wildlife Mitigation Zone Map (Map#1, Appendix 2) rather than a broad implementation of the standard throughout the entire FDU. These standards allow for increased MITD, reduced overall stocking density, and the inclusion of broadleaf tree species to aide in reducing wildfire threat to surrounding residents. Additionally, partial harvesting practices will be employed where live trees are present but wildfire reduction activities are still required. Mixedwood standards will also help increase forest resilience through maintenance of biodiversity and species composition.

<sup>39</sup> Burns Lake Community Forest Landscape Fire Management Plan (2019)

The Licensee believes that these proposed stocking standards are in addition to the provincial base conifer stocking methods, supported by government policy and science, and developed by professional knowledge and experience. The standards are intended to contribute to increased forest resilience and adaptability by establishing an ecologically appropriate diversity of tree species. In this way, these standards are a reasonable approach that address both species diversity and site occupancy while accounting for potential risks and uncertainty.

Stocking Standards	
Legal Reference	Strategy
<ul style="list-style-type: none"> <li>➤ <i>FPPR</i> Section 44(1)</li> <li>➤</li> </ul>	<p>In all FDUs, the Licensee will undertake to comply with <i>FPPR</i> Section 44(1) (Free Growing Stands Generally) through the following :</p> <ul style="list-style-type: none"> <li>➤ The even aged stocking standards (Appendix 3), Tables 10 - 14 will be applied under this FSP for all even aged stands being managed as conifer leading and without wildfire objectives.</li> <li>➤ The mixedwood stocking standards in Table 14 apply to all standard units being managed as even-aged, deciduous stands, without wildfire objectives, and where aspen and/or birch are ≥ 50% composition of the pre-harvest basal area in the cutblock.</li> <li>➤ The fire-based stocking standards (Appendix 4), Tables 15- 17 apply to all standard units that are being managed with wildfire mitigation objectives in mind, as described in the site plan for each cut block. <ul style="list-style-type: none"> <li>• Areas potentially subject to these standards are within the Key Wildlife Mitigation Zone of FDU 3 and 4.</li> </ul> </li> <li>➤ The uneven aged stocking standards (Appendix 5), Table 20 apply to uneven aged stands being managed without wildfire objectives.</li> </ul> <p>There are additional considerations for all standards with respect to:</p> <ul style="list-style-type: none"> <li>➤ Lakes TSA Rust Management</li> <li>➤ Minimum Inter-Tree Distance</li> <li>➤ Milestone Dates</li> <li>➤ Maximum Density</li> <li>➤ Riparian Areas</li> <li>➤ Deciduous Forest Health Free Growing Damage Criteria</li> </ul> <p>These site-specific variances from the standard are more thoroughly outlined in subsections under Section 8.2 and are considered legal obligations to the Licensee.</p>

**Monitoring (Measures and Verification):**

Stocking standards are verifiable from field surveys, including regeneration and free growing surveys, as well as other silviculture surveys.

**References:**

1. Chief Forester's Reference Guide for Forest Development Stocking Standards -updated March 2019.
2. Establishment to Free Growing Guidebook: Prince George Forest Region, Appendix 6 (Boreal broadleaf stocking guidelines).
3. Fire Management Stocking Standards Guidance. March 2016.
4. Fort St. John Pilot Project Mixedwood Management Guidelines 2010.
5. Chief Forester memo on the Incorporation of mixedwood and broadleaves into Forest Stewardship Plan stocking standards, SP amendments, and TSR regeneration assumptions (2008).
6. Lakes North SRMP (2009).
7. Lakes South SRMP (2007).

## 8.2 Additional Stocking Standard Management Considerations

In addition to stocking standards in Appendix 3, 5, and 6, the Licensee commits to the following management methodologies which will be employed in all FDUs for the term of this FSP with regards to stocking standard options and assessments of whether stocking standards have been met and free growing achieved.

### 8.2.1 Nadina Natural Resource District Forest Health Strategy

**Context**

Forest health agents can prevent stands from reaching management objectives by increasing tree mortality, causing deformities or suppressing growth rates. Any of these impacts can result in significant reduction in stand volumes. A forest health strategy is required for each TSA in the province to provide guidance and/or best management practices with regards to forest health factors and issues that are present. The implementation of the forest health strategy is intended to help stabilize and augment the timber supply for the Lakes TSA by increasing the success of regeneration practices, increasing the productivity of immature stands, and decreasing losses of mature timber. These benefits imply a reduced risk to silviculture investment and a more stable planning environment. Early detection of forest health problems and the prompt application of scientifically sound solutions allows forest managers to take full advantage of potential benefits.<sup>40</sup>

The Forest Health Strategy for the Nadina Natural Resource District includes a general section for forest health agents other than bark beetles and a section dedicated to bark beetles. Both are consistent with the priorities and objectives of the Provincial Forest Health Strategy<sup>41</sup> and the Provincial Bark Beetle Management Technical Implementation Guidelines.<sup>42</sup>

Pine stem rusts are currently considered the most serious disease of managed stands in the Lakes TSA, particularly within the Sub-boreal Spruce (SBS) BEC zones.

**Definitions:**

<sup>40</sup> Nadine District Forest Health Strategy - 2016-2017

<sup>41</sup> Provincial Forest Health Strategy

<sup>42</sup> Provincial Bark Beetle Management Technical Implementation Guidelines

*“Regenerating Stand”* means a forested stand that has not been declared free to grow.

#### **Lakes TSA Rust Management**

The BLCF forest health strategy in areas with high incidences of rust will be implemented in all FDUs as follows:

1. In pine- leading standard units where a Qualified Registered Professional identifies greater than 20% incidence of pine rust within the regenerating stand:
  - a) The stand will be exempt from maximum conifer density criteria in 8.2.4, and
  - b) Aspen (At), paper birch (Ep), black cottonwood (Act) and willow (Salix spp.) will not be considered deleterious competition unless deciduous and shrub species are vigorously competing with crop trees.
    - Deciduous competition is considered “vigorous” when present in more than 2 quadrants of a fixed radius plot.

#### **Monitoring (Measures and Verification):**

Verifiable from field surveys, including regeneration, free to grow and other silviculture surveys.

### **8.2.2 Minimum Inter-Tree Distance**

#### **Context**

The Minimum Inter-Tree Distance (MITD) is the minimum distance that must exist between trees in order to have sufficient growing space and access to resources (sunlight, water, nutrients, etc.) for healthy and vigorous growth. If trees are too closely spaced, competition will impact individual tree growth and potentially future timber supply as well as the overall health of the stand.

Treatments that reduce crown closure and provide spacing are important aspects of wildfire mitigation techniques that reduce wildfire hazards near communities. The MITD for areas within the BLCF that require fuel management treatments has been increased to allow for effective fuel hazard reduction within FDUs 3 and 4.

#### **Minimum Inter-Tree Distance:**

The standard MITD for well-spaced or free growing trees will be 2.0 metres unless otherwise specified by this FSP.

MITD may be reduced to 1.5 metres in situations where deemed suitable by a Qualified Registered Professional. Circumstances where the MITD will be reduced may include:

- Hygric or wetter sites;
- Mounded area where raised microsites have been prepared;
- Soils containing greater than 25% coarse fragments (particles > 2 mm in diameter) as described in the site plan for the cutblock;
- Sites with a minimum of 40 dispersed wildlife trees per hectare;
- Riparian areas with a residual component of greater than or equal to the target minimum stems per hectare (preferred and acceptable) (see 8.2.5 regarding Riparian Competition);

- Cluster planting as needed to accommodate management strategies within WUI zones;
- Sites where obstacle planting is required to manage impacts from cattle presence;
- Sites where a stump avoidance strategy is employed to manage root rot;
- Plantation failure where fill planting or under planting is the prescribed treatment; and/or
- Partial cut areas with an abundance of residual regeneration as identified by a Qualified Registered Professional.

A MITD of 1.0 metres may be used in a limited application when cluster planting is used as a best management practice to accommodate objectives within Landscape Corridors, or grizzly bear habitat complexes as identified by Map #5 in Appendix 2.

#### **Monitoring (Measures and Verification):**

Alternative inter-tree distances will be completed through an approved variation in RESULTS and documented in the site plan.

### **8.2.3 Milestone Dates**

#### **Context**

The regeneration date is the latest date at which time the site is considered to be fully regenerated (as determined by a regeneration survey).

Late free growing date is the latest time, at which free growing can be assessed.

Additionally, a list of cutblocks requiring an adjustment to the late free grow date has been provided in Appendix 8. An extended late free growing date will allow the BLCF to manage a longer free growing timeframe for these blocks that require it.

#### **Regeneration Date:**

Regeneration and late free growing dates for even aged, deciduous, and fire-based managed stands are specified in Appendix 3 and 4. Milestone dates for uneven aged stands are specified in Appendix 5.

#### **Monitoring (Measures and Verification):**

A rationale for changes to the dates will be documented as an amendment to the site plan and submitted to the appropriate government personnel if necessary.

### **8.2.4 Maximum Density**

#### **Context**

Maximum density is the maximum tree density of the site, above which the Licensee will be responsible for reducing tree density through spacing.

### Density Strategy

In FDU 1 and FDU 2, the maximum density for total conifer and broadleaves will be:

1. 10,000 stems per hectare.
  - Maximum density may exceed 10,000 within a standard unit if, as a result of forest health or stand damage considerations, it is determined that a higher density is appropriate to maintain stocking levels beyond 20 years.
2. Consistent with the rust strategies in 8.2.1 above, 20,000 stems per hectare (SPH) in stands dominated by a minimum of 80% pine at the time of harvest.

In FDU 3 and FDU 4, the maximum density for total conifer species will be 800sph.

- Maximum density may exceed 800 within a standard unit if, as a result of forest health or stand damage considerations, it is determined that a higher density is appropriate to maintain stocking levels beyond 20 years.

In FDU 3 and FDU 4, the maximum density for total broadleaf species is 10,000sph.

### Monitoring (Measures and Verification):

The maximum density and associated rationale will be documented in the site plan or a site plan amendment as required.

## 8.2.5 Competition

### 8.2.5.1 Riparian Areas

#### Context

Riparian areas are naturally buffered by streamside vegetation. This natural vegetation protects the stream and land adjoining a waterway by keeping native soils intact and maintaining the streamside land and stream banks. These buffers regulate stream temperature through shading which is important for many fish species that may reside in the lower tributaries of a smaller stream. Riparian vegetation also helps encourage infiltration of rainfall and runoff and provides absorption for high stream flows. The vegetative community provides habitat for many species of plants and animals.

The RMZ can be used or managed in such a way as to protect water quality, the hydrologic regime of the waterway, and stream structure. The naturally vegetated buffer filters out pollutants, captures sediment, regulates stream water temperature, and processes many contaminants through vegetative uptake. Riparian buffers therefore should be kept intact or restored wherever possible (Section 6.3.3).

### Riparian Areas Assessment:

In consideration of increased protection to riparian values, trembling aspen (At), paper birch (Ep), black cottonwood (Act) and willow (*Salix spp.*) will not be considered deleterious competition when conducting a free growing survey within 10m of any riparian feature.

**Monitoring (Measures and Verification):**

Verifiable from field surveys, including regeneration surveys, free growing surveys, and other silviculture surveys.

**8.2.6 Deciduous Forest Health Free Growing Damage Criteria****Context**

As with conifers, deciduous tree species are also susceptible to many forest health factors which can impact the timber quality of the tree over the long term. In order to ensure these species have the potential for economic value in the future, they will be evaluated against the criteria below to be considered free growing. This statement applies to deciduous trees that will be considered a crop tree at the time of free growing where more than 50% of the stand is deciduous leading.

**Assessing Deciduous Health at Free Growing:**

This section applies only to those stands being managed as deciduous leading where greater than 50% of the stand is broadleaf and follows Table 14: Mixedwood – Even Aged Stocking Standards in Appendix 3.

A well-spaced, free growing deciduous crop tree must not have the following (as per the Silviculture Surveys Procedures Manual, 2020 - page 290-293):

1. Stems originating from the sides or cut surface of a stump - all species except Maple;
2. At least one major dead branch in the live crown - all species;
3. A torn branch from the point of attachment to the main stem - all species;
4. A broken main stem - all species;
5. A wound which occupies more than 10% of the circumference of the stem, or is longer than 15 cm - all species;
6. Cankers, fungal infections or insect damage - all species;
7. Animal damage such as repeated browsing of the main stem, abrasions or claw marks greater than 50 cm in length and covering over half the circumference of the stem - all species;
8. A sweep where the stem is displaced more than 30 cm from the center of the root crown pith within 1 metre of the ground - all species; and
9. Two or more leaders with no dominance expressed - applies to big leaf maple only.

Aspen, paper birch, and black cottonwood species will be considered deleterious brush where levels of unacceptable damage (as described in 1-9 above) are such that stocking will not be maintained beyond 20 years, as determined by a Qualified Registered Professional. In this case, even aged stocking requirements will follow those outlined in Appendix 3, Tables 10- 14.

**Monitoring (Measures and Verification):**

Verifiable from free growing surveys.

## Appendix 1 – Overview Map of the Forest Development Units

## Appendix 2 – Forest Stewardship Plan Content Maps

1. Key Wildfire Mitigation Zone
2. Biogeoclimatic Zones
3. Wildlife and Biodiversity
4. Recreation and Range Tenures
5. Grizzly Bear Habitat Complex and Constraints
6. Moose Habitat Capability
7. Mule Deer Habitat Suitability

## Appendix 3 – Burns Lake Community Forest FSP Even Aged Stocking Standards

### **Footnotes for all Stocking Standards Tables**

- All conifer leading (Table 10 – Table 13) stocking tables are consistent with the BC Government Reference Guide to Forest Development Stocking Standards.
- For all pine leading stands with more than 20% of pine stem rust, Section 8.2.1 applies.
- Minimum Inter-Tree Distance is specified in Section 8.2.2.
- Milestone Dates for Regeneration Delay and Late Free Growing are set out in Section 8.2.3.
- Maximum Densities are found in Section 8.2.4.
- For stands in riparian management zones (RMZs) as specified in Section 6.3.3, Section 8.2.5.1 regarding non-deleterious competition also applies.
- For standard units which are deciduous leading (see Table 14), Section 8.2.6 Deciduous Forest Health Free Growing Damage Criteria also applies.

**Table 10. SBS dk – Even Aged Stocking Standards**

BEC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	Pl, Lw	Sx, Sb	Fd
SBS dk	01		Sx Pl Fd <sup>9,18,32</sup> Lw <sup>32</sup>	N/A	1400	800	600	5	20	2.0	1.0	1.4
	02*		Pl	Sx <sup>28</sup>	1000	500	400	5	20	1.4	0.8	N/A
	03		Pl Sx <sup>28</sup>	Sb <sup>28</sup> Fd Lw	1200	700	600	5	20	2.0	1.0	1.4
	04		Pl Fd <sup>9,32</sup> Sx <sup>28</sup> Lw	N/A	1200	700	600	5	20	2.0	1.0	1.4
	05		Pl Sx <sup>28</sup>	Lw Fd <sup>9,18</sup>	1400	800	600	5	20	2.0	1.0	1.4
	06		Sx Fd <sup>9,18,32</sup> Lw <sup>32</sup> Pl	N/A	1400	800	600	5	20	2.0	1.0	1.4
	07		Sx <sup>1,32</sup> Lw Fd	Pl <sup>1</sup>	1000	500	400	5	20	1.4,	0.8	1.4
	08		Sx <sup>1,32</sup>	Pl <sup>1</sup>	1200	700	600	5	20	2.0	1.0	N/A
	09*		Pl <sup>1</sup> Sb <sup>1</sup> Sx <sup>1,32</sup>	N/A	400	200	200	5	20	1.4	0.8	N/A
	10*		Pl <sup>1</sup> Sb <sup>1</sup> Sx <sup>1,32</sup>	N/A	400	200	200	5	20	1.4	0.8	N/A

<sup>1</sup> suitable on elevated microsites

<sup>2</sup> “p” is preferred species, “a” is acceptable species

<sup>9</sup> suitable warm aspects

<sup>18</sup> suitable in eastern portion of BEC unit

<sup>28</sup> limited by moisture deficit

<sup>32</sup> limited by growing-season frosts

\*Avoid Logging

Table 11. SBS dw3 – Even Aged Stocking Standards

BEC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	PI	Fd	Bl, Sx, Sb, Lt
SBS dw3	01		Fd Pl Sx	N/A	1200	700	600	7	20	2.0	1.4	1.0
	02		Fd <sup>27</sup> Pl	Sx <sup>28</sup>	1000	500	400	7	20	1.40	1.0	0.8
	03		Pl	Sx	1200	700	600	7	20	2.0	N/A	1.0
	04		Fd Pl	Sx	1200	700	600	7	20	2.0	1.4	1.0
	05		Pl	Sb Sx <sup>32</sup>	1200	700	600	7	20	2.0	N/A	1.0
	06		Pl Sx <sup>32</sup> Fd <sup>32</sup>	Bl <sup>29</sup>	1200	700	600	5	20	2.0	1.4	1.0
	07		Sx Pl	Bl <sup>29</sup>	1200	700	600	5	20	2.0	N/A	1.0
	08		Pl Sx Fd <sup>3,32</sup>	Bl <sup>29</sup>	1200	700	600	5	20	2.0	1.4	1.0
	09		Pl <sup>1</sup> Sx <sup>1,32</sup>	Bl <sup>1,29</sup>	1000	500	400	5	20	1.4	N/A	0.8
	10*		Lt <sup>1</sup> Pl <sup>1</sup> Sb <sup>1</sup> Sx <sup>1,32</sup>	N/A	400	200	200	5	20	1.4	N/A	0.8

<sup>1</sup> suitable on elevated microsites<sup>2</sup> “p” is preferred species, “a” is acceptable species<sup>3</sup> Suitable Coarse-textured soils<sup>18</sup> Suitable in eastern portion of BEC unit<sup>27</sup> partial high-canopy shade required for successful establishment<sup>28</sup> limited by moisture deficit<sup>29</sup> risk of heavy browsing by moose<sup>32</sup> limited by growing-season frosts

\*Avoid Logging

Table 12. SBS mc2 – Even Aged Stocking Standards

BEC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	Pl, Lw	Sx, Sb, Bl	Fd
SBS mc2	01		Pl Sx	Bl <sup>29</sup>	1400	800	600	5	20	1.6, 2.0	0.8	1.4
	02*		Pl	Bl <sup>32</sup> Sx <sup>32</sup>	1000	500	400	5	20	1.2	0.6	N/A
	03		Pl Sx <sup>32</sup>	Bl <sup>29</sup> Sb	1200	700	600	5	20	1.6, 2.0	0.8	1.4
	05		Sx Pl	Bl <sup>29</sup>	1400	800	600	5	20	1.6, 2.0	0.8	1.4
	06		Sx Pl	Bl <sup>29</sup>	1400	800	600	5	20	1.6, 2.0	0.8	1.4
	07*		Pl Sb Sx <sup>32</sup>	Bl	1000	500	400	5	20	1.2	0.6	N/A
	08		Pl Sx	Bl <sup>29</sup>	1200	700	600	5	20	1.6	0.8	N/A
	09		Sx Bl <sup>29</sup>	Pl	1200	700	600	5	20	1.6	0.8	N/A
	10		Sx <sup>1,32</sup> Bl <sup>1,29</sup>	Pl <sup>1</sup>	1000	500	400	5	20	1.2	0.6	N/A
	12*		Sb <sup>1</sup> Sx <sup>1,32</sup>	Pl <sup>1</sup> Bl <sup>1</sup>	400	200	200	5	20	1.2	0.6	N/A

<sup>1</sup> suitable on elevated microsites<sup>2</sup> "p" is preferred species, "a" is acceptable species<sup>29</sup> risk of heavy browsing by moose<sup>32</sup> limited by growing-season frosts

\*Avoid Logging

Table 13. ESSF mc – Even Aged Stocking Standards

BEC			Species					Regeneration and Free Growing Criteria			
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)	
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	PI	Bl, Sx
ESSF mc	01		Bl Sx	PI <sup>34</sup>	1200	700	600	7	20	1.6	0.8
	02*		PI	Bl Sx	1000	500	400	7	20	1.2	0.6
	03*		PI	Bl Sx	1000	500	400	7	20	1.2	0.6
	04		PI Bl Sx	N/A	1200	700	600	7	20	1.6	0.8
	05		Bl Sx	PI <sup>34</sup>	1200	700	600	5	20	1.6	0.8
	06		Bl Sx	PI <sup>34</sup>	1200	700	600	5	20	1.6	0.8
	07		Bl Sx <sup>32</sup>	N/A	1200	700	600	5	20	1.6	0.8
	08*		Bl Sx <sup>32</sup>	N/A	1000	500	400	5	20	0.6	0.6
	09		Bl <sup>1</sup> Sx <sup>1,32</sup>	N/A	1000	500	400	5	20	0.6	0.6
	10		Bl <sup>1</sup> Sx <sup>1,32</sup>	N/A	1000	500	400	5	20	0.6	0.6

<sup>1</sup> suitable on elevated microsites<sup>2</sup> “p” is preferred species, “a” is acceptable species<sup>32</sup> limited by growing-season frosts<sup>34</sup> risk of snow damage

\*Avoid Logging

Table 14. Mixedwood – Even Aged Stocking Standards

BGC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Site conditions	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	PI	Sx, Bl, Fd	At, Ep, Ac
All <sup>x</sup>	Submesic to mesic sites		At Ep Ac	Sx PI Bl Fd	2000	1200	1000	5	20	2.0	1.0	2.0
	All other moisture regimes		At Ep Ac	Sx PI Bl Fd	1400	800	600	5	20	1.6	1.0	1.0

<sup>x</sup>These standards may be applied in stands with >= 50% deciduous basal area. See 8.1 Stocking Standards. Section 8.2.7 Deciduous Forest Health Free Growing Damage Criteria also applies.<sup>2</sup> “p” is preferred species, “a” is acceptable species

## Appendix 4 – Burns Lake Community Forest FSP Fire-based Stocking Standards

### **Footnotes for all Fire-based Stocking Standards Tables**

- Fire-based stocking standards may be applied in FDUs 3 and 4 in strategically placed fuel treatment areas and fuel breaks where longterm wildfire suppression opportunities are to be maintained, as per Map #1, Appendix 2.
- The even aged stocking standards established in Appendix 3 form the basis for the fire-based stocking standards outlined in Table 15 – Table 17.

The approach used to modify the even aged stocking standards includes:

1. Conifer species with a low to moderate fire resistance/resilience rating as per BC Wildfire Service (BCWS) Fire Management Stocking Standards Guidance are demoted from preferred species to acceptable species. This includes Pl, Sx, Sb, and Bl.
2. Conifer species with a high fire resistance/resilience rating as per BCWS Fire Management Stocking Standards Guidance<sup>52</sup> are promoted from acceptable species to preferred species. This includes Fd and Lw.
3. Deciduous species that are ecologically suitable to each site series, as per recommended FDP stocking standards, are promoted to preferred species. This includes At, Act, and Ep.
  - Where deciduous species are indicated to have poor performance in a site series, the primary preferred conifer species remained a preferred stocking species.
4. Target and minimum stocking densities are reduced.
  - Where deciduous species are ecologically suitable to the site series, densities are changed to 1000sph target, 600sph preferred plus acceptable, and 600sph preferred.
  - Where deciduous species are not ecologically suitable or are expected to perform poorly in a site series, stocking densities are reduced to 400sph target, 200sph preferred plus acceptable, and 200sph preferred.
5. Maximum conifer density has been reduced to 800sph.

The approach to these fire-based stocking standards considers recommendations from the following:

- BCWS Fire Management Stocking Standards Guidance
- FDP Stocking Standards
- South Selkirk Fire Management Stocking Standards (2018)

Maintenance of fuel mitigation and the application of these fire-based stocking standards are an important aspect of meeting the objectives of FDUs 3 and 4. Brushing/thinning treatments may be required as prescribed by a Qualified Registered Professional to maintain the conditions required to reduce wildfire hazards within FDUs 3 and 4.

Table 15. SBS dk – Fire-based Stocking Standards

BEC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	Pl, Lw	Sx. Sb	Fd
SBS dk	01		At <sup>a</sup> Ep <sup>a</sup> Fd <sup>9,18,32</sup> Lw <sup>32</sup>	Sx Pl	1000	600	600	5	20	2.0	1.0	1.4
	02		Pl At <sup>b</sup> Ep <sup>b</sup>	Sx <sup>28</sup>	400	200	200	5	20	1.4	0.8	N/A
	03		Fd At <sup>b</sup> Pl	Sx <sup>28</sup> Sb <sup>28</sup> Lw	400	200	200	5	20	2.0	1.0	1.4
	04		At <sup>b</sup> Ep <sup>a</sup> Fd <sup>9,32</sup> Lw	Sx <sup>28</sup> Pl	400	200	200	5	20	2.0	1.0	1.4
	05		At <sup>a</sup> Ep <sup>a</sup> Fd <sup>9,18</sup> Lw	Pl Sx <sup>28</sup>	1000	600	600	5	20	2.0	1.0	1.4
	06		Act <sup>a</sup> At <sup>a</sup> Ep <sup>a</sup> Fd <sup>9,18,32</sup> Lw <sup>32</sup>	Sx Pl	1000	600	600	5	20	2.0	1.0	1.4
	07		Act <sup>b</sup> At <sup>b</sup> Ep <sup>b</sup> Fd Lw	Pl <sup>1</sup> Sx <sup>1,32</sup>	400	200	200	5	20	1.4, 2.0	0.8	1.4
	08		Act <sup>a</sup> At <sup>a</sup> Ep <sup>a</sup>	Pl <sup>1</sup> Sx <sup>1,32</sup>	1000	600	600	5	20	2.0	1.0	N/A
	09		Pl <sup>1</sup> Sb <sup>1</sup> Sx <sup>1,32</sup>	N/A	400	200	200	5	20	1.4	0.8	N/A
	10		Pl <sup>1</sup> Sb <sup>1</sup> Sx <sup>1,32</sup>	N/A	400	200	200	5	20	1.4	0.8	N/A

<sup>1</sup> suitable on elevated microsites

<sup>2</sup> “p” is preferred species, “a” is acceptable species

<sup>9</sup> suitable warm aspects

<sup>18</sup> Suitable in eastern portion of BEC unit

<sup>28</sup> limited by moisture deficit

<sup>32</sup> limited by growing-season frosts

<sup>a</sup> productive, reliable, and feasible regeneration option

<sup>b</sup> limited in productivity, reliability and/or feasibility

- **FG Minimum height for all deciduous species is 2.0 m**
- **Maximum conifer density is reduced to 1000sph at 30 years**

Table 16. SBS dw3 – Fire-based Stocking Standards

BEC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	PI	Fd	BI, Sx, Sb, Lt
SBS dw3	01		At <sup>a</sup> Ep <sup>a</sup> Fd	PI Sx	1000	600	600	7	20	2.0	1.4	1.0
	02		Fd <sup>27</sup>	Sx <sup>28</sup> PI	400	200	200	7	20	1.40	1.0	0.8
	03		At <sup>b</sup> PI	Sx	400	200	200	7	20	2.0	N/A	1.0
	04		At <sup>a</sup> Ep <sup>a</sup> Fd	Sx PI	1000	600	600	7	20	2.0	1.4	1.0
	05		PI At <sup>b</sup>	Sb Sx <sup>32</sup>	400	200	200	7	20	2.0	N/A	1.0
	06		Act <sup>b</sup> At <sup>a</sup> Ep <sup>a</sup> Fd <sup>32</sup>	BI <sup>29</sup> PI Sx <sup>32</sup>	1000	600	600	5	20	2.0	1.4	1.0
	07		Act <sup>b</sup> At <sup>a</sup> Ep <sup>a</sup>	BI <sup>29</sup> Sx PI	1000	600	600	5	20	2.0	N/A	1.0
	08		At <sup>a</sup> Ep <sup>a</sup> Fd <sup>3,32</sup>	BI <sup>29</sup> PI Sx	1000	600	600	5	20	2.0	1.4	1.0
	09		PI <sup>1</sup> Sx <sup>1,32</sup>	BI <sup>1,29</sup>	400	200	200	5	20	1.4	N/A	0.8
	10		Lw <sup>1</sup> PI <sup>1</sup> Sb <sup>1</sup> Sx <sup>1,32</sup>	N/A	400	200	200	5	20	1.4	N/A	0.8

<sup>1</sup> suitable on elevated microsites<sup>2</sup> “p” is preferred species, “a” is acceptable species<sup>3</sup> Suitable Coarse-textured soils<sup>18</sup> Suitable in eastern portion of BEC unit<sup>27</sup> partial high-canopy shade required for successful establishment<sup>28</sup> limited by moisture deficit<sup>29</sup> risk of heavy browsing by moose<sup>32</sup> limited by growing-season frosts<sup>a</sup> productive, reliable, and feasible regeneration option<sup>b</sup> limited in productivity, reliability and/or feasibility

- **FG Minimum height for all deciduous species is 2.0 m**
- **Maximum conifer density is reduced to 1000sph at 30 years**

Table 17. SBS mc2 - Fire-based Stocking Standards

BEC			Species					Regeneration and Free Growing Criteria				
Zone / Subzone / Variant	Series	Standards ID	Species		Stocking			Regen Delay	FG Assessment (Yrs)	FG Minimum Ht. (m)		
			Preferred	Acceptable	Target	Min p+a <sup>2</sup>	Min p	Years	Latest	Pl, Lw	Sx, Sb, Bl	Fd
SBS mc2	01		At <sup>a</sup> Fd Lw	Bl <sup>29</sup> Pl Sx	1000	600	600	5	20	1.6, 2.0	0.8	1.4
	02		At <sup>b</sup> Pl	Bl <sup>32</sup> Sx <sup>32</sup>	400	200	200	5	20	1.2	0.6	N/A
	03		At <sup>b</sup> Pl Fd	Bl <sup>29</sup> Sb Sx <sup>32</sup>	400	200	200	5	20	1.6, 2.0	0.8	1.4
	05		Act <sup>a</sup> At <sup>a</sup> Fd Lw	Bl <sup>29</sup> Sx Pl	1000	600	600	5	20	1.6, 2.0	0.8	1.4
	06		Act <sup>a</sup> At <sup>a</sup> Fd	Bl <sup>29</sup> Sx Pl	1000	600	600	5	20	1.6, 2.0	0.8	1.4
	07		At <sup>b</sup> Sb Sx <sup>32</sup> Lw	Bl Pl	400	200	200	5	20	1.2	0.6	N/A
	08		Act <sup>b</sup> At <sup>a</sup>	Bl <sup>29</sup> Pl Sx	1000	600	600	5	20	1.6	0.8	N/A
	09		Act <sup>b</sup> At <sup>a</sup>	Pl Sx Bl <sup>29</sup>	1000	600	600	5	20	1.6	0.8	N/A
	10		Act <sup>b</sup> At <sup>b</sup> Sx <sup>1,32</sup>	Pl <sup>1</sup>	400	200	200	5	20	1.2	0.6	N/A
	12		Sb <sup>1</sup> Sx <sup>1,32</sup>	Pl <sup>1</sup> Bl <sup>1</sup>	400	200	200	5	20	1.2	0.6	N/A

<sup>1</sup> suitable on elevated microsites<sup>2</sup> "p" is preferred species, "a" is acceptable species<sup>29</sup> risk of heavy browsing by moose<sup>32</sup> limited by growing-season frosts<sup>a</sup> productive, reliable, and feasible regeneration option<sup>b</sup> limited in productivity, reliability and/or feasibility

- **FG Minimum height for all deciduous species is 2.0 m**
- **Maximum conifer density is reduced to 1000sph at 30 years**

## Appendix 5 – Burns Lake Community Forest FSP

### Uneven Aged Stocking Standards

#### **Footnotes for Uneven Aged Stocking Standards**

- Uneven aged stocking standards may be applied in all FDUs in both conifer and deciduous leading stands in all BEC zones.
- The even aged stocking standards established in Appendix 3 form the basis for the uneven aged stocking standards (outlined in Table 10 – Table 14). The even aged standards will be modified with the milestone dates in Table 18, have a MITD of 0 m for layer 1 (Table 19), and follow the densities outlined in Table 20.
- Uneven aged stocking standards will be used for all partial and selective cut harvesting in the BLCF.

**Table 18. Milestone Dates for Uneven Aged Stocking Standards**

Regeneration Delay (years)	Late Free to Grow Date (years)
7	20

- Regeneration delay can be met immediately following harvesting if the residual stand has no significant damage or pest problems (as per the current version of the Silviculture Surveys Procedures Manual) and meets minimum stocking standards.

**Table 19. Survey Layer Criteria**

Layer	Size Specifications
1	≥12.5cm dbh
2	7.5cm to 12.4cm dbh
3	≥ 1.3m in height and up to 7.4cm dbh
4	≤ 1.3m in height

**Table 20. Uneven Aged Stocking Standards**

Target from even-aged standards (sph)	Layer	Stocking (well-spaced/ha) <sup>1</sup>		
		TSSpa	MSSpa	MSSp
2000	1	1400	700	600
	2	1600	800	700
	3	1800	900	800
	4	2000	1000	900
1800	1	1200	600	500
	2	1400	700	600
	3	1600	800	700
	4	1800	900	800
1600	1	1000	500	400
	2	1200	600	500
	3	1400	700	600
	4	1600	800	900
1400	1	800	400	300
	2	1000	500	400
	3	1200	600	500
	4	1400	700	600
1200	1	600	300	250
	2	800	400	300
	3	1000	500	400
	4	1200	700	600
1000	1	400	200	200
	2	600	300	250
	3	800	400	300
	4	1000	500	400
400	1	200	100	100
	2	300	125	125
	3	300	150	150
	4	400	200	200
<sup>1</sup> TSS- target stocking standards MSS- minimum stocking standards pa- preferred and acceptable p-preferred				

## Appendix 6 – Moose and Mule Deer Habitat Predictive Modelling and Area Determination

### Mule Deer Habitat Suitability Model Processes

The following table outline the criteria used to assign weighted values for mule deer winter habitat values in the Lakes TSA.

Weights assigned to individual polygons in the stated fields in Table 21 are divided by the maximum scores to produce a percentage score. This percentage score translates to Habitat Suitability Ranks (HSR) as described in Table 22.

**Table 21. Mule deer winter habitat criteria**

Weight	Attribute	Habitat Quality
required	Aspect	S/SW/W
1	Slope	> 40%
2	Elevation	<1000 m
1	Crown Closure	> 60 %
2	BEC age	SBS dk or SBS dw3 and age 80 - 140
2.5	BEC age	SBS dk or SBS dw3 and age > 140
Maximum Total Score of 6.5 (where all of these factors exist or are met at the same location)		

**Table 22. Habitat Suitability Ranks**

Percent Score	HSR	Habitat Suitability
0%	6	nil
0.1-5%	5	very low
5.1-25%	4	low
25.1-50%	3	moderate
50.1-75%	2	moderately high
75.1-100%	1	high

HSRs were broken into value classes and symbolized from nil suitability (green) to high suitability (red).

**Determination of area for moose winter habitat conservation:****Table 23. Break down of the determination of the area required for moose winter habitat conservation in the BLCF.**

Section 7 Total Notice Requirement – Lakes TSA	218,142 ha
Section 7 THLB Notice Requirement – Lakes TSA	156,427 ha
ESI Winter Range Total Extent - Lakes TSA	272,403 ha
ESI Winter Range overlap with BLCF	32,416 ha
Winter Range BLCF Proportional Responsibility	11.9% <sup>1</sup>
Total area required in the BLCF	26,001 ha <sup>2</sup>
THLB area required in the BLCF	18,645 ha <sup>3</sup>
BLCF existing OGMA overlap with BLCF Winter Range	3,568 ha
<b>Area of the BLCF required for moose winter habitat management</b>	<b>22,213 ha <sup>4</sup></b>

<sup>1</sup> 32,416ha ESI Winter Range overlap with BLCF / 271,958ha ESI Winter Range Total Extent - Lakes TSA = 0.119195 = ~11.9% proportional responsibility

<sup>2</sup> 218,142ha Section 7 Notice TSA-wide total requirement X 0.119195 BLCF Proportional Responsibility = 26,001ha total required in BLCF

<sup>3</sup> 156,427ha Section 7 Notice TSA-wide THLB requirement X 0.119195 BLCF Proportional Responsibility = 18,645ha THLB required in BLCF

<sup>4</sup> 18,645ha – 3,568 ha = 22,213ha

**Determination of area for mule deer winter habitat conservation:****Table 24. Break down of the determination of the area required for mule deer winter habitat conservation in the BLCF.**

Section 7 Notice Requirement	1,332 ha in the Lakes TSA THLB
Total area of the BLCF	92,276 ha
<b>Area of the BLCF required for mule deer winter habitat</b>	<b>532.8 ha*</b>

\*4,756ha Section 7 Notice spatial overlap with BLCF area = 39.7% proportional responsibility so 1,332 ha X 39.7% = 532.8ha

**Determination of area for grizzly bear habitat conservation:****Table 25. Break down of the determination of the area required for grizzly bear habitat conservation in the BLCF.**

Section 7 Notice Requirement	1,346 ha or 0.37% of the THLB in the Lakes TSA
THLB area of the BLCF	67,771 ha*
<b>Area of the BLCF required for grizzly bear habitat</b>	<b>250.75 ha*</b>

\*67,771 ha X 0.37% = 250.75 ha

## Appendix 7 – Details of Advertisement and Public Review

### A7.1 Advertisements

An initial public review period started November 3<sup>rd</sup>, 2021 and the FSP was published in the *Burns Lake Lakes District News* on that date. The FSP and content maps were provided to the public through the Burns Lake Community Forest website and social media pages. Members of the public were also welcomed to request a hard copy of the FSP from the community forest, although none were requested during the review period.

### A7.2 Information Sharing

The FSC has established a set of stakeholder engagement requirements to ensure that environmentally sound, socially beneficial, and economically prosperous management of the world's forests is realized.<sup>43</sup> To accommodate these requirements as part of FSC certification for the BLCF, these stakeholder and First Nations engagement practices were incorporated in their information sharing processes for this FSP.

Letters, emails, and conversations regarding the FSP commenced with First Nations on August 6, 2021 and all other stakeholders on November 11, 2021. Additionally, a live TEAMS meeting was held to discuss the FSP with the Regional District of Bulkley Nechako and the Burns Lake Mountain Bike Association on December 4, 2021.

The following is a list of First Nations, Range Tenure Holders and Guide Outfitters that were contacted during the initial FSP review period:

#### First Nations

Burns Lake Band
Lake Babine Nation
Office of the Wet'suwet'en Hereditary Chiefs
Yekooche First Nation
Wet'suet'en First Nation
Nee Tahi Buhn Band
Stellat'en First Nation
Skin Tyee Band
Nadleh Whut'en First Nation
Witset (Office of the Wet'suwet'en Hereditary Chiefs)

#### Stakeholders, Interested Clubs, Guide Outfitters, and Trapline Holders

Tchesinkut Lake Watershed Society
Burns Lake Mountain Bike Association
Regional District of Bulkley Nechako

<sup>43</sup> Forest Stewardship Council Guidance for Stakeholder Engagement Guidance Document (FSC-GUI-30\_011)

Johan Sturm – Guide Certificate # 601106	
James Lancaster – Guide Certificate # 60115 and 601082	
Jack Hooper – Guide Certificate # 610008	
Brian McConnell - Guide Certificate # 601107	
Guide Certificate # 601012 (no name provided)	
Brett Hall - Guide Certificate # 610003	
TR0609T001	RAN075803 01
TR0604T033	RAN074911 A
TR0604T031	RAN075790
TR0604T034	RAN074398
TR0604T030	RAN075790 B
TR0604T024	RAN078084 01
TR0604T027	RAN074395 A
TR0604T023	.
TR0604T057	.
TR0604T028	.
TR0604T025	.
TR0605T006	.
TR0605T007	.
TR0604T026	.
TR0605T009	.
TR0605T010	.
TR0606T005	.

Copies of the newspaper advertisement, social media posted, as well as the letters, conversation notes, and maps that were sent to each First Nation and stakeholder are kept on file. The BLCF will continue to information share at the development stage and will work to address future input/concerns.

## Appendix 8 – List of cutblocks requiring extended late free grow dates.