

# KAL<sup>≡</sup>SNIKOFF

TIMBER INSPIRES

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## FOREST STEWARDSHIP PLAN #597 – Amendment 3

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2021 to 2026

The Forest Stewardship Plan is a requirement of the Forest Range and Practices Act (2004). The Forest Stewardship Plan is a landscape level plan, which is focused on establishing strategies and results for conserving and protecting timber and non-timber resource values for forest management activities over the life of the plan.

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## 1.0 SIGNATURES

### 1.1 Signature of Person Required to Prepare a Forest Stewardship Plan

Kalesnikoff Lumber Company Ltd.

Name: \_\_\_\_\_

Ken Kalesnikoff, CEO

Date: \_\_\_\_\_

### 1.2 Signature of Preparing Forester

Preparing Forester

Name: \_\_\_\_\_

Tyler Hodgkinson, RPF #3984

*"I certify that the work described herein fulfills the standards expected of a member of the Association of British Columbia Forest Professionals."*

Date: \_\_\_\_\_

## 2.0 APPLICATION OF THE FOREST STEWARDSHIP PLAN

This Forest Stewardship Plan applies to Kalesnikoff Lumber Company Ltd. Forest Licence A20194 and A30172.

The provisions of this Forest Stewardship Plan do not apply to the extent necessary to allow the licence holder and its employees, servants, agents, contractors and sub-contractors to carry out fire control or suppression in accordance with the enactment.

### 2.1 Forest Stewardship Plan Holder and Licence

This Forest Stewardship Plan applies to each Cutting Permit and Road Permit issued or granted to the licence holder:

- a) after the term of this Forest Stewardship Plan commences,
- b) within approved Forest Development Unit boundaries and
- c) under or in respect of the licences listed in Table 2.1.1.

**Table 2.1.1 Licences**

Timber Supply Area	Licence
Arrow	A20194
Kootenay Lake	A30172

## 3.0 TERM OF THE FOREST STEWARDSHIP PLAN

The term of this Forest Stewardship Plan:

- a) shall be, as per Forest and Range Practices Act section 6(1)(a), 5 years,
- b) may be terminated earlier than 5 years if the Forest Stewardship Plan holder chooses to replace it with another approved Forest Stewardship Plan,
- c) as per Forest and Range Practices Act section 6(2), may be extended by the minister pursuant to applicable Acts and Regulations and,
- d) is to commence on the day the Delegated Decision Maker grants approval to the document.

### 3.1 FOREST STEWARDSHIP PLAN AMENDMENT HISTORY

Amendment Type	Amend No.	Date submitted or approved	Date approved	Details
Minor requiring approval	1	Feb 23, 2017	Mar 3, 2017	<p><b>Section 5.0:</b> Exclusion of private lands and parks from FDU's.</p> <p><b>Section 6.1.2.6:</b> Add strategy to conduct harvest activities with provincial agency.</p> <p>Section 6.1.2.3: Fix grammatical error.</p>
Minor requiring approval	2	Dec 28, 2018	Mar 9, 2019	<p><b>Section 8.0:</b> adopt Selkirk Resource District South Columbia default stocking standards</p> <p><b>Section 6.1.2.7:</b> Clarify 'Individual Wildlife Trees' wording.</p>
FPPR Sec 28 – Extending term requiring approval	3			<p><b>Section 3.0:</b> term of the FSP will be 2021 to 2026</p> <p><b>Throughout the Plan:</b> Every place within the FSP where it states, “undertake to comply” has been replaced with “will comply.”</p> <p><b>Section 6.1.1.2:</b> Clarify that the Old Forest targets are met with OGMAs.</p> <p>Eliminate the use of the word, “may” within any strategy and/or result.</p> <p>Update wording around modifying Old Growth Management Areas.</p> <p>Various footnotes added to provide better clarity.</p> <p>Create Appendix C to include Guidance for Modifying Old Growth Management Areas.</p> <p>Clarify mappable area as greater than 0.25ha.</p> <p>New wording: committing to preparing a recruitment strategy where Mature plus Old forest targets are not met. Committing to collaborative planning in a shared Landscape Unit.</p> <p><b>Section 6.1.1.3 Caribou:</b> Footnote added.</p> <p><b>Section 6.1.2.2:</b> Moved all wildlife results and strategies under this section where they were previously separated into GAR order section.</p> <p>Eliminate the use of the word, “may” within any strategy and/or result.</p> <p>Added Qualified Professional Biologist will assess and provide recommendation if a Species at Risk is encountered during operations.</p> <p><b>Section 6.1.2.2.4:</b> New wording: committing to collaborative planning in a shared Management Unit.</p> <p><b>Section 6.1.2.2.6:</b> Update Wildlife Habitat Features wording for consistency with regulation.</p> <p><b>Section 6.1.2.3:</b> Replaced Stream Channel Strategy with Riparian Strategy to cover off all riparian features.</p> <p>Eliminate the use of the word, “may” within any strategy and/or result.</p> <p>Updated minimum target percent of retention of trees in a riparian zone. S6 streams &gt;0%.</p> <p>Footnote added to define the size of the stem we want to be able to recognize sub-merch as well as merchantable stems.</p>

				<p><b>Section 6.1.2.5:</b> Clarify assessments to be completed by QRP.  Updated bullet point: Identifying elements-at-risk in watersheds and on fans, while taking into account potential climate change impacts.  Clarify appreciable change and its measure.  Committed to follow recommendations or thresholds of QRP assessment in the implementation of operational activities.  Updated 'Exception to the Strategy' to any proposed development as opposed to just salvage.</p> <p><b>Section 6.1.2.6:</b> Eliminate the use of the word, "may" within any strategy and/or result.  Clarify that licence holder Retention Strategy pertaining to FPPR sec 64(2)(b) does not preclude the use of other provisions in FPPR sec 64.</p> <p><b>Section 6.1.2.7:</b> Eliminate the use of the word, "may" within any strategy and/or result.  Clarify mappable area as greater than 0.25ha.  New wording: 'Restrictions on Harvesting' f) add wording to access isolated timber.</p> <p><b>Section 6.1.2.8:</b> Moved all Visual results and strategies under this section where they were previously separated into GAR order section.  Eliminate the use of the word, "may" within any strategy and/or result.  New wording: commit to adopting GAR order results or strategy.  New wording: drop FPPR sec 12 exemption and add alternate result and/or strategy.</p> <p><b>Section 6.1.2.9:</b> Eliminate the use of the word, "may" within any strategy and/or result.  New wording: drop references to archeological sites and describe efforts to obtain CHR information.</p> <p>Section 6.2.2.1: Eliminate the use of the word, "may" within any strategy and/or result.</p> <p><b>Section 7.1:</b> Eliminate the use of the word, "may" within measures.  New wording: clarify practices.</p> <p><b>Section 7.2:</b> Eliminate the use of the word, "may" within measures.</p> <p><b>Section 10.0:</b> Eliminate the use of the word, "may" within any strategy and/or result.</p>
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## 4.0 OTHER PLANS

### 4.1 Kootenay Boundary Higher Level Plan Order

The licence holder is required to act in a manner that is consistent with the objectives established in the Kootenay Boundary Higher Level Plan Order, which came into effect on October 26, 2002 along with its subsequent variances.

### 4.2 Forest Stewardship Plan Holder Plans

The licence holder's Environmental Management Plan provides supporting information for this plan. The plan was prepared to ensure a consistent approach to planning is undertaken within licence holder's operations. If requested, this document will be available as background to the main Forest Stewardship Plan, but is not considered part of the legal realm of the Forest Stewardship Plan.

### 4.3 Operating Areas

The Arrow and Kootenay Lake Timber Supply Areas are currently subdivided into operating areas for each forest licensee and British Columbia Timber Sales. They are a commercial arrangement between forest licensees and British Columbia Timber Sales to facilitate efficient land management and logging activities. Whereas the operating areas are integral to the licence holder's primary forest management activities, operating areas are not considered part of the legal realm of the Forest Stewardship Plan.

**Relates to:** [11.1](#) of this document.

Operating areas are located on the licence holder's website; follow the download *FSP597 Detail Wall Maps* link to view operating areas.

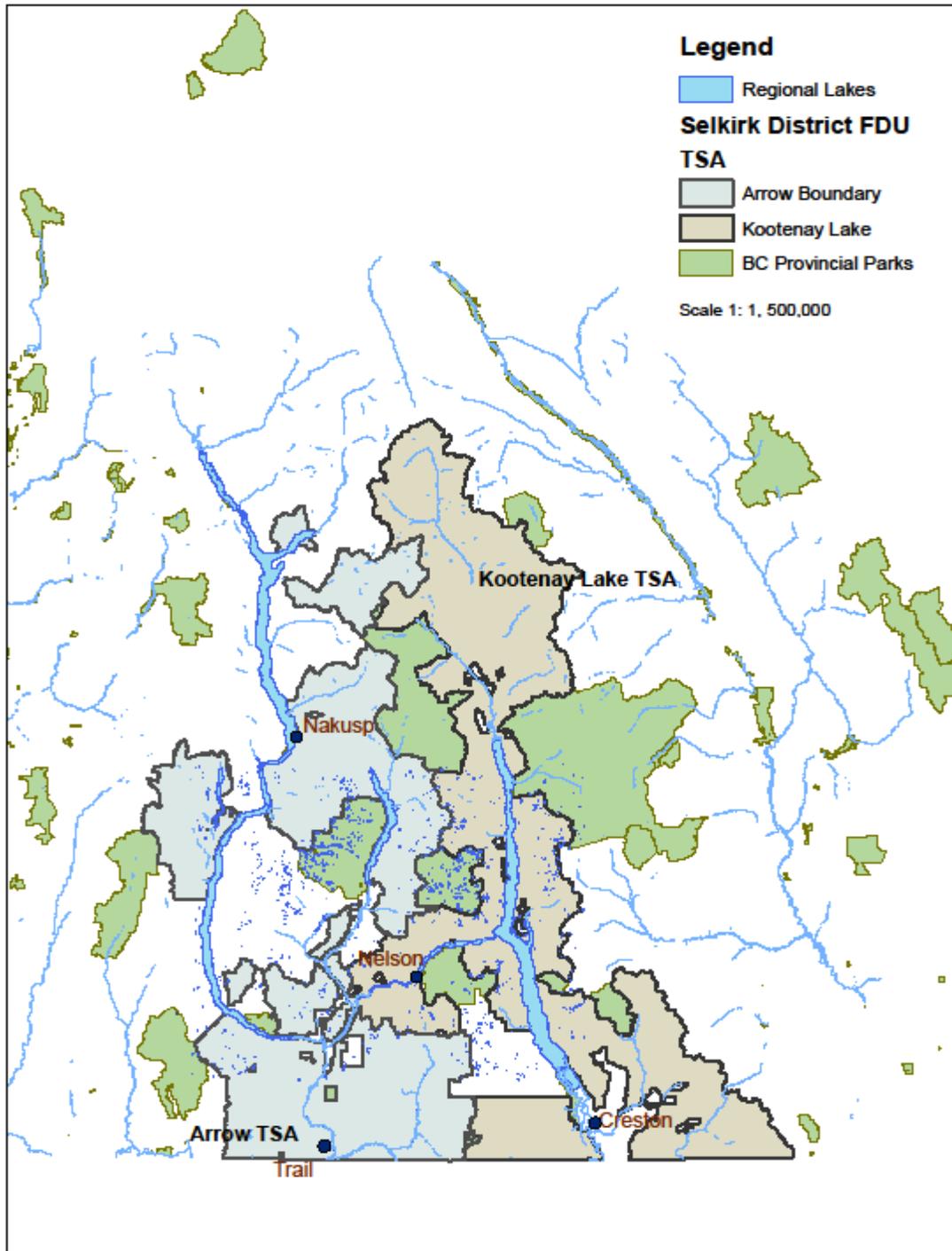
<https://www.kalesnikoff.com/sustainable-forest-stewardship>

## 5.0 AREA

The Forest Stewardship Plan Forest Development Units cover the entire area of Arrow and Kootenay Lake Timber Supply Area, while excluding all private land, parks and actively managed area-based tenures including Woodlots, Community Forests and Tree Farm Licences.

## 5.1 Overview Maps

The following map shows the boundaries of the two Forest Development Units the Forest Stewardship Plan covers.



## 5.2 Forest Development Unit Maps

A detailed map of the Arrow Forest Development Unit is in [Appendix A](#).

A detailed map of the Kootenay Lake Forest Development Unit is in [Appendix B](#).

## 6.0 STRATEGIES AND RESULTS IN RELATION TO OBJECTIVES

This section describes the set of legal objectives established through legislation, regulations and the Kootenay Boundary Higher Level Plan Order. Practice requirements results or strategies in relation to set objectives are specified as they pertain to all of the area subject to the plan.

### 6.1 Objectives Set by Government

#### 6.1.1 Land Use Objectives

The area under this Forest Stewardship Plan is within the scope of the Kootenay Boundary Higher Level Plan Order effective October 26, 2002, and all approved variances to it. Where there is a conflict between the Kootenay Boundary Higher Level Plan Order and objectives set by Forest and Range Practices Act and its regulations, the Kootenay Boundary Higher Level Plan Order objectives and strategies will prevail to the extent of the discrepancy.

##### 6.1.1.1 Biodiversity Emphasis

**Objective:** *To contribute to the conservation of biodiversity, through the assignment of biodiversity emphasis to each landscape unit.*

**Relates to:** [6.1.2.6](#) of this document.

**Practice Requirements – Strategy:**

The licence holder will comply with Objective 1 of Kootenay Boundary Higher Level Plan Order.

### 6.1.1.2 Mature and Old Forest

**Objective:** *To maintain mature forests and old forests to levels indicated in the Kootenay Boundary Higher Level Plan Order.*

**Relates to:** [6.1.2.6](#) and [Appendix C](#) of this document.

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Objective 2 of Kootenay Boundary Higher Level Plan Order.

#### **Old Forest Strategy:**

Old Forest targets are achieved with Old Growth Management Areas, where the Old Growth Management Areas are used as a surrogate to aspatial Old Forest targets. The entire area of crown forest land base contained within Old Growth Management Areas is considered Old Forest irrespective of stand age. The Old Forest located outside of Old Growth Management Areas does not contribute to the Old Forest targets.

The licence holder may modify Old Growth Management Areas. Modifications to the boundaries of established Old Growth Management Areas, or replacement of an entire Old Growth Management Area can be implemented as long as the modification, or replacement is replaced by an equal or greater area with equivalent or greater old forest attributes and stand age, or where a Qualified Registered Professional determines that a forest stand has sufficient biological value to be an Old Forest, or contains attributes that make the area a good candidate for long-term recruitment. Preference is to be given to establishing Old Growth Management Areas in older stands that contain, or have a good likelihood of maintaining or enhancing biodiversity and ecological representation as found in the original Old Growth Management Area. Old Growth Management Areas should be located in contiguous areas with an emphasis on large patches, interior forest habitat conditions and landscape connectivity. Consideration should also be made to locate Old Growth Management Areas where harvesting constraints provide the best long-term potential for stands to develop old forest attributes associated with advanced age. Other important values, such as wildlife habitat, rare old forest ecosystems and the amount of human impact should also be considered.

Mappable (greater than 0.25 hectares) Old Growth Management Area modifications will be assessed and approved by a Qualified Registered Professional, where a written rationale and accompanying map denoting the modifications will be prepared and kept on record. The licence holder's 'Guidance for Modifying Old Growth Management Areas' is found in [Appendix C](#).

In most cases Old Growth Management Areas are not to be considered available for harvest and should not have new harvesting proposed within them. However, an amendment to, or the replacement of, an existing Old Growth Management Area, or portion thereof, can occur for a number of reasons, such as:

- a) access requirements if no other alternative location exists;
- b) landscape, stand-level or total-chance planning considerations with a desire to improve Old Growth Management Areas boundaries;
- c) forest health<sup>1</sup>;
- d) wildland urban interface forest fuel reduction treatments;
- e) catastrophic timber loss due to wildfire, blowdown, or pests/pathogens;
- f) inclusion of wildlife habitat areas, features or values;
- g) protection of rare ecosystems<sup>2</sup>;
- h) operational or safety issues subject to stand-level considerations<sup>3</sup>.

Proposing harvest within an Old Growth Management Area must provide that critical attributes and old seral stage are maintained, or enhanced, and be accompanied with a solid ecological rationale, where the key would be retention, or creation of old growth attributes.

As a general principle, an area of forest identified as an Old Growth Management Area replacement should be the same size (ha.) in net forest area (excluding NP, non-crown, roads, etc.) and have the same or better biological old growthness when compared with the original area of Old Growth Management Area.

#### **Mature plus Old Forest Requirement Strategy:**

In order to maintain Mature plus Old Forest to the target levels indicated in the Kootenay Boundary Higher Level Plan Order, and prior to applying for a cutting permit or road permit, the licence holder will conduct analysis confirming the distribution of the Mature plus Old Forest. Analysis will be completed within any Landscape Unit where the licence holder is proposing a cutting permit or road permit. When a Landscape Unit's target is in deficit, the licence holder will prepare a recruitment strategy to meet the target in the shortest time frame. An alternative recruitment strategy, other than shortest time frame, can be utilized provided a Qualified Registered Professional assesses and documents how the alternate strategy better maintains Mature plus Old Forest.

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<sup>1</sup> Forest health as it relates to threatening the sustainability and resiliency of the forested ecosystems within the Old Growth Management Area, where strategies and/or tactics will be implemented to minimize losses from damaging insects, disease and abiotic disturbances.

<sup>2</sup> A rare old forest ecosystem has an unusual composition of species, or structure of forest cover that may be threatened by human activities. It can also be composed of flora that would not normally be found in its bioclimatic domain.

<sup>3</sup> This would be related to timber development adjacent to an Old Growth Management Area where there is no other alternative to operationally or safely harvest the timber. For example, yarder halos: where the tiebacks or danger tree removal would infringe on an Old Growth Management Area.

### **Collaborative Planning:**

When planning timber development in a shared landscape unit where Mature plus Old Forest is to be managed, and prior to applying for a cutting permit or road permit, the licence holder will share information with other Forest Licence holders in the landscape unit to ensure that the development does not cause Mature plus Old Forest targets to not be met.

#### **6.1.1.3 Caribou**

**Objective:** *To retain seasonal habitats for Mountain Caribou in order to contribute to maintaining viability of the existing subpopulations according to forest cover requirements in the Kootenay Boundary Higher Level Plan Order.*

**Relates to:** [6.1.2.2.2](#) of this document.

#### **Practice Requirements – Result:**

Pursuant to section 93.4 of the Land Act variance order 09 amends the Kootenay Boundary Higher Level Plan Order, thereby cancelling Caribou Management Zones established in objective 3.<sup>4</sup>

#### **6.1.1.4 Green-up**

**Objective:** *To establish green-up heights.*

**Relates to:** [6.1.2.6](#) of this document.

#### **Practice Requirements – Result:**

The licence holder will comply with Objective 4 of Kootenay Boundary Higher Level Plan Order.

#### **6.1.1.5 Grizzly Bear Habitat and Connectivity Corridor**

**Objective:** *To maintain mature and/or old forests adjacent to important grizzly bear habitat and within connectivity corridor.*

**Relates to:** [6.1.2.2.3](#) of this document.

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Objective 5 of Kootenay Boundary Higher Level Plan Order.

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<sup>4</sup> The Caribou habitat management objective (objective 3) was cancelled in 2009 to eliminate duplication or conflicts with the 2007 Mountain Caribou Recovery Implementation Plan, as well as caribou ungulate winter range and wildlife habitat areas designated under the Government Actions Regulation of the Forest & Range Practices Act.

### **6.1.1.6 Consumptive Use Streams**

**Objective:** *To reduce the impacts of forest development on streams licensed for human consumption.*

**Relates to:** [6.1.2.3](#) of this document.

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Objective 6 of Kootenay Boundary Higher Level Plan Order.

For each S5 and S6 stream where the 30-meter streamside management zone applies, the licence holder will plan and implement primary forest activities only if in the opinion of a Qualified Registered Professional the activity will not cause material that is harmful to human health to be deposited in or transported to water that is diverted for human consumption. The licence holder will comply with practice requirements described in section [6.1.2.3](#) 'Water, Fish, Wildlife and Biodiversity within Riparian Areas' as a measure to safeguard water licensed for human consumption.

### **6.1.1.7 Enhanced Resource Development Zones - Timber**

**Objective:** *To support intensive forest management.*

#### **Practice Requirements – Strategy:**

The licence holder will comply with Objective 7 of Kootenay Boundary Higher Level Plan Order.

### **6.1.1.8 Fire-Maintained Ecosystems**

**Objective:** *To restore and maintain the ecological integrity of fire-maintained ecosystem components in NDT 4.*

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Objective 8 of Kootenay Boundary Higher Level Plan Order.

### 6.1.1.9 Visuals

**Objective:** *To conserve the quality of views from communities, major waterways and major highways by establishing areas known as scenic areas.*

**Relates to:** [6.1.2.8](#) of this document.

#### **Practice Requirements – Strategy and Result:**

In accordance with Government Actions Regulations section 7; scenic areas identified on Map 9.1 of the Kootenay Boundary Higher Level Plan Order have been replaced with new scenic areas in which visual quality objectives have been established. The licence holder will comply with scenic areas and Visual Quality Objectives established under the Government Actions Regulations section 7 orders.

### 6.1.2 Objectives prescribed under Forest and Range Practices Act s. 149

The Lieutenant Governor in Council made regulations prescribing objectives in relation to the following:

#### 6.1.2.1 Soils

**Legal reference:** Forest Planning and Practices Regulation section 5 and 12.1(1)

**Objective:** *The objective set by government for soils is, without unduly reducing the supply of timber from British Columbia's forests, to conserve the productivity and the hydrologic function of soils.*

#### **Practice Requirements – Result:**

The licence holder will comply with Forest Planning and Practices Regulation section 35 and 36.

#### 6.1.2.2 Wildlife

**Legal reference:** Forest Planning and Practices Regulation section 7 and Government Actions Regulations section 9 to 13

**Objective:** *The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amounts of area, distribution of areas and attributes of those areas, for the survival of species at risk, the survival of regionally important wildlife, and the winter survival of specified ungulate species.*

### **6.1.2.2.1 Species at Risk**

Pursuant to section 7(3), the licence holder is exempt from the obligation to prepare results or strategies in relation to the objective set out in section 7(1) of the Forest Planning and Practices Regulation given the established Wildlife Habitat Areas address the amount of area required to meet habitat requirements and specify general wildlife measures to maintain the identified wildlife within those areas. The Coeur d' Alene Salamander and Flammulated Owl are the exception, where the required amount and distribution of Wildlife Habitat Areas have not been satisfied.

The strategy for training, reporting and practice listed below detail how the licence holder will ensure its staff and contractors are able to identify potential wildlife habitat for the survival and reproduction of self-sustaining and viable populations of species at risk, regionally important wildlife and specified ungulate populations.

Forest Planning and Practices Regulation section 7 notices are tracked through the following website:

<http://www.env.gov.bc.ca/wld/frpa/notices/sar.html#ab>

Species at risk, for which the licence holder will provide special management, are listed as Red or Blue by the Ministry of Environment, or as Endangered, Threatened or Special Concern (listed on Species at Risk Public Registry schedule 1) by the committee on the Status of Endangered Wildlife in Canada. The Schedule 1 can be found at the following website:

<https://www.canada.ca/en/environment-climate-change/services/species-risk-public-registry.html>

#### **Practice Requirements – Strategy and Result:**

##### **Training:**

Annual training will be conducted by the licence holder to support the licence holder's staff and contractors in identifying species at risk and wildlife habitat. Training will involve the identification of species at risk, habitat attributes, habitat suitability, reporting and best management practices. The British Columbia Species and Ecosystem Explorer Tool will be incorporated into the training and utilized to generate information on species and ecological communities, including conservation or legal status, and spatial distribution.

<http://www.env.gov.bc.ca/atrisk/toolintro.html>

##### **Reporting:**

Should any of the species at risk be observed outside of known occurrence sites the licence holder will notify the Conservation Data Center and inform them of the occurrence.

The British Columbia Conservation Data Centre: Data Submissions website will be utilized to submit observations of species at risk.

<https://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/conservation-data-centre/submit-data>

**Practice:**

In an effort to reduce the impact of forest development on species at risk, during the planning process, the licence holder will review known species at risk occurrences and their proximity to development areas. Where there are known species at risk in proximity to development areas, best management practices as found within the British Columbia Species and Ecosystem Explorer Tool will be used to ensure that proposed development activities are planned and carried out in compliance with various legislation, regulation and policies.

If a species at risk is encountered during operations, activities will be halted immediately and will not resume until a Qualified Professional Biologist has assessed and provided recommendation. Continuance of operational activities is to be consistent with the recommendations of the Qualified Professional Biologist to the extent practicable while balancing pertinent Forest Range Practices Act values.

The licence holder will ensure, where there is a conflict with a species at risk, the following best management practices will be used:

- a) The licence holder will only conduct primary forestry activities consistent with the requirements in Wildlife Habitat Area orders.
- b) Licence holder's staff and contractors will be trained to identify potential wildlife habitat for species at risk.
- c) Retain existing, natural habitats suitable for the species at risk.
- d) Strive to retain, restore, or enhance key habitat features.
- e) Seek the advice of a Qualified Professional Biologist or Ecologist if attempting to restore or enhance habitat.

**6.1.2.2.2 Caribou**

**Legal reference:** *Government Actions Regulations section 9(2) and 12(1)*

**Relates to:** [6.1.1.3](#) of this document

**Practice Requirements – Strategy and Result:**

The licence holder will comply with Ungulate Winter Range Order U-4-012, U-4-013 and U-4-014.

**6.1.2.2.3 Grizzly Bear**

**Legal reference:** *Government Actions Regulations section 9(1)*

**Relates to:** [6.1.1.5](#) of this document.

**Practice Requirements – Strategy and Result:**

The licence holder will comply with General Wildlife Measure order 8-373.

#### **6.1.2.2.4 Ungulate Winter Range**

**Legal reference:** *Government Actions Regulations section 9(2) and 12(1)*

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Ungulate Winter Range Order U-4-001.

#### **Collaborative Planning:**

When planning timber development in a shared Ungulate Winter Range Management Unit, and prior to applying for a cutting permit or road permit, the licence holder will share information with other Forest Licence holders in the management unit to ensure that the development does not cause the targets to not be met.

#### **6.1.2.2.5 Wildlife Habitat Areas**

**Legal reference:** *Government Actions Regulations section 9(2) and 10(1)*

**Objective:** *The minister responsible for the Wildlife Act by order may establish an area as a wildlife habitat area if satisfied that special management has not otherwise been provided for under Government Actions Regulations or another enactment, and the area is necessary to meet the habitat requirements of a category of species at risk or regionally important wildlife.*

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with orders that establish Wildlife Habitat Areas necessary to meet the habitat requirements of identified wildlife.

The licence holder will keep up to date with new information as it is made known by utilizing the Ministry of Environment species at risk approved Wildlife Habitat Areas website:

[http://www.env.gov.bc.ca/cgi-bin/apps/faw/wharesult.cgi?search=show\\_approved](http://www.env.gov.bc.ca/cgi-bin/apps/faw/wharesult.cgi?search=show_approved)

The website currently lists the following Wildlife Habitat Areas which the licence holder will comply with: 4-011, 4-012, 4-013, 4-014, 4-015, 4-016, 4-017, 4-018, 4-019, 4-020, 4-021, 4-022, 4-023, 4-024, 4-025, 4-026, 4-027, 4-028, 4-029, 4-030, 4-031, 4-033, 4-036, 4-064, 4-093, 4-094, 4-095, 4-096, 4-097, 4-098, 4-104, 4-105, 4-107, 4-113, 4-180, 4-205, 4-209 and 8-140.

The licence holder will conduct primary forest activity consistent with the requirements in Wildlife Habitat Area orders.

#### 6.1.2.2.6 Wildlife Habitat Features

**Legal reference:** *Government Actions Regulations section 11 and Forest Planning and Practices Regulation section 70*

**Objective:** *An authorized person who carries out a primary activity must ensure that the primary forest activity does not damage or render ineffective a wildlife habitat feature.*

#### **Practice Requirements:**

Government Action Regulation Order M 213, establishes wildlife habitat features within the Kootenay Boundary Region:<sup>5</sup>

- a) a nest of a Bald Eagle (*Haliaeetus leucocephalus*)
- b) a nest of an Osprey (*Pandion haliaetus*)
- c) a nest of a Flammulated Owl (*Psiloscops flammeolus*)
- d) a nest of a Western Screech-Owl *macfarlanei* subspecies (*Megascops kennicottii macfarlanei*)
- e) a nest of a Great Blue Heron (*Ardea herodias*)
- f) a nest of a Lewis's Woodpecker (*Melanerpes lewis*)
- g) a nest of a Williamson's Sapsucker (*Sphyrapicus thyroideus*)
- h) an American Badger burrow (*Taxidea taxus*)
- i) a Grizzly Bear den (*Ursus arctos*)
- j) a significant mineral lick
- k) a significant wallow
- l) a bat hibernaculum
- m) a bat nursery roost
- n) a hot spring or thermal spring

**Strategy:** The licence holder will follow the guidance for managing wildlife habitat features described in the Wildlife Habitat Features Field Guide (Kootenay Boundary Region) in order to ensure that these features are protected and remain functional. The licence holder will not damage or render ineffective a wildlife habitat feature, and will annually report locations of new features encountered during routine forest activities.

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<sup>5</sup> The current list for the Kootenay Boundary Region may be amended from time to time to reflect new information.

### 6.1.2.3 Water, Fish, Wildlife and Biodiversity within Riparian Areas

**Legal reference:** Forest Planning and Practices Regulation section 8, 12(3) and 12.1(2)

**Objective:** *The objective set by government for water, fish, wildlife and biodiversity within riparian areas is, without unduly reducing the supply of timber from British Columbia's forests, to conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.*

**Relates to:** [6.1.1.6](#) of this document.

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Forest Planning and Practices Regulation section 47 to 52(2) and 55 to 58.

#### **Temperature sensitive streams:**

No temperature sensitive streams have been designated within the forest development units covered by this FSP. The licence holder will comply with Forest Planning and Practices Regulation section 53 if a temperature sensitive stream is designated.

#### **Riparian Strategy:**

A Qualified Registered Professional will conduct an assessment on each riparian feature within or adjacent to a proposed harvest area to determine the classification and minimum riparian management zone as per Forest Planning and Practices Regulation section 47 to 49. If a riparian feature is adjacent to a proposed harvest area, and the harvest area is outside the riparian management zone of that feature, an assessment will not be required.

With the exception of designated machine crossings, stream channel integrity and bank stability will be maintained on all classifiable riparian features by establishing a minimum 5-meter machine free zone. Designated machine crossings will be constructed in a manner such that deposition of construction waste and overburden will be disposed outside the riparian reserve zone or a minimum of 5-meters from the stream edge whichever is greater. Within the riparian management area designated crossings will retain as much understory vegetation as practicable while meeting operational and safety objectives for the crossing structure and its approaches. This includes, designing and constructing approaches as close to perpendicular to the watercourse as possible in order to minimize loss or disturbance of riparian vegetation, thereby reducing impacts to terrestrial and aquatic habitat adjacent to the crossing site.

The licence holder will undertake to avoid disturbance of stream, wetland and lake edges, and will prevent the deposition of debris in the waterbodies by falling and yarding away from them. Where trees must be felled across a stream for safety and/or operational reasons, the licence holder will attempt to lift trees rather than drag them out. The strategy of lifting trees may not be

complied with when utilizing cable yarding systems as it may not be possible to achieve sufficient lift to suspend the entire tree.

Within the riparian management zones of S1-A, S1-B, S2 and S3 streams, and within 5-meters of S4, S5 and S6 streams, the licence holder will undertake to retain non-merchantable conifers, deciduous and understory vegetation to the extent practicable.

**Retention of Trees in a Riparian Management Zone:**

Riparian management zones will be assessed by a Qualified Registered Professional who will prescribe site-specific management regimes, which includes the species, quality, quantity and distribution of trees selected for retention. The trees selected for retention can be located in clumps or evenly distributed considering local conditions, including, but not limited to the potential impact to:

- waterside banks and stream channel integrity
- water quality and quantity
- shade requirements for streams
- windthrow
- coarse woody debris
- forest health factors
- deciduous, non-merchantable stems and understory vegetation retention
- valuable fish and wildlife habitat
- silviculture

Care will be given to the relative importance of water quality and sensitivity of the riparian feature in question. Safety considerations and adherence to Worksafe BC regulations will play a key role in determining the site-specific management.

As prescribed by a Qualified Registered Professional in a Site Plan or Support Document and at the completion of harvesting, tree retention levels in the riparian management zones of a riparian feature within a harvest area, will meet the minimum target percentage as specified in the table below:

<b>Riparian Class</b>	<b>Minimum Target Percentage of the Pre-Harvest Stems Per Hectare to be Retained Within the Riparian Management Zone</b>
S1-A, S1-B, S2 and S3 streams	20%
S4 and S5 streams	10%
S6 streams	>0%
All classes of lakes and wetlands	10%
The licence holder will ensure the percentage of the total stems/ha within the riparian management zone specified in the target level of stems/ha is left as standing trees. <sup>6</sup>	

<sup>6</sup> Standing tree is defined as any tree greater than equal to 7.5-centimeter diameter at breast height.

### 6.1.2.4 Fish Habitat in Fisheries Sensitive Watersheds

**Legal reference:** Forest Planning and Practices Regulation section 8.1

**Practice Requirements:**

There are no fisheries sensitive watersheds in the Forest Development Units under this Forest Stewardship Plan.

### 6.1.2.5 Water in Community Watersheds

**Legal reference:** Forest Planning and Practices Regulation section 8.2

**Objective:** *The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent the cumulative hydrological effects of primary forest activities within the community watershed from resulting in a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks, or the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under an enactment, or the license pertaining to the waterworks.*

**Practice Requirements – Strategy and Result:**

The licence holder will comply with Forest Planning and Practices Regulation section 59 to 63.

**Community Watershed Strategy:**

For the purposes of this section, ‘hydrological assessment’ is a professional level analysis, carried out by a Qualified Registered Professional, which studies existing and/or future forest development related effects on hydrologic and geomorphic processes in a community watershed. A ‘hydrological assessment’ will include but is not limited to:

- Identifying fans and delineating watersheds.
- Identifying elements-at-risk in watersheds and on fans, while taking into account potential climate change impacts.
- Identifying historical and current, hydrologic and geomorphic processes affecting runoff, the frequency and magnitude of peak flows, sediment delivery and sediment transport in a watershed.
- A qualitative risk analysis that assesses the sensitivity of the watershed to changes in the magnitude and frequency of hazardous peak flows, increases in sediment delivery or changes to riparian function, and determining changes in the likelihood for impacts (consequence and hazard) to elements at risk, given past development/disturbance and future forest development, and their cumulative effects on water quality, quantity and timing of flow.

The hydrological assessment must include recommendations or establish thresholds for forest management to minimize changes in the likelihood of impacts to elements at risk.

Hydrological assessments will be conducted in advance of new forest developments and are intended to provide guidance for: forest planning, harvesting, road construction or permanent deactivation for up to 10 years. Hydrological assessments will be considered relevant and current up to 10 years, or until appreciable change has occurred beyond the limits of recommendations or thresholds established in the original assessment.

Appreciable change is defined as a change to the disturbance level, either natural or unnatural, that could increase the qualitative risk, to elements previously identified as at risk, and is measured by using Equivalent Clearcut Area as an indicator of cumulative hydrologic change. If a natural event, or proposed development is expected to exceed the current assessment's established recommendations or thresholds for Equivalent Clearcut Area, then a new assessment will be required in advance of further forest development.

Planning and implementation of operational activities will be consistent with the recommendations or thresholds of the hydrological assessment.

**Exception to the Strategy:**

When there is not a relevant or current hydrological assessment; a hydrological assessment of the entire watershed will not be required if the proposed development is less than, or equal to, 2% of the watershed area.

## 6.1.2.6 Wildlife and Biodiversity – Landscape Level

**Legal reference:** Forest Planning and Practices Regulation section 9.

**Objective:** *The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape.*

**Relates to:** [6.1.1.1](#), [6.1.1.2](#), [6.1.1.4](#), and [Appendix D](#) of this document.

### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Forest Planning and Practices Regulation section 64 and 65.

Pursuant to objective 4 of the Kootenay Boundary Higher Level Plan Order, when the licence holder plans and designs harvesting, the 3m minimum height will be changed to 2.5m in Forest Planning and Practices Regulation section 65(3)(a) and 65(3)(b)(ii) for areas adequately stocked.

For the purpose of Forest Planning and Practices Regulation section 64(2)(b), [Appendix D](#) describes Retention Strategies that the licence holder will conform with when designing a cutblock that would resemble an opening resulting from a natural disturbance. This does not preclude the licence holder from utilizing any other provision in section 64 of the Forest Planning and Practices Regulation.

In circumstances where the licence holder harvest activities are to be conducted in co-operation with scientific studies developed by a Provincial or Federal Government agency and/or research institutions, the requirements of Forest Planning and Practices Regulation section 64 can be exceeded. The licence holder will ensure that the size of the net area to be reforested for the cutblock is limited to the extent necessary by the study. A letter of support from the District Manager will be required.

### 6.1.2.7 Wildlife and Biodiversity – Stand Level

**Legal reference:** Forest Planning and Practices Regulation section 9.1

**Objective:** *The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees.*

#### **Practice Requirements – Strategy and Result:**

The licence holder will comply with Forest Planning and Practices Regulation section 66, 67 and 68 with the following additions:

#### **Individual Wildlife Trees:**

For purposes of measuring the contribution of individual wildlife trees, and where the site plan prescribes dispersed retention, the individual wildlife trees can be included along with the aggregate patches in the total amount of wildlife tree retention. Individual trees, clumps or patches of trees which are less than 0.25 hectares in size are to contribute on the basis of the total basal area of retained trees divided by the average basal area/ha of the original stand. This will yield the equivalent number of hectares of wildlife tree retention area.

#### **Restriction on Harvesting:**

Wildlife trees can be removed, but:

1. only to the extent necessary:
  - a) to address a safety hazard,
  - b) to address timber that has been windthrown or damaged by fire, insect or disease,
  - c) to address timber in imminent danger of being infested with insects or diseases which threaten the health of adjacent trees,
  - d) to facilitate construction of road right of way,
  - e) to address terrain constraints for road or trail construction and cable yarding,
  - f) to ensure timber supply is not unduly reduced where an existing wildlife tree retention area precludes access to isolated timber that would otherwise be available for harvest, and;
2. only to the level determined by a Qualified Registered Professional.

If providing access to adjacent stands the number of high-quality wildlife trees removed will be kept to a minimum.

If wildlife trees are removed from a cutblock, and the harvest area is mappable (greater than 0.25ha), an alternate area of equal size and similar attributes within, adjacent or non-contiguous to the impacted cutblock will be located and established. The licence holder will specify one or more wildlife tree retention areas that provide an area, number of trees or habitat that is equivalent to the portion of the wildlife tree retention area from which the timber is being harvested.

## 6.1.2.8 Visual Quality

**Legal reference:** Forest Planning and Practices Regulation section 9.2 and Government Actions Regulations section 7

**Relates to:** [6.1.1.9](#) of this document.

**Objective:** *This objective set by government does not contain specific text within the Forest Planning and Practices Regulation as specified in other objectives set by government. This objective set by government has a corresponding objective as contained in the Kootenay Boundary Higher Level Plan Order and Selkirk Forest District Level Visual Quality Objectives established prior to October 24, 2002, continued under Section 181 of Forest and Range Practices Act and Section 7 of the GAR.*

### **Practice Requirements – Strategy and Result:**

#### **Arrow Forest Development Unit:**

In accordance with Government Actions Regulations section 7(1) 'Order for the Establishment of Visual Quality Objectives and Scenic Area for the Arrow Boundary Forest District', scenic areas identified on Map 9.1 of the Kootenay Boundary Higher Level Plan Order have been replaced with new scenic areas, effective December 31, 2005. In consideration of the Government Actions Regulations Order, the objective in Forest Planning and Practices Regulation section 9.2 no longer applies.

The licence holder will adopt as a result or strategy, the Visual Quality Objectives and provisions defined by with the District Manager 'Arrow Boundary Forest District December 31, 2005' order.

#### **Kootenay Lake Forest Development Unit:**

The results and strategies for visual quality objectives established by the District Manager are the requirements specified by the District Manager's Government Actions Regulations section 7(2) notice of March 7, 2014. In consideration of the Government Actions Regulations Order, the objective in Forest Planning and Practices Regulation section 9.2 no longer applies.

The licence holder will adopt as a result or strategy, the Visual Quality Objectives and provisions defined by with the District Manager 'Kootenay Lake Timber Supply Area March 7, 2014' order.

### **Alternate Result and/or Strategy:**

Where the established Visual Quality Objective limits are not achievable given the circumstances or conditions to a particular area, an alternate result and/or strategy will be requested prior to applying for a cutting permit. District Manager approval of the alternate result and/or strategy will be required.

### 6.1.2.9 Cultural Heritage Resources

**Legal reference:** *Forest Planning and Practices Regulation section 10*

**Objective:** *The objective set by government for cultural heritage resources is to conserve, or, if necessary, protect cultural heritage resources that are the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and not regulated under the Heritage Conservation Act.*

#### **Practice Requirements – Strategy:**

Before the licence holder applies for a permit to harvest timber or construct road, the licence holder will notify identified First Nations and make reasonable efforts to obtain information of cultural heritage resources. These efforts include, but are not limited to, information sharing that identifies proposed timber harvesting and/or road construction a minimum of 30-days prior to the application for permit. The objective of information sharing is to provide First Nations with an opportunity to identify cultural heritage resources to ensure that potential concerns are addressed to the extent practicable prior to development of an area of crown land allocated for the licence holder's forest development activities. The licence holder will document keep on record any cultural heritage resource information provided by the First Nations. This will include:

1. Recording the location of the cultural heritage resource.
2. Evaluating the direct impact of the proposed development on the cultural heritage resource.
3. Working with the First Nations and proposing how the development can be altered to the extent required to conserve, mitigate, or if necessary, protect the cultural heritage resource. Decision making will take into account:
  - a) the importance of the cultural heritage resource to traditional use by the First Nation;
  - b) the relative abundance or scarcity of the cultural heritage resource;
  - c) the historical extent of the traditional use of the cultural heritage resource;
  - d) recommendations of the affected First Nation to conserve, mitigate, or if necessary, protect the cultural heritage resource, and;
  - e) the impact on the Licence holder's government granted timber harvesting rights in conserving or protecting the cultural heritage resource.

The licence holder will communicate back to the identified First Nations what strategies will be committed to in response to the cultural heritage resource.

If previously unidentified cultural heritage resources are observed, becomes known, or is brought to the licence holder's attention, the licence holder will cease operations to the extent necessary to protect the resource. The licence holder within 5 business-days of discovering a cultural heritage resource will make attempts to contact the appropriate archaeological / heritage authority and First Nations. Recommencement of operations will not begin until

recommendations relative to protecting the resource have been agreed upon by the relevant parties or the resource is otherwise protected.

## **6.1.3 Other Objectives Established by Government**

### **6.1.3.1 Resource Features**

**Legal reference:** *Government Actions Regulations section 5 and Forest Planning and Practices Regulation section 70*

**Objective:** *An authorized person who carries out a primary activity must ensure that the primary forest activity does not damage or render ineffective a resource feature.*

**Practice Requirements:**

There are no resource features identified in the Arrow and Kootenay Lake Timber Supply Areas.

## **6.2.2 Objectives for Items Listed in Section 181 of Forest and Range Practices Act**

### **6.2.2.1 Interpretive Forest Sites, Recreation Sites or Recreation Trails**

**Legal reference:** *Forest and Range Practices Act section 180 and 181*

**Objective:** *All objectives in respect to an interpretive forest site, a recreation site and a recreation trail that were in effect immediately before the effective date are continued as objectives under Forest and Range Practices Act.*

**Practice Requirements – Strategy and Result:**

In an effort to minimize impacts to interpretive forest sites, recreation sites or recreation trails, the licence holder will develop operational plans consistent with the management strategies established for the sites or trails. Where the established management strategies are not practicable given the circumstances or conditions to a particular area, an exemption under section 16 of the Forest Recreation Regulation, from the requirement of section 56 of Forest and Range Practices Act, will be applied for in relation to that area.

**Practice:**

The licence holder will ensure, where infringement on interpretive forest sites, recreation sites or recreation trails is likely, the local Recreation Officer will be consulted and the following best management practices will be used to mitigate potential impacts:

- Signage will be erected notifying trail users of the industrial activity.
- Any direct impacts to access roads, sites or trails will be rehabilitated as close to their original state as possible.
- If feasible, harvesting is to occur during periods of low use.
- The experience of the user should be visually maintained to the extent practicable by avoiding damage to vegetation other than commercial timber and the removal of safety hazards.

## 7.0 MEASURES

### 7.1 Preventing the Introduction and Spread of Invasive Plants

**Legal reference:** *Forest and Range Practices Act section 47 and Forest Planning and Practices Regulation 17*

**Practice Requirements – Measure:**

The following measures will be implemented to reduce the introduction and spread of invasive plants that result from the licence holder forest practices:

**Training:**

Annual invasive plant training will be conducted to help field staff and contractors identify the priority invasive plants, as listed in the '*Best Practices for Preventing the Spread of Invasive Plants during Forest Management Activities, 2013 Edition*':

<https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/bc-timber-sales/ems-sfm-certification/business-area/babine/forestry-bmp-09-11-2013-web.pdf>

Training will involve the identification of invasive plants, awareness of the location of known infestations currently in the Invasive Alien Plant Program, reporting requirements and best management practices.

**Reporting:**

Should any of the priority invasive plants be observed outside of known infestation areas, the licence holder will use the Report-A-Weed website to inform the Ministry of Forest, Lands, Natural Resource Operations and Rural Development of the occurrence within 30-days of observing the occurrence:

[www.reportaweedbc.ca](http://www.reportaweedbc.ca)

**Practice:**

In an effort to reduce the introduction and spread of invasive plants, during the planning process, the licence holder will review the Invasive Alien Plant Program data for known infestations and their proximity to development areas. This information will be used to plan activities, whereby, operational plans will be developed and used to communicate with staff and contractors the location of known infestations. Where there are known infestations in proximity to development areas, best management practices will be outlined in operational plans to reduce the risk of creating new or spreading existing infestations. The licence holder will ensure, where the introduction or spread of invasive plants is likely, the following best management practices will be used:

- If feasible avoid infested areas, otherwise, work non-infested areas first and infested areas last.
- If feasible, work infested areas during the winter.
- Ensure equipment and clothing that the licence holder is responsible for is inspected and cleaned of invasive plant propagules and seed before entering and leaving sites.
- Regeneration of native vegetation will be preferred and encouraged wherever practicable by keeping soil disturbance to a minimum except for site preparation for conifer tree regeneration purposes or stump removal due to *Armillaria* root rot.
- In order to reduce the available seedbed for invasive plants, as soon as practicable, or within two years following disturbance, the licence holder will grass seed with an erosion control mix of "Canada common # 1 seed." Applied to at least 90% of the area greater than 0.25ha and having exposed mineral soil that will support vegetation on deactivated/rehabilitated roads, new roads and landings. This does not include the running tracks of active roads.
- Establish well stocked stands of trees that will eventually suppress invasive plants.

## 7.2 Mitigating the Loss of Natural Range Barriers

**Legal reference:** *Forest and Range Practices Act section 48 and Forest Planning and Practices Regulation 18*

**Practice Requirements – Measure:**

The following practice will be applied to mitigate the loss of natural range barriers that result from the licence holder forest practices:

**Practice:**

Before applying for roads and/or cutting permits the licence holder will share information to range agreement tenure holders of proposed roads and cutblocks, which remove or rendering ineffective natural range barriers. If a range agreement tenure holder indicates that a proposed road or cutblock will remove or render ineffective a natural range barrier, the licence holder will, as soon as practicable:

- a) take reasonable efforts necessary to come to an agreement with the range agreement tenure holder to mitigate the effect of removing or rendering ineffective natural range barriers, and

- b) discuss potential mitigation plans with Ministry of Forest, Lands, Natural Resource Operations and Rural Development, and
- c) implement the measures.

## 8.0 STOCKING STANDARDS

**Legal reference:** Forest Planning and Practices Regulation section 16, 44 and 197

### **Practice Requirements – Results:**

The licence holder elects to use the Selkirk Resource District South Columbia default stocking standards and Fire Management / Wildland Urban Interface stocking standards, as amended from time to time, for both the Arrow and Kootenay Lake Forest Development Units.

The licence holder may elect to use the Chief Forester and Kootenay Lake District default stocking standards, as amended from time to time, for both the Arrow and Kootenay Lake Forest Development Units for Site Plans established prior to April 2018.

Wildfire Interface Stocking Standards were approved in Forest Stewardship Plan #26 and will continue to be used in prescribed conditions.

Forest Stewardship Plan #26 Wildfire Interface Stocking Standards are itemized in [Appendix E](#).

### **Section 197 election:**

Forest and Range Practices Act section 197 elections for stocking standards has been enabled to allow for any forest development plan cutblock stocking standards to be amended to the applicable Forest Stewardship Plan stocking standards.

### **Early Free Growing:**

When stocking standards have been achieved and neither the potential expression of forest health agents nor the development of competing vegetation is a concern, the licence holder will elect to eliminate the early free growing date through the approved variation process in RESULTS.

## 9.0 CUMULATIVE EFFECT OF MULTIPLE FOREST STEWARDSHIP PLANS

**Legal reference:** Forest Planning and Practices Regulation section 19

### **Practice Requirements – Strategy:**

Where applicable: The Forest Stewardship Plan must address the cumulative effect of multiple Forest Stewardship Plans in an area. The licence holder will communicate its intentions to other licensees and BC Timber Sales in areas with multiple Forest Stewardship Plans, in order to proactively address and resolve landscape unit level issues prior to cutting permit application. If the holders of a Forest Stewardship Plan, within an area with multiple Forest Stewardship Plans, are unable to reach an agreement for sharing the responsibility to obtain results consistent with objectives set by government then request would be made to the Minister to act under section 9 of the Forest and Range Practices Act.

## 10.0 Public Review and Comment

**Legal reference:** Forest Planning and Practices Regulation section 20, 21 and 22

### **Practice Requirements – Strategy:**

#### **Forest Stewardship Plan Advertisement:**

The general public was made aware the Forest Stewardship Plan was available for review and comment through notices placed in local newspapers and through referral notices that were mailed out to potentially affected stakeholders. In addition, public meetings were held in Boswell, Glade and Riondell, and a presentation was made to the Regional District Central Kootenay during their October meeting. News reporters from the Nelson Star, GOAT fm and Nelson Coop Radio all posted articles and interviews detailing the review and comment of the Forest Stewardship Plan.

The Forest Stewardship Plan was made available for public review and comment at the licence holder's office during regular business hours 8 a.m. to 4 p.m. Monday through Friday for a period of 80 days (Aug 10, 15 to Nov 1, 15). Additionally, the Forest Stewardship Plan was posted on the licence holder's website ([www.kalesnikoff.com](http://www.kalesnikoff.com)) with a link for the public to provide written comments on the plan. The licence holder provided a referral notice and requested a meeting with potentially affected stakeholders and First Nations representatives to discuss the Forest Stewardship Plan. A meeting was conducted with the Lower Kootenay Indian Band on September 28, 15. Summary of written comments received as well as revisions made during the referral period are found in [Appendix F](#).

Written comments specific to the Forest Stewardship Plan were recorded and kept on record to ensure that concerns are considered at the development stage.

### **Forest Development Referrals:**

The licence holder is committed to continual information sharing and will refer all forest development plans to potentially affected stakeholders whose rights may be affected by a proposed development. A written notification with a map illustrating the location of planned forest development will be referred to potentially affected stakeholders. The written notice will provide stakeholders with a 30-day review and comment period prior to cutting permit application.

The objective of this notice is to provide potentially affected stakeholders with an opportunity to identify areas of concern, and to ensure that concerns are addressed to the extent practicable prior to the development of an area of crown land allocated for the licence holder's primary forest activities. The licence holder will document and keep on record any information provided by the stakeholder, this will include how planned activities will or will not accommodate identified concerns.

As indicated by various Provincial Government registries, stakeholders whose rights may be affected may include forest tenure holders, Regional District Central Kootenay, trappers, guide outfitters, ranchers, interpretive forest sites, recreation sites, resort tenures, recreation trails, First Nations, community watersheds, points of diversion and private land adjacent to proposed development.

### **Public Referrals:**

**Relates to:** [4.3](#) of this document.

The licence holder will maintain the following Forest Stewardship website link:

<https://www.kalesnikoff.com/sustainable-forest-stewardship>

The website link provides access to the Forest Stewardship Plan and accompanying maps, to which the public and stakeholders are able to identify where the licence holders primary forest activities will take place.

Continual information sharing will ensure transparency and open a communication path through which public and stakeholders' concerns can be made known, so concerns can be addressed prior to the development of an area for crown land allocated for the licence holder's primary forest activities. Comments specific to the Forest Development Units and Operating Areas will be accepted anytime and will be recorded and kept on record to ensure that comments are considered at the development stage.

## 11.0 RATIONALE

### 11.1 Rationale for Timber Supply Area Forest Development Units

**Relates to:** [4.3](#) of this document.

The licence holder has designed two Forest Development Units within Arrow and Kootenay Lake Timber Supply Areas. The Forest Development Units cover the entire area of Arrow and Kootenay Lake Timber Supply Area, while excluding all private land and actively managed area-based tenures including Community Forests, Tree Farm Licences and Woodlots.

The two Forest Development Units will cover unallocated operating areas, incidental site level overlaps and the integration of new operating areas.

Both Forest Development Units overlap with other licensees and British Columbia Timber Sales operating areas. The licence holder does not intend to infringe on these operating areas or break commercial arrangements, but expects to increase efficient forest planning and speedier permitting when confronted with incidental site level overlaps, cutting permit purchases and/or the integration of new operating areas.

The licence holder commits to up front communication when planning timber development in areas outside its operating areas and will refer proposed development plans with the appropriate licensee and/or British Columbia Timber Sales. The licence holder will work with the other licensees and British Columbia Timber Sales by maintaining non-spatial results and strategies that may be present in the areas of interest.

### 11.2 Stocking Standards and Early Free Growing

**Relates to:** [8.0](#) of this document.

When the licence holder uses the Chief Foresters and Kootenay Lake District default stocking standards, and when the stocking standard has been achieved, and neither the potential expression of forest health agents nor the development of competing vegetation is a concern, the licence holder will elect to eliminate the early free growing date and declare free growing.

Today's silviculture is frequently achieving free growing prior to the early free growing date. Practices such as better-quality nursery stock, site preparation, prompt regeneration, fertilization and the use of A-class seed are enabling the early achievement of free growing. The elimination of the early free growing date is an incentive to encourage these practices, in return for prompt relief of obligations. Some of these practices are investments over-and-above standard practice and the benefit of achieving free growing sooner ought to be realized as a result. The early free growing date can be a deterrent as it discourages silviculture investment due to the delay it can cause in declaring free growing when stocking standards have already been achieved.

Precedence has been established with the early free growing date as many approved Forest Stewardship Plans omitted it in their stocking standards.

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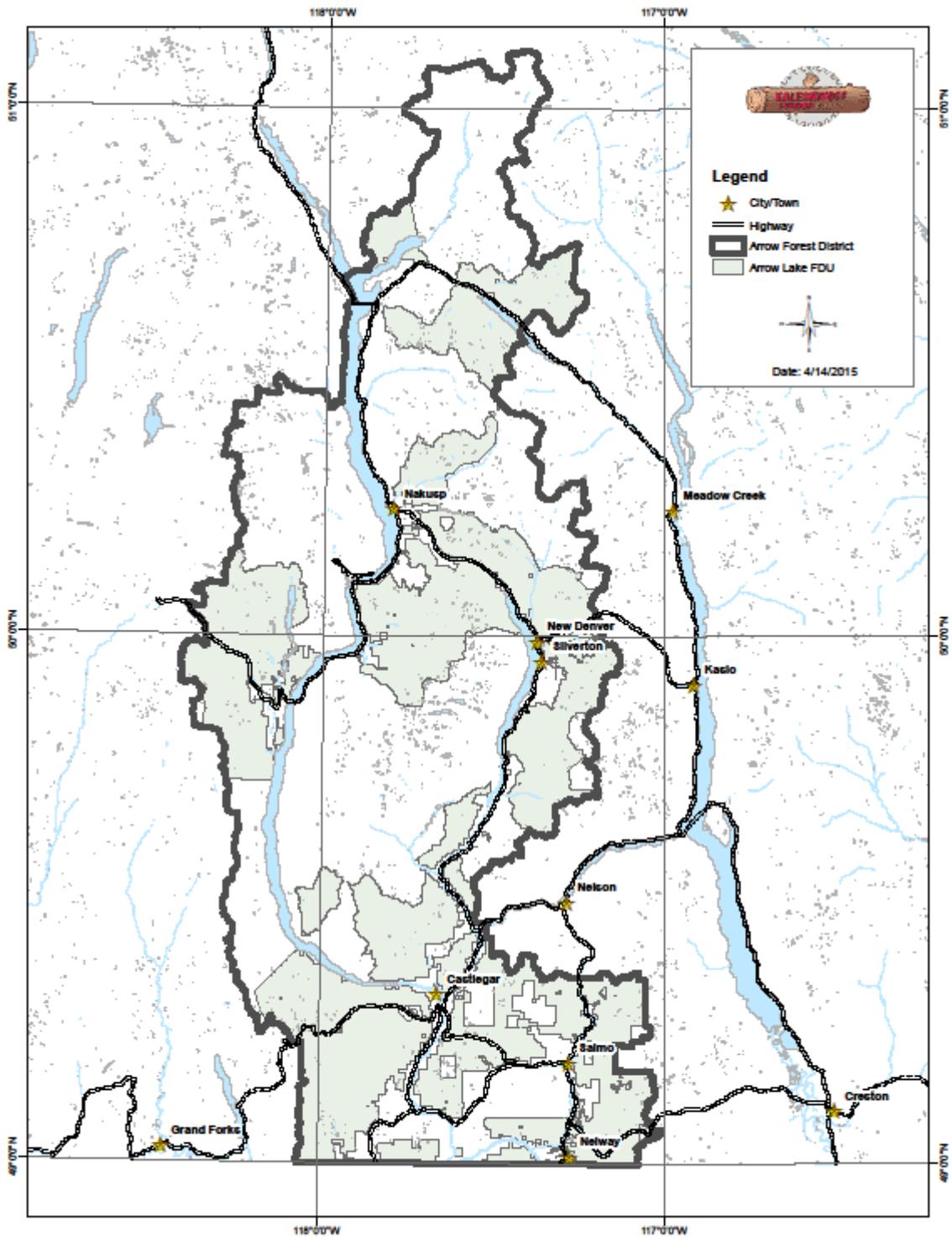
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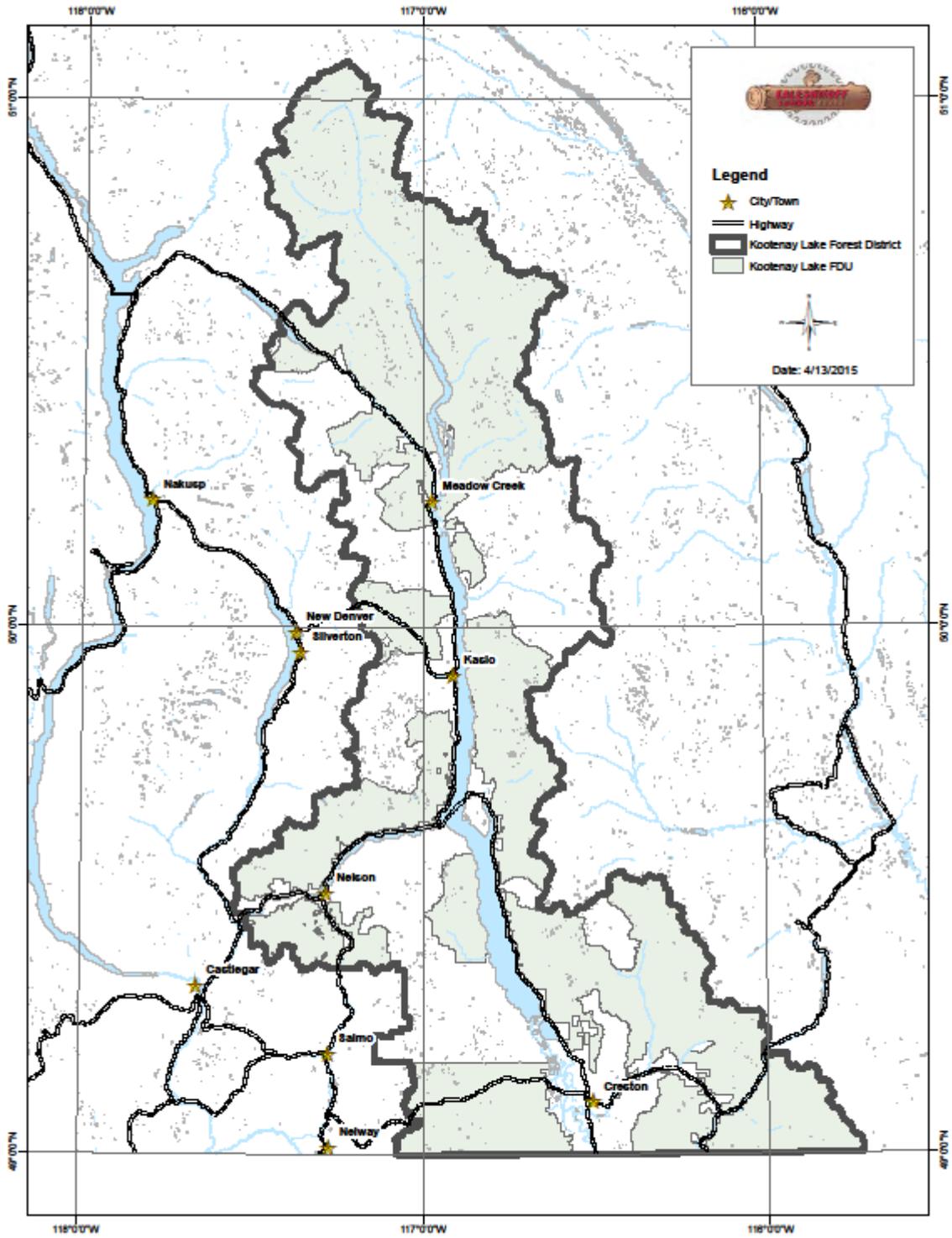
**13.0 APPENDICES**

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# Appendix A Arrow Forest Development Unit



# Appendix B Kootenay Lake Forest Development Unit



# Appendix C Modifying Old Growth Management Areas

**Relates to:** [6.1.1.2](#) of this document.

This document is supplied as guidance for modifying Old Growth Management Area (OGMA) boundaries.

## Amending or Replacing OGMA

Established OGMA are based on a lot of field work, over flights, and field knowledge. The mapping of OGMA was completed at a scale of 1:50,000 where an operational level forest type boundary should dictate where the actual OGMA boundaries should be. The OGMA strategy within Kalesnikoff's FSP 597 allows for modification to established OGMA to account for operational level forest type adjustments as long as equivalent or greater old forest attributes replace the removed areas.

In most cases OGMA are not to be considered available for harvest and should not have new harvesting proposed within them, however, an amendment to, or the replacement of, an existing OGMA, or portion thereof, can occur for a number of reasons. These might include:

- a) access requirements if no other alternative location exists;
- b) landscape, stand-level or total-chance planning considerations with a desire to improve Old Growth Management Areas boundaries;
- c) forest health<sup>7</sup>;
- d) wildland urban interface forest fuel reduction treatments;
- e) catastrophic timber loss due to wildfire, blowdown, or pests/pathogens;
- f) inclusion of wildlife habitat areas, features or values;
- g) protection of rare ecosystems<sup>8</sup>;
- h) operational or safety issues subject to stand-level considerations<sup>9</sup>.

Proposing harvest within an OGMA must provide that critical old growth attributes are maintained or enhanced and be accompanied with a solid ecological rationale, where the key would be retention or creation of old growth attributes.

As a general principle, an area of forest identified as an OGMA replacement should be the same size (ha.) in net forest area (excluding NP, non-crown, roads, etc.) and have the same or better biological old growthness value when compared with the original area of OGMA forest.

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<sup>7</sup> Forest health as it relates to threatening the sustainability and resiliency of the forested ecosystems within the Old Growth Management Area, where strategies and/or tactics will be implemented to minimize losses from damaging insects, disease and abiotic disturbances.

<sup>8</sup> A rare old forest ecosystem has an unusual composition of species, or structure of forest cover that may be threatened by human activities. It can also be composed of flora that would not normally be found in its bioclimatic domain.

<sup>9</sup> This would be related to timber development adjacent to an Old Growth Management Area where there is no other alternative to operationally or safely harvest the timber. For example, yarder halos: where the tiebacks or danger tree removal would infringe on an Old Growth Management Area.

The criteria identified in the Kootenay Boundary Higher Level Plan Order (KBHLPO) for comparing the biological value of mature or old forests are listed below.

**Kootenay Boundary Higher Level Plan Order Mature and Old Stand Selection Criteria:**

- 1) Age
- 2) Successional Status
- 3) Presence of Old Growth Attributes [not defined]
- 4) Size of the Stand (ha.)
- 5) Amount of Human Impact
- 6) Dispersion/Connectivity of the Stand
- 7) Rarity of the Stand

When considering significant changes to an existing OGMA, if available, it is useful to review reasoning and issues related to the original OGMA selection. Literature review and professional experience or knowledge may suggest additional OGMA suitability criteria and/or specific old growth stand attributes appropriate to the ecosystem type being considered.

**Other Potential Stand Selection Criteria and Attributes:**

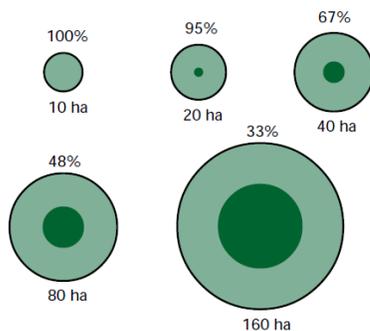
- 1) Large old trees, multi-layered canopy, numerous large snags, diverse tree community, great age of some trees, canopy gaps, topography, complex structure, wide tree spacing, fallen wood in various states of decay, long-lived, shade-tolerant tree species associations, and climax forest undisturbed by humans.
- 2) Rare, uncommon, or at-risk site series, or species management associated with old growth.
- 3) Obtaining forest interior conditions, interior forest habitat and connectivity values can sometimes be accomplished by increasing old seral stage retention around wildlife habitats areas, riparian management areas, or other suitable areas.
- 4) Proximity to existing OGMA, emphasis on large patches and connectivity, emphasis on non-PI or mixed species stands where available, minimal road or harvest disturbance.
- 5) Where there are existing alienations from the Timber Harvesting Landbase (THLB) (e.g., Wildlife Habitat Areas (WHAs), inoperable / terrain polygons, riparian or other reserves, etc.), and these areas are determined to have the same or better biological value, consideration should be given to their selection as OGMA replacements in order to reduce impacts to timber availability.

**OGMA Amendment / Replacement Steps:**

There is considerable professional subjectivity involved in this exercise. Many attributes cannot realistically be measured in quantitative terms, and therefore, must be qualitatively assessed for value (in terms of low, medium, and high). As well, once the attribute data is gathered for an OGMA replacement area, the overall value of the patch must be assessed by considering all the attributes together. Professional judgement and accountability are paramount.

**First the professional should consider:**

- If the best old forest is identified as OGMA within the relevant biogeolimatic zone subzone/variant (BEC) of the landscape unit (LU) in question?<sup>10</sup>
- Does the OGMA have interior forest condition, if not, what can be done to improve it? Edge habitats generally occur within two tree lengths to 250m from a disturbed area (depending on species and their habitat needs). Edge effects vary based on the nature of the adjacent edge (an adjacent clearcut is a harder edge than a lake or avalanche path).
- In order to calculate interior habitat, utilize a 100meter buffer distance from the boundary of the OGMA regardless of the adjacent edge.



An illustration of how edge effects can reduce interior habitat. Shown here are various forest patch sizes and the percentage of interior habitat available, given a 240-m wide section of edge influence (from Franklin 1992).

**Second the professional should identify and consider:**

- Strong reason(s) why there is a practicable need to amend or replace an established OGMA.
- Can the amendment or replacement be done while maintaining or improving interior forest, stand level attributes and landscape level connectivity?

If not, then the amendment or replacement should not be done.

If the amendment or replacement is to be done, and the amendment or replacement is not incidental, it should be assessed by a professional biologist or ecologist.<sup>11</sup>

**Third the professional must prepare a report:**

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<sup>10</sup> Due to the commercial arrangement of operating areas it is best to try and keep potential amendments and or replacements confined to Kalesnikoff charts. Otherwise, consultation must be carried out with the forest licensee or British Columbia Timber Sales (BCTS) to which an amendment or replacement impacts their operating area.

<sup>11</sup> Incidental is considered areas <0.26ha, or when replacing area with superior old forest attributes and stand age. Where a Qualified Registered Professional determines that a forest stand has sufficient biological value to be an Old Forest that professional will be a Qualified Professional Biologist or Ecologist.

An RPF prepares a brief report, comparing the original OGMA forest and the replacement forest area, including the following suggested topics:

- Background (describe replacement situation, including reason(s) for change)
- Typical Old Growth Attribute Evaluation Procedure (methodology and measurement)
  - Area (hectares of Crown forest)
  - Age class distribution (within patch)
  - Tree species composition
  - Density of large and very large live trees<sup>12</sup>
  - Presence of very large snags/dead tops (low, medium, high), where large is determined by BEC subzone/variant
  - Density of large and very large coarse woody debris (low, medium, high)
  - Proportion of patch in interior habitat (low, medium, high)<sup>13</sup>
  - Forested connectivity with rest of LU (low, medium, high)
  - Site class/productivity (site index or low, medium, high)
  - Elevation (elevation range)
  - Aspect(s)
  - Slope (slope range)
  - Slope position (toe, mid, upper)
  - Crown closure %
  - Forest health (describe pests or pathogens)
  - Proportion of area in riparian area (low, medium, high)
  - Ecological representation (low, medium, high)
  - Lichen loading (in caribou habitat)
  - Known critical habitats/features
- Results Summary (area comparison including criteria/attributes considered)
- Conclusion (suitability rationale)
- RPF Signature, Seal, & Date
- Supporting Information (maps, table, photos, field cards, etc., as appropriate)

The report is to be filed in the assessments folder of the associated cutting permit folder.

***Fourth the OGMA shape file(s) must be updated:***

New shapefiles are produced identifying the reduced OGMA area (OGMA\_Reduction) and the replacement OGMA (OGMA\_Additions) within the 'assessments/OGMA folder'. GIS request is to be made for an update of the KLC\_Data geodatabase.

GIS Update Request

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<sup>12</sup> Tree size will vary by BEC zone and subzone and by site series, but large trees/snags/CWD are generally > 50 cm dbh. Very large trees/snags/CWD are generally > 70 – 100 cm dbh. Specific data on diameters is available on OGMA scorecard reports from the Ministry.

<sup>13</sup> To quantify low, medium and high use 0 to 33%, 34% to 66% and 67% to 100% respectively.

Notify geomatics of the OGMA update, requesting update to the OGMA feature data set. The most current KLC\_OGMA (GIS) layer data is to be maintained within the following Data Library directory: L:\Kalesnikoff\_Data.gbd/Biodiversity/ under the following feature data sets:

- OGMA\_Additions
- OGMA\_Reductions
- OGMA\_KLC

Annually the feature data sets will be submitted to Ministry of Forest, Lands, Natural Resource Operations and Rural Development upon their request.

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## Appendix D Wildlife and Biodiversity – Landscape Level Strategy

**Relates to:** [6.1.2.6](#) of this document.

Pursuant to Forest Planning and Practices Regulation section 64(2), “subsection (1) does not apply to an agreement holder where timber harvesting is designed to be consistent with the structural characteristics and the temporal and spatial distribution of an opening that would result from a natural disturbance, and the holder ensures, to the extent practicable, that the structural characteristics of the cutblock after timber harvesting has been completed resemble an opening that would result from a natural disturbance” (Forest Planning and Practices Regulation, 2014).

The Englemann Spruce Sub-alpine Fir and Interior Cedar Hemlock Retention Strategies are intended to meet the requirement of Forest Planning and Practices Regulation section 64(2)(b) while providing the licence holder with a rule set that is easy to implement, is verifiable and measurable.

### **Englemann Spruce Sub-alpine Fir Retention Strategy:**

Historically, Englemann Spruce Sub-alpine fir forest existed as contiguous tracts of old seral stage forests, which were subjected to infrequent stand replacing fires at mean return intervals of 200 to 350 years. The natural disturbance types of the Englemann Spruce Sub-alpine fir forest results in a range of small to medium-sized (up to 250 ha) similarly aged forest patches on the landscape (Biodiversity, 1995). The licence holder will use a Group Retention Strategy when cutblock design is intended to resemble an opening that would result from a natural disturbance within Englemann Spruce Sub-alpine fir Ecosystem Classification Zone.

When planning and implementing a Group Retention Strategy to mimic natural disturbance the licence holder will comply with the following:

### **As applied within the Englemann Spruce Sub-alpine Fir:**

Section 64(1) does not apply if groups of trees 0.25 ha, or greater, are reserved from harvest such that the total area of reserve that relates to the cutblock is a minimum of 13% of the cutblock area (Stuart-Smith, Hendry, 1998). Where applicable, reserves will be placed to maximize wind firmness and maintain buffers around areas of high natural biological diversity (deciduous clumps, wetlands and riparian zones) while mimicking natural disturbance.

Within landscape units, patch size, seral distribution and connectivity analysis will be utilized to determine the appropriate distribution of patch sizes (harvest units and leave areas); the current best available science and recommendations of the Forest Practices Biodiversity Guidebook will be used as a guide while undertaking to comply with the Kootenay Boundary Higher Level Plan Order. Where recommendations or objectives cannot be met a qualified registered professional may propose an alternate strategy provided the strategy is documented and the strategy maintains or improves benefits for old growth conservation or it can be shown that objectives 2,

3, 5, 8 or 9 of the Kootenay Boundary Higher Level Plan Order would be better met (Kootenay Boundary Higher Level Plan Order, 2002).

### **Group Retention Englemann Spruce Sub-alpine Fir**

The Englemann Spruce Sub-alpine Fir Wet Cold1 and Wet Cold4 are classified in the Biodiversity Guidebook as Natural Disturbance Types 1 and 2, subject to infrequent stand replacing fires at mean return intervals of 200 to 350 years. The objective in these disturbance types is to maintain a range of small to medium-sized (up to 250 ha) similarly aged forest patches on the landscape. Where the forest patch size distribution applies to both harvest unit and the leave areas between harvest units (Biodiversity, 1995). A study of lake sediment (paleoecology) found an average fire return period of 270 years (range 150-300yrs) within Natural Disturbance Types 1 and 2 (Daniels, Gedalof, Pisaric, 2011). A retrospective study of several fires in the East Kootenay Englemann Spruce Sub-alpine found a post-fire residual coverage of 13%, in which, the pattern of residual stems was in patches rather than single tree (range 0.6 to 24.9ha), (Stuart-Smith, Hendry, 1998).

The Englemann Spruce Sub-alpine Fir Group Retention Strategy removes the spatial constraints to residual tree retention in favor of utilizing landscape level patch size analysis in combination with target percent area retention. The use of patch size analysis and a target percent retention allows the prescribing forester to more closely approximate the pattern of natural disturbance within the Englemann Spruce Sub-alpine Fir, while maintaining sufficient areas of closed canopy to support a range of canopy dependent species.

The retention of larger residual patches will result in leave trees with greater resilience to wind, where rare forest types, such as, deciduous broadleaf can be maintained over the rotation. The use of 13% as a target for retention reflects the findings of Stuart-Smith, A.K., and R. Hendry post-fire study. As better data is available this target may be amended to reflect conditions found in the West Kootenay Englemann Spruce Sub-alpine Fir subzones.

Best management practices within the Englemann Spruce Sub-alpine Fir will be to maintain a range of patch sizes, and a mix of coniferous and deciduous species. Deciduous residuals have been found to be disproportionately beneficial to a number of bird species (Stuart-Smith, 2002). Placement of residual patches will be used to enhance biotic values, such as, movement corridors and riparian areas. Where patches of advanced regeneration occur as a result of historic patch disturbance, these should also be maintained on site, both for their silvicultural benefit, and as a useful niche habitat for song birds (Stuart-Smith, 2002).

### **Interior Cedar Hemlock Variable Retention Strategy:**

The Variable Retention Strategy is designed to preserve an increased structural complexity relative to clearcuts (Bunnell et al., 2003), to mimic natural disturbance patterns, and to provide long term niche habitats for organisms that require standing timber for some portion of their life cycle. The licence holder will use a Variable Retention Strategy when cutblock design is intended to resemble an opening of greater than 40hectares that would result from a natural disturbance within Interior Cedar Hemlock Biogeoclimatic Ecosystem Classification Zones.

When planning and implementing a Variable Retention Strategy to mimic natural disturbance the licence holder will comply with the following:

**As applied within the Interior Cedar Hemlock:**

Section 64(1) does not apply if no point within the net area to be reforested is such that:

- a) more than two tree lengths from the cutblock boundary or edge of a group of trees greater than or equal to 0.25 ha in size, and/or
- b) more than one and a half tree lengths from a group of trees greater than three trees (10m-spacing) or less than 0.25ha in size, and/or
- c) sufficient dominant or co-dominant wind firm trees are maintained such that the average spacing between individual leave trees is one tree length.

**Individual and Group Retention Interior Cedar Hemlock**

Interior Cedar Hemlock individual and group retention strategy is intended to be implemented under a Variable Retention System where the emphasis of the retention is on retaining structural elements of the original stand in order to maintain long-term ecological diversity (Harkema, Scott, 2002) and mimic natural disturbance. The goal of using a Variable Retention System is to maintain an increased structural complexity relative to clearcuts (Bunnell et al., 2003), to mimic natural disturbance patterns and to retain forest influence while providing long term niche habitats for organisms that require standing timber for some portion of their life cycle.

The leave trees within and adjacent to the cutblock create forest influence upon climate, soil, water, runoff, stream flow, floods, erosion and soil productivity, where the forest influence is considered to extend the distance of one tree length from the base of a retained tree (Kittredge, 1948). The distribution of forest influence within a variable retention system can vary depending on the location of leave trees, and the type of retention used: single-tree, group or combination of the two. The maintenance of sufficient leave trees such that the average spacing is one to two tree length between individual and clustered residual dominant and co-dominant stems, will result in a distribution over the entire cutblock, which influences over 50% of the cutblock area. This level of retention is consistent with the findings of a study of post fire residual densities in the Interior Cedar Hemlock (Stuart-Smith, A.K., 1998).

The Interior Cedar Hemlock individual and group retention strategy differs from Forest Planning and Practices Regulation Sec. 64(4), in that individual trees are maintained across the cutblock area, in combination with patches less than 0.25 ha. The advantage of maintaining individual trees combined with groups is that it more closely resembles the natural pattern of fire surviving trees found in the Interior Cedar Hemlock zone (Stuart-Smith, Hendry, 1998).

The individual and group retention strategy gains in ease of implementation by allowing for a varying number of leave trees based on tree heights rather than a prescribed spacing, resulting in the retention of an irregular pattern of superior candidate individual trees in combination with groups of less superior trees. This enables the prescribing professional the freedom to work with the forest structure and species present, as opposed to trying to impose a prescribed spacing which may be unattainable due to a lack of superior candidate trees. When present,

retention will be focused on the highest value leave trees, such as, Douglas-fir, Western Larch, Western Red Cedar, Yellow Pine and broadleaf deciduous (Wildlife Tree Committee of British Columbia – Assessor’s Course Workbook, 2008). The leave trees can be individually dispersed, in groups or a combination of the two.

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## Appendix E Stocking Standards

Selkirk Resource District South Columbia default stocking standards. Ministry of Forest, Lands, Natural Resource Operations and Rural Development. April 2018.

Fire Management / Wildland Urban Interface stocking standards for Selkirk Resource District South Columbia. November 2018.

Chief Forester: Reference Guide for FDP stocking standards. Ministry of Forest, Lands, Natural Resource Operations and Rural Development. February 2014.

[https://www.for.gov.bc.ca/hfp/silviculture/stocking\\_std.htm](https://www.for.gov.bc.ca/hfp/silviculture/stocking_std.htm)

Kootenay Lake Default Stocking Standards. Ministry of Forest, Lands, Natural Resource Operations and Rural Development. December 4, 2007.

### Forest Stewardship Plan #26 Wildfire Interface Stocking Standards

Administration Information		Biogeoclimatic Classification		Regeneration Guide						Free Growing Guide					
				Species		Target	MIN (pa)	MIN (p)	Regeneration delay (max years)	Assessment			Height (m)	Minimum inter-tree distance	% Tree Over Brush
Regime #	Name	Zone-Subzone-Variant	Site series	Preferred (p)	Acceptable (a)	(well-spaced/ha)		Earliest (years)		Latest (years)	Species				
1032199	Community Wildfire Protection Plans Interface Standard	ICH dw	01a	Fd, Lw, Py	Pw, Bg, Pl, Bl, Cw, Hw, Sx, Act, At, Ep	1200	700	600	7	12	20	Pl,Pw,Lw Fd Others	2.0 1.4 1.0	2.0	150
1032200	Community Wildfire Protection Plans Interface Standard	ICH dw	01b	Fd, Lw, Py, Cw, Act, At, Ep	Pw, Sx, Pl, Bg, Bl, Hw	1200	700	600	7	12	20	Pl,Pw,Lw Fd Others	2.0 1.4 1.0	2.0	150
132201	Community Wildfire Protection Plans Interface Standard	ICH mw2	04	Fd, Lw	Sx, Pl, Cw, Bl, Pw, Hw, Act, At, Ep	1200	700	600	7	12	20	Pl,Pw,Lw Fd Others	2.0 1.4 1.0	2.0	150

