



**TimberWest**

TIMBERWEST FOREST CORP.

BONANZA

FOREST STEWARDSHIP PLAN

Replacing the FSP approved October 11, 2017

**Final Submission: TBD**

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**TABLE OF CONTENTS**

1 INTERPRETATION .....7

1.1 Tenses .....7

1.2 Objectives Cancelled.....7

2 SUBMISSION DATE, TERM, COMMENCEMENT DATE AND EXTENSION OF THIS FSP .....7

2.1 Submission Date .....7

2.2 Term (FRPA s. 6(1) (a)) .....7

2.3 Commencement Date .....7

2.4 Extension .....7

3 APPLICATION OF THIS FSP .....7

3.1 FSP Holder .....7

3.2 Application of this FSP .....7

4 FSP MAP (FRPA S. 5(1)(A) & FPPR S. 14) .....8

4.1 Areas to which FRPA S. 196(1) or (2) or FPPR S. 110 Applies .....8

4.2 Designation in Effect Before Submission of this FSP (FPPR S. 14(3)) .....8

4.3 Areas subject to cutting permit or road permit (FPPR S. 14(2)(b)(i) & 14(3) .....8

5 DESIGNATIONS AND OBJECTIVES IN EFFECT BEFORE SUBMISSION OF FSP - (FPPR S. 14(2)(b)(ii)) ...9

6 OBJECTIVES ESTABLISHED OR CONTINUED – (FRPA S. 1 DEFINITIONS) .....9

6.1 Vancouver Island Land Use Plan Higher Level Plan Order..... 10

6.1.1 Higher Level Plan Objective 7 ..... 10

6.1.2 Higher Level Plan Objective 8 ..... 11

6.1.3 Higher Level Plan Objective 9 and 9.1..... 12

6.1.4 Higher Level Plan Objective 10 ..... 12

7 GRANDPARENTED DESIGNATIONS - (FRPA S. 181)..... 13

7.1 Order Establishing Provincial Non-Spatial Old Growth Objectives ..... 13

7.2 Resource Features..... 13

7.3 Recreation Resources..... 13

7.4 Lakeshore Management Zones ..... 14

7.5 Fisheries sensitive Watersheds..... 14

8 OBJECTIVES SET BY GOVERNMENT & RESULTS OR STRATEGIES UNDER S.149(1) OF THE FRPA ...14

8.1 Definitions under acts..... 14

8.2 definitions Of Terms used in Results and Strategies ..... 15

8.3 Soils ..... 15

8.4 Wildlife ..... 16

8.4.1 Ungulate Winter Range – Ungulate Winter Range Order #U1-009 ..... 16

8.4.2 Species at Risk ..... 16

8.5 Water, Fish, Wildlife & Biodiversity within Riparian Areas..... 20

8.6 Fish Habitat in Fisheries Sensitive Watersheds ..... 22

8.7 Community Watersheds ..... 23

8.8 Wildlife & Biodiversity – Landscape Level ..... 24

8.9 Wildlife & Biodiversity – Stand Level ..... 24

8.10 Visual Quality ..... 25

8.11 Cultural Heritage Resources ..... 27

8.12 Measures ..... 29

8.12.1 Measures for Preventing the Introduction or Spread of Invasive Plants ..... 29

8.12.2 Measures to Mitigate the Loss of Natural Range Barriers..... 30

9 STOCKING STANDARDS .....31

9.1 Minimum horizontal intertree distance ..... 32

9.2 Height of crop trees above competing vegetation ..... 32

---

9.3	Suitability of Alder on All Harvested Areas .....	33
9.4	Forest health .....	33
9.5	Preference of western hemlock .....	34
	Appendix 1: Stocking Standards .....	35

## **1 INTERPRETATION**

### **1.1 TENSES**

In this Forest Stewardship Plan (FSP), the singular includes the plural and the plural includes the singular, unless the context indicates otherwise.

### **1.2 OBJECTIVES CANCELLED**

If an 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 the date of cancellation of the objective.

## **2 SUBMISSION DATE, TERM, COMMENCEMENT DATE AND EXTENSION OF THIS FSP**

### **2.1 SUBMISSION DATE**

The date of submission of this FSP is: **TBD**

### **2.2 TERM (FRPA S. 6(1) (a))**

The Term of this FSP will be 5 years beginning on the Commencement Date.

### **2.3 COMMENCEMENT DATE**

The Commencement Date for the Term of this FSP is the date it is approved.

### **2.4 EXTENSION**

The Term of this FSP may be extended for a period of 5 years, beginning on the date the extension is approved.

## **3 APPLICATION OF THIS FSP**

### **3.1 FSP HOLDER**

The holder of this FSP is TIMBERWEST FOREST CORP.

### **3.2 APPLICATION OF THIS FSP**

Subject to exceptions under the Forest and Range Practices ACT (FRPA), this FSP applies to:

- TFL 47 Block 17 (Bonanza)

## **4 FSP MAP (FRPA S. 5(1)(A) & FPPR S. 14)**

The Forest and Range Practices Act and the Forest Practices and Planning Regulation (FPPR) specify required elements that a Forest Stewardship Plan map must include. The FSP map must specifically identify land use designations such as ungulate winter range (UWR), Old Growth Management Areas (OGMA), community watersheds and areas under cutting permit and road permit within each of the Forest Development Units.

Figure 1 provides an overview of the FSP plan area. The proposed FDU(s) that will take effect upon approval of this FSP are coincidental to the FDU(s) that existed under the FSP that is being replaced.

### **4.1 AREAS TO WHICH FRPA S. 196(1) OR (2) OR FPPR S. 110 APPLIES**

The appended FSP Map set illustrates the cutblocks and roads included in Forest Development Plans (FDP) that are within a proposed Forest Development Unit under this FSP and considered approved under S. 196(1) or (2) of the Act, including those cutblocks referred to in S. 110 of the FPPR.

### **4.2 DESIGNATION IN EFFECT BEFORE SUBMISSION OF THIS FSP (FPPR S. 14(3))**

The FSP Map illustrates the designations and content requirements described in S. 14(3) of the Forest Planning and Practices Regulation (FPPR) that were in effect on the Date of Submission.

### **4.3 AREAS SUBJECT TO CUTTING PERMIT OR ROAD PERMIT (FPPR S. 14(2)(B)(I) & 14(3))**

The FSP map illustrates areas within the proposed FDUs that are subject to existing cutting permit or road permit held by the Licensee and in effect on the date of submission. These areas are already under permit and are not the focus of review and comment.

In addition to the areas illustrated on the map, cutting permit 17S is a blanket salvage permit applicable to block 17 of TFL 47. This blanket salvage permit is coincident with FDU B.



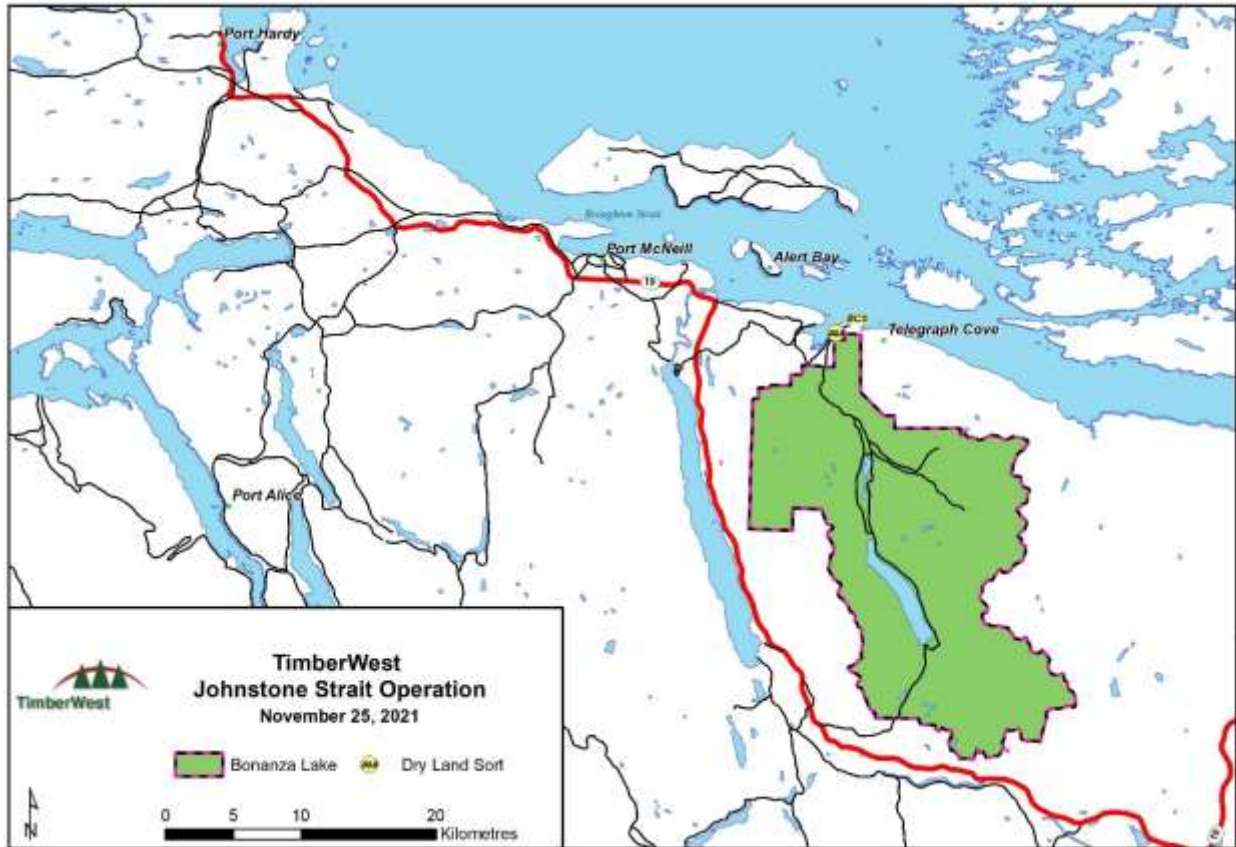


Figure 1. Bonanza FSP Overview

## 5 DESIGNATIONS AND OBJECTIVES IN EFFECT BEFORE SUBMISSION OF FSP - (FPPR S. 14(2)(b)(ii))

- Order Establishing Provincial Non-Spatial Old Growth Objectives
- Scenic Areas with Established Visual Quality Objectives – TFL 47
- Ungulate Winter Range Notice
- Species at Risk Notice North Island Central Coast Forest District – March 2, 2006
- Established Wildlife Habitat Areas 1-183, 1-186, 1-488, 1-626, 1-627, 1-628, 1-630, 1-690a, 1-690b and 1-691
- Marbled Murrelet Land Use Objectives Regulation Order – December 2, 2021
- Existing Cutting Permits and Road Permit's

## 6 OBJECTIVES ESTABLISHED OR CONTINUED – (FRPA S. 1 DEFINITIONS)

FRPA S.1 definitions defines “objectives set by government” to include objectives established or continued under Section 93.4 of the *Land Act*. The sections which follow detail the objectives continued and the results and strategies prescribed to meet the objective.

## 6.1 VANCOUVER ISLAND LAND USE PLAN HIGHER LEVEL PLAN ORDER

On December 1, 2000 the Vancouver Island Land Use Plan (VILUP) – Higher Level Plan Order (HLP) took effect. This HLP order established resource management zones (some of which are also referred to as Enhanced Forestry Zones), special management zones and accompanying objectives for each of these zones. Enhanced Forestry Zone (EFZ) 11 coincides with FDU B. In some data sets a very small sliver of special management zone (SMZ) 7 looks like it is in the TFL. The holder of this FSP will not be operating in this area during the term of this plan. Therefore, regardless of whether or not a sliver of SMZ 7 appears to be in the plan area, this sliver has not been identified as an FDU and no results and or strategies have been prepared to address this sliver.

Enhanced Forestry Zones and associated management regimes were developed that varied from the general provisions of the *Forest Practices Code Act (FPC)* in effect at the time of drafting of the Vancouver Island Land Use Plan. The objective of EFZs was to enable greater flexibility for harvest operations on the ground while still maintaining the environmental stewardship provisions of the Forest Practices Code (FPC). The intent of such zonation is to identify forested lands which are suitable for increased emphasis on timber production. The enhanced forest management objectives in the EFZ are intended to result in benefits to timber supply.

EFZ units have been identified based on an assessment of the inter-relationships and significance of timber and non-timber resource values, and based on regional scale resource information. They are located in areas with particular suitability and capability for enhanced timber production, which also avoid areas of particularly high non-timber values, such as community watersheds or high biodiversity emphasis areas. Enhanced Timber Harvesting objectives vary from the general direction to enable more flexibility for timing and layout of harvest operations. Higher level planning objectives 7 through 10 are applicable to FDU B, requiring a result and strategy be developed to address them. All other objectives do not apply, therefore, results and strategies are not required for these objectives.

### 6.1.1 HIGHER LEVEL PLAN OBJECTIVE 7

#### Objective:

7. To increase the short-term availability of timber,
  - a) a cutblock may be larger than 40 ha pursuant to section 11(2)(a) of the OPR (Operational Planning Regulation); and
  - b) pursuant to section 68(4) of the OPR, a cutblock is greened-up if it is adequately stocked and the average height of those trees that are
    - i. the tallest tree in each 0.01 ha plot included in a representative sample, and
    - ii. a commercially valuable species or other species acceptable to the district manageris as least 1.3 meters;unless the district manager determines that a cutblock referred to under (a) or (b) would significantly impact specific hydrological, wildlife, biodiversity, scenic or recreation values.

**Applicable Area:** FDU B (EFZ 11)

**Strategy:**

1. Regarding Objective 7 and for the purpose of carrying out primary forestry activities TimberWest may design, develop and harvest cutblocks that:
  - i. apply any silviculture system; and
  - ii. exceed 40 hectares; and
  - iii. are adjacent to areas that are greened up as described HLP Objective 7(b).
2. For the purposes of HLP Order Objective 7, in determining the size of a proposed cutblock in Enhanced Forestry Zones (EFZs), the non-greened up portion of a cutblock, as defined in Section 65 of the Forest Planning and Practices Regulation, adjacent to a cutblock proposed for harvest will be considered part of the Net Area Reforested (NAR) for that proposed cutblock.
3. In order to mitigate significant impacts to specific hydrological, wildlife, biodiversity, scenic or recreation values, cutblocks described in subsection 1. will be consistent with:
  - i. hydrological assessments (watershed harvest plan review, WHPR) completed prior to application for cutting permit for each block planned for a watershed where the WHPR evaluates the watershed for sensitivity, effective clearcut area, green up and road density; and
  - ii. hydrological objectives and the results/strategies for HLP Objective 8; and
  - iii. wildlife objectives and the results/strategies in Section 8.4 for wildlife; and
  - iv. wildlife and biodiversity results/strategies in Section 8.5 for water, fish, wildlife and biodiversity within riparian areas; and
  - v. wildlife and biodiversity results/strategies in Section 8.8 for wildlife and biodiversity; and
  - vi. scenic area objectives and the results/strategies in Section 8.10 for visual quality

**6.1.2 HIGHER LEVEL PLAN OBJECTIVE 8**

**Objective:**

8. Avoid or mitigate adverse hydrological impacts, which may result from the practices referred to in objective 7, in watersheds with significant watershed sensitivity and significant fisheries values, as determined by the district manager and designated environment official.

**Applicable Area:** FDU B (EFZ 11)

**Strategy:**

1. Regarding Objective 8 and prior to and for the purpose of carrying out primary forest activities in watersheds identified by the District Manager or designated environmental official as having significant watershed sensitivity and significant fisheries values, TimberWest will:
  - i. Have hydrological assessments carried out by a qualified registered professional to assess the hydrological effects of the proposed primary forestry activities on those watersheds; and
  - ii. Plan and develop primary forest activities in a manner which is consistent with the findings and recommendations of such assessments noted in (i) above.

### 6.1.3 HIGHER LEVEL PLAN OBJECTIVE 9 AND 9.1

**Objective:**

9. When proposing the species composition for the purposes of OPR section 39(3)(o), a person may, pursuant to OPR section 41, select a single species that is ecologically suited to the area, if a mix of species was present on the area before the timber was harvested.
- 9.1 The area that may be subject to selection of a single species pursuant to objective 9 is limited to no more than 20 percent of the forested area of any variant within a given EFZ.

**Applicable Area:** FDU B (EFZ 11)

**Strategy:**

1. Regarding Objective 9 and 9.1 where the TimberWest constructs a road or harvests a cutblock in the area of EFZ 11 where a mix of species was present on the area before the timber was harvested, and the cutblock or road is reforested using a single species, TimberWest will:
  - i. Undertake reforestation consistent with the stocking standards described in section 9 of this FSP and appended to this document in Appendix 1.

### 6.1.4 HIGHER LEVEL PLAN OBJECTIVE 10

**Objective:**

10. To avoid severe social and economic consequences, as determined by the district manager and the designated environmental official, the full target of 13 percent for old growth retention in CWHvm1 may be reduced by up to one third provided that ecologically suitable second growth forest is identified to recruit the shortfall<sup>1</sup>.

**Applicable Area:** FDU B (EFZ 11)

**Strategy:**

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<sup>1</sup> The targets for retention or recruitment of old growth forests will be achieved through the establishment of old growth management areas as part of landscape unit planning.

1. Meeting this objective will be carried out subject to the conditions set forth in section 7.1 “Order Establishing Provincial Non-Spatial Old Growth Objectives” of this FSP.

## **7 GRANDPARENTED DESIGNATIONS - (FRPA S. 181)**

Grandparented designations are those designations, measures and/or objectives established under the Forest Practices Code Act and continued by Section 181 of FRPA as specified in Section 180(a) – (l) of FRPA. The sections which follow pertain only to those objectives described in S. 180 as they are relevant to the area under consideration in each of the proposed FDUs for this FSP.

### **7.1 ORDER ESTABLISHING PROVINCIAL NON-SPATIAL OLD GROWTH OBJECTIVES**

**Objective:**

To contribute to the conservation of biodiversity, licensees must maintain old forest by biogeoclimatic variant within each landscape unit.

**Reference:** FRPA S. 5 (1)(b)(ii); FRPA S. 180/181

**Applicable Area:** FDU B

**Strategy:**

If the holder of this FSP conducts Primary Forest Activities, the holder will plan such activities to be consistent with the requirements of the old growth order. Planning of primary forest activities will take place in a manner which ensures that the amounts of old forest retention specified in the order for retention and recruitment are satisfied for low, intermediate and high biodiversity emphasis, to the extent practicable. Subject to paragraph 5 of the order, the holder of this FSP will not allow its primary forest activities to cause the percent retention to fall below the target amounts specified in the order. Retention targets for the subzone variants within the plan area for each of the respective Landscape Units are as follows:

- Bonanza – Intermediate Biodiversity emphasis (FDU B)
  - MHmm – 19% (NDT1)
  - CWHvm1 – 13% (NDT1)
  - CWHvm2 – 13% (NDT1)

### **7.2 RESOURCE FEATURES**

**Objective:** NA

**Reference:** FPPR S. 70(1); GAR S. 5

### **7.3 RECREATION RESOURCES**

**Objective:** NA

**Reference:** FRPA S. 180

## 7.4 LAKESHORE MANAGEMENT ZONES

**Objective:** Not applicable; no lakeshore management zones continued under Section 180(h) exist in the plan area. Refer to Section 8.5 “Water, Fish Wildlife & Biodiversity within Riparian Areas”, for results and strategies pertaining to riparian area management.

**Reference:** FRPA S. 180

**Applicable Area:** NA

**Result or Strategy:**

No result or strategy is required

## 7.5 FISHERIES SENSITIVE WATERSHEDS

**Objective:** Not applicable; no fisheries sensitive watersheds continued under Section 180(f) exist in the plan area. Refer to Section 8.5 “Water, Fish Wildlife & Biodiversity within Riparian Areas”, for results and strategies pertaining to riparian area management.

**Reference:** FRPA S. 180

**Applicable Area:** NA

**Result or Strategy:**

No result or strategy is required.

## 8 OBJECTIVES SET BY GOVERNMENT & RESULTS OR STRATEGIES UNDER SECTION 149(1) OF THE FRPA

Objectives set by Government specify those objectives prescribed in legislation in Section 149(1) of the Forest and Range Practices Act. Not all identified resource values have objectives set by government. Licensees are required to prepare results and/or strategies to meet these objectives. The subsections which follow address each of the objectives set by government as required by legislation and regulation.

Each objective is addressed in a similar manner including those which do not apply. Objective specific definitions are provided as required to insure that the intent and application is understood. In cases where an objective does not apply, the same level of detail is provided such that the content of this FSP is complete and in the case of an objective that does not apply the nature of what does not apply is as well understood as those objectives that do apply to the plan area.

### 8.1 DEFINITIONS UNDER ACTS



Unless otherwise expressly indicated, or indicated by context, terms used in this FSP have the definition given them, as of the Submission Date, in Forest and Range Practices Act (the “Act”) and the Forest Act and the regulations under them.

“**Qualified Registered Professional**” means;

- (1) A person with the prescribed qualifications, and is licensed by one or more of the following;
  - (a) an agrologist under the *Agrologists Act*,
  - (b) a professional biologist under the *College of Applied Biology Act*,
  - (c) a professional engineer or professional geoscientist under the *Engineers and Geoscientists Act*, or
  - (d) a forest professional under the *Professional Governance Act and Forest Professionals Regulation* and being authorized under that Act and associated Regulation to undertake the practice of professional forestry in relation to the subject matter prescribed under that paragraph or those paragraphs, as the case may be; and
- (2) has the appropriate education, experience and training to carry out the activity.

“**Evaluation**” means an assessment conducted by a **Qualified Registered Professional** that examines, on a site specific basis the factors relevant to the Objective Set by Government for that objective as described in *FPPR Schedule 1*. An evaluation includes the development of the necessary prescriptions to ensure that the Objective(s) and practice requirements relevant to the Objective are met.

## 8.2 DEFINITIONS OF TERMS USED IN RESULTS AND STRATEGIES

“**Date of Submission**” means the date on which the holder of this FSP submitted the FSP for approval by the District Manager

“**Ungulate Winter Range Notice**” means the Notice as it pertains to the relevant Forest District issued to the Holder of this FSP by the **Date of Submission** pursuant to section 7(2) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/2004):

- North Island Central Coast Forest District – December 30, 2004.

## 8.3 SOILS

### 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.

**Reference:** FPPR Section 5

**Applicable Area:** FDU B

- 1.1 The Holder of this FSP will undertake to comply with Sections 35 & 36 of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/2004).

## 8.4 WILDLIFE

### 8.4.1 Ungulate Winter Range – Ungulate Winter Range Order #U1-009

#### Objective:

Comply with Ungulate Winter Range Order #U1-009 for ungulate winter range established for black-tailed deer (*Odocoileus hemionus columbianus*) and Roosevelt Elk (*Cervus elaphus roosevelti*).

**Reference:** Order – Ungulate Winter Range #U1-009

**Applicable Area:** Ungulate Winter Range areas that are found within FDU B

#### Strategy:

- 1.1 In Paragraph 1.2 “**Ungulate Winter Range Order**” means Order #U1-009 that established Ungulate Winter Range for Black-tailed Deer and Roosevelt Elk under sections 7(2) and 10(1) of the *Government Actions Regulation* (BC Reg 17/04).
- 1.2 The results and strategies for ungulate winter range in #U1-009 are the requirements specified in the **Ungulate Winter Range Order**. The holder of this FSP will be compliant with the objectives set forth in the **Ungulate Winter Range Order** and manage the UWR according to the general wildlife measures that are provided in the order.

### 8.4.2 Species at Risk

The sections which follow describe the strategy that will be used to address species at risk in the North Island – Central Coast Forest District (NICCFD) where a section 7 notice pertaining to that species has been prepared by government. Several other species are also listed as “species-at-risk” many of which have recently had their status changed to “at risk”. At this time section 7 notices have not been prepared for many of these additional species. Consequently, no results and strategies are necessary at this time.

#### 8.4.2.1 **Coastal Tailed Frog (*Ascaphus truei*)**

#### Objective:

A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister responsible for the Wildlife Act notifies the person of the applicable

- (a) species referred to in subsection (1), and
- (b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1).”

**Reference:** FPPR Section 7(2)

**Applicable Area:** FDU B

**Result or Strategy:**



Coastal Tailed Frogs do not occur within the area covered by this FSP. Therefore no results and strategies have been developed for this species.

#### 8.4.2.2 Great Blue Heron (*Ardea herodias fanini*)

##### Objective:

A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister of Water, Land and Air Protection, or a designated official, notifies the person of the applicable

- (a) species referred to in subsection (1), and
- (b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1)."

**Reference:** FPPR Section 7(2)

**Applicable Area:** FDU B

##### Strategy:

- 1.1 Prior to a ministerial Order being issued exempting the holder of this FSP from preparing a result and strategy pursuant to FPPR S. 7(3), subject to Paragraphs 1.2 and 1.3, within an area in the FDU(s) that is subject to the Species at Risk Notice, the holder of this FSP will comply with the objectives set by government for the survival of species at risk as described in the Species at Risk Notice. Specifically, the holder of this FSP will:
  - (a) distribute the amount specified in the notice in a manner consistent with the notice; and
  - (b) identify the area specified in the notice, to the extent that suitable habitat is available, using the Accounts and Measures for Managing Identified Wildlife (Identified Wildlife Management Strategy Version 2004) habitat requirements as a delineation guide; and
  - (c) defer harvesting in that area until such time as wildlife habitat areas are established in the plan area to address the species or a Ministerial order is issued establishing wildlife habitat areas for the species, exhausting the total mature timber harvesting landbase impact amount for the North Island Central Coast Forest District; and
  - (d) in habitat that is determined to be suitable Great Blue Heron habitat, refer to the Great Blue Heron Accounts and Measures for Managing Identified Wildlife (Identified Wildlife Management Strategy Version 2004) and/or other pertinent information for guidance during the development of a management plan to conserve this habitat as necessary to meet the objective of the species at risk notice.

##### Adjustments to the Amount of Area Affected

- 1.2 The amount of area in paragraph 1.1 will be reduced if and to the extent that:

- (a) after the **Date of Submission**, the Total Mature Timber Harvesting Land Base Impact or the Total Habitat Required is reduced in or as a result of an amendment to, replacement of or cancellation of the Species at Risk Notice;
  - (b) after the **Date of Submission**, a wildlife habitat area, ungulate winter range, general wildlife measure or a wildlife habitat feature is established or expanded within the mature timber harvesting landbase and addresses in whole or in part the amount, distribution or attributes of habitat specified in the **Species at Risk Notice**;
- 1.3 Whereas a ministerial Order is issued pursuant to FPPR S7(3) indicating that the **Species at Risk Notice** no longer has effect, exempting the holder of this FSP from preparing and following a result and strategy the holder of this FSP will follow the **General Wildlife Measures** specified in the Order.

#### 8.4.2.3 Marbled Murrelet (*Brachyramphus marmoratus*)

### 3. Objectives for Marbled Murrelet nesting habitat:

- (1) Maintain suitable habitat as follows:
  - (a) For each:  
Landscape unit aggregate in the order area:  
Retain all timber in an amount equal to or greater than the minimum habitat threshold listed in Column "A" in Table 1 in Schedule "7".
  - (b) For each:  
Landscape unit portion in the order area:  
Retain all timber in an amount equal to or greater than the suitable habitat target listed in Column "A" in Table 2 in Schedule "7".
- (2) Despite subsection (1)(b), the amount of timber that must be retained within a landscape unit portion in the West and North Vancouver Island and Southern Mainland Coast Conservation Regions may be less than the suitable target listed in Column "A" in Table 2 in Schedule "7", provided that:  
  
The amount of timber retained is equal to or greater than the minimum habitat threshold listed in Column "B" in Table 2 in Schedule "7".
- (3) Despite subsection (1)(a), Suitable Habitat polygons shown in Schedules "1 to 6" in the East Vancouver Island Conservation Region may be harvested, provided that harvesting is required for road access, other infrastructure, or to address safety concerns, where there is no practicable alternative.
- (4) Variances from the Objectives in Sections 3(1) to 3(3) for Suitable Habitat polygons shown in Schedules "1 to 6" may be allowed, provided that:
  - (a) A Qualified Professional:
    - (i) Completes a field assessment that identifies the characteristics of Suitable Habitat using established standards, and
    - (ii) Confirms the alteration will result in no net loss or functional loss of Suitable Habitat.

- (b) A Regional Ministry of Forests, Lands, Natural Resource Operations and Rural Development biologist approves the alteration of the Suitable Habitat polygons.

**Reference:** FPPR Section 7(2)

**Applicable Area:** All proposed FDU, NICCFD

**Result or Strategy:**

Approach to Harvesting and Roads

- 1.1 If the holder of this FSP conducts primary forest activities the holder will carry out such activities to comply with the objectives for Marbled Murrelet nesting habitat.

#### **8.4.2.4 “Queen Charlotte” Goshawk (*Accipiter gentiles laingi*)**

**Objective:**

A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister responsible for the Wildlife Act notifies the person of the applicable

- (a) species referred to in subsection (1), and
- (b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1).”

**Reference:** FPPR Section 7(2)

**Applicable Area:** FDU B

**Strategy:**

- 1.1 Prior to a ministerial Order being issued exempting the holder of this FSP from preparing a result and strategy pursuant to FPPR S. 7(3), subject to Paragraphs 1.2 and 1.3, within an area in the FDU(s) that is subject to the Species at Risk Notice, the holder of this FSP will comply with the objectives set by government for the survival of species at risk as described in the Species at Risk Notice. Specifically, the holder of this FSP will:
  - (a) distribute the amount specified in the notice in a manner consistent with the notice; and
  - (b) identify the area specified in the notice, to the extent that suitable habitat is available, using the Accounts and Measures for Managing Identified Wildlife (Identified Wildlife Management Strategy Version 2004) habitat requirements as a delineation guide; and
  - (c) defer harvesting in that area until such time as wildlife habitat areas are established in the plan area to address the species or a Ministerial order is issued establishing wildlife habitat areas for the species, exhausting the total mature timber harvesting landbase impact amount for the North Island Central Coast Forest District; and

- (d) in habitat that is determined to be suitable Queen Charlotte Goshawk habitat, refer to the Queen Charlotte Goshawk Accounts and Measures for Managing Identified Wildlife (Identified Wildlife Management Strategy Version 2004) and/or other pertinent information for guidance during the development of a management plan to conserve this habitat as necessary to meet the objective of the species at risk notice.

#### Adjustments to the Amount of Area Affected

- 1.2 The amount of area in paragraph 1.1 will be reduced if and to the extent that:
  - (a) after the **Date of Submission**, the Total Mature Timber Harvesting Land Base Impact or the Total Habitat Required is reduced in or as a result of an amendment to, replacement of or cancellation of the Species at Risk Notice;
  - (b) after the Date of Submission, a wildlife habitat area, ungulate winter range, general wildlife measure or a wildlife habitat feature is established or expanded within the mature timber harvesting landbase and addresses in whole or in part the amount, distribution or attributes of habitat specified in the **Species at Risk Notice**;
- 1.3 Whereas a ministerial Order is issued pursuant to FPPR S. 7(3) indicating that the **Species at Risk Notice** no longer has effect, exempting the holder of this FSP from preparing and following a result and strategy the holder of this FSP will follow the **General Wildlife Measures** specified in the Order.

#### **8.4.2.5 Grizzly Bear (*Ursus arctos*)**

##### **Objective:**

A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister responsible for the Wildlife Act notifies the person of the applicable

- (a) species referred to in subsection (1), and
- (b) indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1)."

**Reference:** FPPR Section 7(2)

**Applicable Area:** FDU B

##### **Result or Strategy:**

The amount specified in the **Species at Risk Notice** is for the Mid Coast TSA and TFL 39, which is not covered by this FSP. Therefore no results or strategies have been developed for this species.

#### **8.5 WATER, FISH, WILDLIFE & BIODIVERSITY WITHIN RIPARIAN AREAS**

##### **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.

**Reference:** FPPR Section 8, 12(3)

**Applicable Area:** FDU B

**Strategy:**

1.1 In Paragraphs 1.3:

- (a) **“Non status roads”** means existing road headings not currently under road permit including deactivated roads and, all pre *Forest Practices Code Act* roads. **Non status roads** do not include old railway grades, skid trails, or old road locations which have become overgrown with merchantable crop trees and vegetation to the extent that the area is now functioning as part of the riparian ecosystem as it was prior to the old road in question being built.

1.2 Prior to the commencement of and for the purpose of carrying out a primary forest activity the holder of this FSP adopts the following strategy:

- (a) Subject to 1.3 the holder of this FSP will comply with practice requirements as specified in Sections 47 to 49 FPPR (B.C. Reg. 14/2004), subject to the restrictions detailed in sections 50, 51 and 52(2) FPPR (B.C. Reg. 14/2004) and the temperature sensitive stream requirements identified in section 53 FPPR (B.C. Reg. 14/2004);
- (b) to comply with the objective of Section 12(3) of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/2004) by implementing tree retention strategies in a Riparian Management Zone for streams, wetlands and lakes as determined through an **evaluation** performed by a **Qualified Registered Professional**;
- (c) to give consideration to the following factors as per Schedule 1 of the FPPR:
  - a. the type of management regime that is required for a riparian area, having regard to
    - i. the need to buffer the aquatic ecosystem of a stream, wetland or lake from the introduction of materials that are deleterious to water quality or fish habitat
    - ii. the role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity,
    - iii. the need to maintain stream band and stream channel integrity, and
    - iv. the relative importance and sensitivity of different riparian classes of steams, wetlands and lakes in conserving water quality, fish habitat, wildlife habitat and biodiversity;
  - b. the type, timing and intensity of forest practices that can be carries out within the context of a management regime referred to in paragraph a.;

- c. the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish habitat
  - (d) on disturbed contiguous areas of erodible material greater than 0.01 ha and not subject to reforestation activities on approaches to fish stream crossings, grass seed as soon as possible or within one year of disturbance. The areas to be seeded are ditch-lines in the approach to the structure where, due to topographical constraints, flow is directed directly into the fish stream.
- 1.3 Where a **non status road** infringes upon the riparian management area of a wetland lake or stream reactivation of the **non status road** will be assessed as part of the **evaluation** to determine suitability for industrial use subject to the following conditions:
- (a) an **Evaluation** has determined that the use of the **non status road** will not result in an increased sediment delivery to the wetland, lake or stream than that of a new road; and
  - (b) the **non status road** does not infringe upon the riparian management area of the wetland, lake or stream to the extent that the remaining riparian management area is less than 10 meters wide for fish bearing wetlands, lakes and streams and 5 meters for non fish wetlands, lakes and streams; and
  - (c) riparian reserve zone remaining on the road side of such activities will not be considered available for harvesting as a consequence of **non status road** reactivation; and
  - (d) **non status road** reactivation will not infringe upon more than 6% of the riparian management area of an affected stream; and
  - (e) the riparian reserve zone area, where affected, will be remediated by increasing the area of the riparian reserve zone elsewhere on the affected stream.

Where these conditions are satisfied the **non status road** may be reactivated.

## 8.6 FISH HABITAT IN FISHERIES SENSITIVE WATERSHEDS

### Objective:

- (1) In this section "fisheries sensitive watershed" means an area identified in Schedule 2 of this regulation
  - (a) with significant downstream fisheries values continued under section 180 (f) of the Act and significant watershed sensitivity continued under section 180 (g) of the Act, and
  - (b) for which there is no fisheries sensitive watershed objective.
- (2) Until December 31, 2005 the objective set by government for fish habitat in fisheries sensitive watersheds is to prevent to the extent described in subsection (3) the cumulative hydrological effects of Primary Forest Activities in the fisheries sensitive watershed from resulting in a material adverse impact on the habitat of the fish species for which the fisheries sensitive watershed was established.
- (3) The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.
- (4) If satisfied that the objective set out in subsection (2) is not required to provide special management, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.

- (5) If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.

**Reference:** FPPR Section 8.1

**Applicable Area:** NA

**Strategy:**

As of the date of submission of this FSP, no fisheries sensitive watersheds have been designated within the plan area, therefore Section 8.1 of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/2004) (FPPR) is not applicable. Should a fisheries sensitive watershed be designated within the plan area, the holder of this FSP will comply with Section 8.1 of the FPPR.

## 8.7 COMMUNITY WATERSHEDS

**Objective:**

- (1) In this section, "community watershed" means a community watershed
  - (a) that is continued under section 180 (e) of the Act, and
  - (b) for which a water quality objective has not been
    - (i) continued under section 181 of the Act, or
    - (ii) established under the Government Actions Regulation.
- (2) The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities within the community watershed from resulting in
  - (a) a material adverse impact on the quantity of water or the timing of the flow of the water from the waterworks, or
  - (b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under
    - (i) an enactment, or
    - (ii) the license pertaining to the waterworks.
- (3) The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.
- (4) If satisfied that the objective set out in subsection (2) is not required to provide special management the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective.
- (5) If satisfied that the objective set out in subsection (2) is addressed, in whole or in part, by an enactment, the minister responsible for the Wildlife Act must exempt a person from the requirement to specify a result or strategy in relation to the objective set out in subsection (2) to the extent that the objective is already addressed.

**Reference:** FPPR Section 8.2 & 59-62



**Applicable Area:** NA

**Result or Strategy:**

No community watersheds exist within the area covered by the proposed FDUs in this plan. Therefore, no results or strategies are necessary.

## 8.8 WILDLIFE & BIODIVERSITY – LANDSCAPE LEVEL

**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.

**Reference:** FPPR Section 9, 64 & 65

**Applicable Area:** All proposed FDUs

- 1.1 For the purpose of conducting primary forest activities, and where VILUP Objective 7 is not applied, the Holder of this FSP will undertake to comply with the practice requirements outlined in Sections 64 and 65 of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/2004).

## 8.9 WILDLIFE & BIODIVERSITY – STAND LEVEL

**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.

**Reference:** FPPR Section 9.1, 66 & 67

**Applicable Area:** FDU B

**Strategy:**

- 1.1 For the purpose of conducting primary forest activities the Holder of this FSP will undertake to comply with the practice requirements outlined in Section 66 of the *Forest Planning and Practices Regulation* (B.C. Reg. 14/2004).
- 1.2 Unless as specified in subsection 1.2.1 wildlife tree retention areas may not be harvested before 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
  - 1.2.1 Wildlife tree retention areas that are not specifically required to protect or conserve a non timber resource or feature may be harvested provided, prior to harvesting, a **qualified**



**registered professional** performs an **evaluation** that determines the wildlife tree retention areas are replaced with an equivalent area that is:

- 1.2.1.1 ecologically and structurally similar or better to the wildlife tree retention area to be harvested, and
- 1.2.1.2 is geographically as close as practicable to the cutblock.

## 8.10 VISUAL QUALITY

Visual quality objectives (VQOs) for TFL 47 are addressed by the scenic areas established for the TFL under the *Forest Practices Code of British Columbia Act* and continued under section 180 of FPPR.

### Objective:

The objective that applies to the holder of this FSP is to ensure that the forested landscape with visual quality objectives established under GAR and Scenic Areas continued under the FRPA which is altered as a result of primary forest activities falls within the specified levels of alteration in the regulation.

**Reference:** GAR Section 17 & FPPR Section 1.1, 9.2 & FRPA S. 180

**Applicable Area:** FDU B

### Strategy:

- 1.1 In paragraphs 1.1 through 1.4
  - (a) A “**Significant Public Viewpoint**”, as that term is used in the definition of “altered forest landscape” as described in FPPR S.1 as it was at the time of submission of this FSP means a viewpoint on water or land:
    - i. where a large number of people traditionally congregate which may be a viewpoint in a park, highway pullout, anchorage or city center; or
    - ii. included in the most current Visual Landscape Inventory; or
    - iii. determined to be important by a qualified registered professional, with consideration given to, but not limited to, transportation corridors and frequency and duration of view; and
  - (b) “**Order**” refers to the *Order to Establish Scenic Areas and Visual Quality Objectives for the Campbell River Forest District* of December 14, 2005 as it pertains to that district; and
  - (c) “**visible landscape**” may include more than one landform where the landforms are in close proximity to one another making them easily and naturally viewed together. The visible landscape is limited to a maximum 60-degree angle-of-view from a given significant public viewpoint; and
  - (d) “**landform**” is a distinct topographic feature that is a sub-unit of the broader visible landscape, is three dimensional in form and is delineated from a significant public viewpoint in perspective view. The landform is generally defined by ridges, drainages / channels, valleys, shorelines and skylines.

- 1.2 If the holder of this FSP conducts primary forest activity within an area in the FDU(s) that is in a Scenic Area with established Visual Quality Objectives (VQO's), the holder will apply the VQO as identified in the Order.
- 1.3 Activities will be consistent with FPPR S. 1.1 as it was on the date of submission to ensure that a forest landscape within a scenic area, that is altered as a result of timber harvesting or road construction, falls within the specified levels of alteration.
- 1.4 Further to sections 1.2 and 1.3, the holder of this FSP may conduct a primary forest activity that is consistent with an **Evaluation** made against the **visible landscape**, rather than against the specific visual landscape inventory polygon, provided that this visible landscape evaluation:
  - (a) Includes a group of landscape inventory polygons that:
    - (I) have the same VQO; or
    - (II) have different VQO's; and
    - (III) area adjacent to each other and/or are easily and naturally viewed together; and
  - (b) Includes an identification of the visual landscape inventory polygons considered part of the **visible landscape**; and
  - (c) Includes a rationale outlining how the holder of this FSP will undertake to comply with the VQO and:
    - (I) the reasons for the VQO being evaluated against the visible landscape rather than by visual landscape inventory polygons; and
    - (II) in the case of 1.4(a)(I) the extent to which the altered forest landscape in a visible landscape is consistent with the VQO and the categories of visually altered landscape in FPPR S. 1.1 as it was at the time of submission; or
    - (III) in the case of 1.4(a)(II) the extent to which the altered forest landscape in a visible landscape is consistent with the more restrictive VQO and the categories of visually altered landscape in FPPR S. 1.1 as it was at the time of submission; and
  - (d) Is made prior to road construction or cutblock harvesting.
- 1.5 Sections 1.2 and 1.3 do not apply where the holder of this FSP constructs a road or harvests a cutblock that is related to the harvesting of timber that is significantly damaged or destroyed by fire, insects, disease, wind or flooding and where the FSP holder:
  - (a) Completes a visual impact assessment by a **Qualified Registered Professional**; and
  - (b) Where opportunities exist, incorporates elements of good visual design into the size, shape and location of the timber harvesting and road building; and
  - (c) Completes a rationale outlining how subsection 1.5(b) was implemented, the measures that were considered and taken to accommodate the visual resource; and
  - (d) Is authorized or required by Government.

## 8.11 CULTURAL HERITAGE RESOURCES

### Objective:

The objective set by government for cultural heritage resources<sup>2</sup> is 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*

**Reference:** FPPR Section 10

**Applicable Area:** All proposed FDU's

### Strategy:

#### Definitions

1.1 In Paragraphs 1.2 and 1.3:

- (a) **“annually”** means once per calendar year; and
- (b) **“proposed development area”** means areas proposed for cutblock harvesting and/or road construction; and
- (c) **“new”**, in reference to proposed development areas, refers to areas not previously forwarded to the First Nation; and
- (d) **“established formal agreement”** means an agreement, between a First Nation or a group of First Nations and the holder of this FSP, that specifies the process, manner and timelines under which information sharing will take place and that is updated and revised over time; and
- (e) **“traditional use of cedar”** refers to use based on historical extent within the FDU for making paddles, masks, totems, canoes, baskets, clothing, house beams, poles and other similar traditional use items.

#### Approach to Harvesting and Roads

1.2 Within an area in the FDU, if the holder of this FSP conducts Primary Forest Activities, the holder of this FSP will carry out these activities consistent with the objective to conserve and if necessary protect cultural heritage resources that are:

- (a) referred to in Section 10 of Forest Planning and Practices Regulation; and
- (b) likely to be adversely affected by the activities if the holder of this FSP is carrying out primary forest activities during the term of this FSP; and

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<sup>2</sup> “Cultural heritage resource” refers only to those 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.

- (c) in the context of traditional use by aboriginal people are determined to be important, valuable, scarce and of continued importance; through:
  - i. information sharing with First Nations prior to review and comment of this Forest Stewardship Plan under Section 20 of the *Forest Planning and Practices Regulation*; or
  - ii. comments made by the affected First Nation in accordance with Section 21 of the *Forest Planning and Practices Regulation* and subsequently, confirmed by government in consultation with the First Nation; or
  - iii. comments made by the affected First Nation following the FSP approval and subsequently, confirmed by government in consultation with the First Nation
- 1.3 In addition to subsection 1.2 (c) if the holder of this FSP conducts Primary Forest Activities, the holder of this FSP will:
  - (a) Annually or more frequently conduct information sharing with applicable First Nations. This information sharing will involve:
    - i. Adhering to an established formal agreement, or, where an established formal agreement is not in place, engage with applicable First Nations to develop a formal agreement while in the meantime engaging with the applicable First Nation and providing the applicable First Nation with any requested information, including but not limited to:
      - ii. Providing a 1:30,000 or larger scale map in a format agreeable to applicable First Nations and illustrating both new proposed development areas and development areas previously shared;
      - iii. Providing, unless not desired, digital shape files for new proposed development areas;
      - iv. Requesting updated information on traditional forest resources, aboriginal heritage features, historically culturally modified trees and cultural use needs for monumental cedar, Western red cedar, Yellow cedar, yew and other species; and
      - v. Requesting a meeting to review information described in (i), (ii), (iii) and (iv)
  - (b) Annually request, from the Ministry of Forests, Lands and Natural Resource Operations (MFLNRO), updated information, for applicable First Nations, concerning traditional forest resource, traditional heritage features, culturally modified tree and cultural use needs for monumental cedar, Western red cedar and Yellow cedar and other species.
  - (c) Subject to updated information received under (a) and (b) above, the holder of this FSP will:
    - (1) inform the applicable First Nation and the MFLNRO, in writing and prior to any development, of the changes to the proposed development that resulted from this new information, and

- (2) collaborate with applicable First Nations and, where applicable, other forest licensees, to develop a cedar strategy within the respective traditional territories of the applicable First Nations with the goal to annually make incremental improvements in the understanding of volume, quality and location of Aboriginal Tree needs,
  - (d) Where practicable and consistent with primary forest activities, design development to incorporate traditional forest resources, aboriginal heritage features, historically culturally modified trees, monumental cedar, western red cedar, yellow cedar and yew trees into wildlife tree retention areas, riparian management areas, landscape reserve designs and similarly retained areas.
- 1.4 To the degree that the above criteria are satisfied for traditional use of cedar, opportunities for traditional use of cedar will be maintained as follows:
- i. Western redcedar and yellow cedar will be planted on ecologically suitable sites to ensure that the species is maintained as an inventory component in the plan area.
  - ii. the license holder, upon request from aboriginal groups, will work with aboriginal groups to identify locations where cultural use trees are likely to be found, preference will be given in no particular order to:
    - a. Riparian Management Zones
    - b. Riparian Reserve Zones
    - c. Wildlife Tree Retention Areas
    - d. Ungulate Winter Range or Wildlife Habitat Areas
    - e. Old Growth Management Areas (OGMA)
    - f. Area constrained to address non timber values

## 8.12 MEASURES

### 8.12.1 Measures for Preventing the Introduction or Spread of Invasive Plants

#### Objective:

For the purpose of section 47 [Invasive plants] a person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plants Regulation, if the introduction is likely to be a result of the person's forest practices.

**Reference:** FPPR Section 17

**Applicable Area:** FDU B

#### Measures:

- 1.1 In Paragraphs 1.2 and 1.3 “**Invasive Plant Species**” means those plants defined in the *Invasive Plants Regulation* as well as all species of Hogweed and Knotweed;

- 1.2 Within an area in the FDU, if the holder of this FSP harvests timber or constructs, maintains or deactivates roads, prior to said activities, the holder will;
  - (a) biennially educate planning staff and planning contractors on the identification of invasive plant species, including but not limited to Scotch Broom, species of Hogweed, species of Knotweed; and
  - (b) instruct planning staff and planning contractors to report annually to the holder of this FSP new incidences of invasive plant species encountered during the execution of primary forestry activities; and
  - (c) for invasive plant species where occurrence is attributable to the holder of the FSP, where treatment has not occurred within 12 months of discovery, and at that time, the holder of this FSP will report the discovery to the Report-A-Weed app ([www.gov.bc.ca/invasive-species](http://www.gov.bc.ca/invasive-species)), and
  - (d) direct harvesting and road contractors, prior to leaving known areas of high incidence of invasive plants and moving to areas of low incidence of invasive plants, to inspect and remove vegetation from machinery, and
  - (e) on a case by case basis utilize a **Qualified Registered Professional** to develop site specific mitigation measures to be implemented by the FSP holder, and
- 1.3 Where moderate or high risk **Invasive Plant Species** are considered likely to germinate on soil exposed as a result of the holders primary forest activities and there is the expectation that revegetation with grass seed will substantially reduce the probability of invasive plant germination, the holder of this FSP will:
  - (a) In areas not planted with tree seedlings, within 1 year of completing primary forest activities, seed soils where contiguous areas greater than 0.1 hectare is exposed.
  - (b) give preference to native seed mixtures provided that:
    - i. the seed is readily available;
    - ii. the seed is available at a comparable cost to that of agronomic mixtures; and
    - iii. the seed has comparable effectiveness to agronomic mixtures.

### 8.12.2 Measures to Mitigate the Loss of Natural Range Barriers

#### Objective:

The FSP Holder must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers.

**Reference:** FPPR Section 18, FRPA Section 48

**Applicable Area:** NA

#### Measures:

There are no range Tenure holders within any FDU's therefore no measures have been developed.

## 9 STOCKING STANDARDS

The holder of a Forest Stewardship Plan is required, on cutblocks harvested under an FSP, to establish free growing stands in accordance with the FSP. The FSP must specify a regeneration date and stocking standards and free growing height that will apply to the obligation – See Appendix 1 for site specific details. All stocking requirements are applicable across the entire FDU.

Site specific circumstances will determine how the stocking standards are applied in conjunction with the site planning requirements of FRPA. The tables in appendix 1 have been set up to allow for site specific professional discretion to be applied while also providing limitations on the adequacy of species.

No application of the single tree selection silviculture system or shelterwood silviculture systems are proposed under this plan. Thus, no stocking standards to address multi layered stands are proposed.

The potential effects of climate change have been considered in the development of this FSP and in particular, the development of the stocking standards. Increasing the diversity of species will lead to more resilient plantations. More but still limited reliance on Western white pine will provide for increased diversity of species.

### FRPA Section 197 Election for Stocking Standards

Stocking standards approved under this FSP may be applied to cutblocks harvested prior to the effective date of this FSP (i.e. blocks harvested under the FPCBCA). The process for applying approved FSP stocking standards to pre FSP cutblocks will be to make the election using the RESULTS reporting system. FSP standards transferred to pre FSP cutblocks are required to be consistent with the ecological classification of the pre FSP cutblock.

### Intermediate Cutting (IC)

Intermediate cutting is proposed under this plan for both old growth and second growth stands, with each having their own stocking standard. These prescriptions would provide for an opportunity for future harvesting. Where IC has occurred, stocking standards will be maintained for 12 months following the completion of harvesting. Standards for acceptable leave trees will be as defined in the Single Entry Dispersed Retention System discussion paper, Appendix 1 and 2.

[https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/silviculture/stocking-standards/reference-guide/sedrss\\_implementation\\_guide.pdf](https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/silviculture/stocking-standards/reference-guide/sedrss_implementation_guide.pdf)

### Intermediate Cutting - Old Growth

For old growth, intermediate cutting is proposed in stands that are constrained by other resource values, typically terrain stability and visuals. Where possible, IC will be in combination with small patch cuts or larger openings. Helicopter harvesting, either faller select or snap and crack, will typically be used. In all cases, trees selected for harvest will be based on prescriptions prepared by a Forest Professional. The application of IC will be limited to no more than 3 % of the AAC for all licences measured over a 5 year period. The IC will involve the removal of up to 20% of



the merchantable stand volume and no more than 35% of the merchantable volume of any one species. Basal area retained will be > 40 m<sup>2</sup>/ha.

### Intermediate Cutting – Second Growth

For second growth, the intermediate cutting will be in the form of a cross sectional thinning of all species and diameter classes where up to 25% of the merchantable stems will be removed. The harvest system will typically be ground based. IC in second growth would potentially be more broadly applied than in old growth; it is not necessarily limited to constrained areas but will be limited to 1% of the AAC of all licences measured over a 5 year period.

Situations or Circumstances that determine when FPPR S. 44(4) and the Standards Applicable under FPPR S. 16(4) Applies

For the purpose of Section 44(4), where harvesting of special forest products, intermediate cuts or commercial thinning occurs as defined in FPPR S. 44(3)(h) and S 44 (3)(i), the Stocking Standards will be maintained for twelve months following the completion of intermediate harvesting on the area that was harvested.

## 9.1 MINIMUM HORIZONTAL INTERTREE DISTANCE

Minimum distance will be 2.0 meters except as noted below:

- 1.6 meters immediately adjacent to roadsides, streams, NP areas, unplantable slash and in areas of difficult plantability, e.g. talus, salal.
- 1.6 meters in site series 07, 08, 09, 11, 12, 13 and 14; i.e. all high water table sites and high brush hazard sites where stocking is preferred on raised microsites
- 1.6 meters on site series 05 and 06 where raised microsites are preferred.

## 9.2 HEIGHT OF CROP TREES ABOVE COMPETING VEGETATION

### Free Growing

With regard to height of crop trees above competing vegetation free growing will be considered to be met when the % of height of crop trees compared to competing vegetation meets or exceeds the following:

Alder	100 – 150% as noted below
Bracken	125%
Willow	100%
Brush	100%
Other Species	150%

Height of Conifer (meters)	% the height of alder
<5	150
5-7	125
7+	100

Brush includes salmonberry, elderberry, thimbleberry, huckleberry (*Vaccinum* spp.), fireweed, and salal.



For cherry, it is recognized that crop trees will often grow, almost unaffected, through overtopping dense cherry competition. Rather than use height of crop trees relative to height of cherry, the criteria will be the vigor of the leaders of the crop trees – leaders of crop trees influenced by cherry must be greater than 80% of the length of leaders of crop trees not influenced by cherry.

### 9.3 SUITABILITY OF ALDER ON ALL HARVESTED AREAS

Alder is not contemplated as a crop tree within the Plan area. Thus, no stocking standards for alder are provided within this FSP.

### 9.4 FOREST HEALTH

Within the plan area there are several forest health factors that are relevant to stocking standards.

#### Hemlock Dwarf Mistletoe

Mistletoe is occasionally present in hemlock stands throughout the plan area, but is not normally significant enough to be a planning concern.

Hemlock, throughout the plan area will be limited in its contribution to the achievement of stocking standards wherever dwarf mistletoe is present in the standing trees within or on the edge of the harvested area.

Moderate to severe infestation

- Hemlock will not be preferred or acceptable within 10 meters of infected standing trees within or on the edge of the harvested area.
- Hemlock will only be acceptable between 10 and 25 meters of infected standing trees within or on the edge of the harvested area.

Low infestation

- Hemlock will only be acceptable within 10 meters of infected standing tree trees within or on the edge of the harvested area.

#### White Pine Blister Rust

Unless rust resistant stock is planted, white pine cannot contribute to the minimum stocking standard (MSS) and is limited to 10% of the target stocking standard (TSS). Planting of rust resistant stock will allow white pine to be considered an acceptable species and to contribute up to 25% of the minimum stocking standard of preferred species (MSP) for non Phellinus root rot sites and up to 100% of the MSP for Phellinus root rot sites

Where non-resistant Western white pine is required to meet the MSS pruning will be done in one or two stages within the free growing window to remove lower branches to a height of 3 meters.

#### Spruce Leader Weevil

Unless weevil resistant stock is planted, Sitka spruce cannot contribute to MSS and is limited to 10% of TSS. Planting of weevil resistant spruce will allow spruce to be fully considered for MSS and for up to 25% of MSP.

### Root Diseases

Root disease within the planning area is not normally a concern. Both Phellinus and Armellaria occur, but are rarely detected and generally restricted to small isolated pockets of 1 hectare or less.

Stands will be assessed for the presence of root rot during the preparation of site plans. Where incidence of root rot is low and infection centers are small, no remedial treatments will occur. In moderately to highly infected stands larger than 1.0 hectare the following strategies will be employed, either individually or in combination, to reduce the impact of root rot on the next crop: The objective of these strategies will be to limit future losses to 20% of potential mean annual increment.

### Phellinus

- Post harvest stumping on slopes less than 35% on sites where Douglas-fir is the preferred species.
- Planting alder and/or cedar and/or white pine on sites suitable to these species. Alder will be considered for sites where it has the potential to reach sawlog dimensions in addition to the 20 hectares identified as a preferred species in Section 9.3.

### Armellaria

- Post harvest stumping on slopes less than 35% on the most severely infected sites
- Focusing silviculture efforts to maintain vigorous tree growth, e.g. planting larger stock, time of planting fertilization, timely and repeated brushing as required to maintain vigour.

## **9.5 PREFERENCE OF WESTERN HEMLOCK**

Western hemlock (Hw) will be considered a preferred species in situations where advanced natural regeneration of Hw precludes planting with other species and where Hw is otherwise an acceptable species.

**APPENDIX 1: STOCKING STANDARDS**

Biogeoclimatic Classification		STD ID	Species		Well Spaced Stocking			Regen Delay (Max yrs)	Minimum Height		
Zone/SZ	Series		Preferred (p)	Acceptable (a)	Target	MSS	MSP		Species	Ht (m)	
					(well-spaced/ha)						
CWHvm1	01	1055326	Cw Hw Fd <sup>6</sup>	Pw <sup>16</sup> Ss <sup>17</sup>	900	500	400	6	Fd, Hw, Ss	3.00	
										Pw	2.50
			Yc <sup>15</sup> Ba <sup>14,18</sup>							Ba	1.75
		02	1055329	Pl Cw Fd <sup>6</sup>	Hw	400	200	200	3	Fd, Hw	2.00
										Pl	1.25
										Cw	1.00
		03	1055330	Cw Hw Fd <sup>6</sup>	Pw <sup>16</sup> Pl	800	400	400	6	Fd, Hw, Pw	2.00
										Pl	1.25
										Cw	1.00
		04	1055331	Cw Hw Fd <sup>6</sup>	Ba <sup>7,18</sup> Yc <sup>8</sup>	900	500	400	3	Fd, Hw	3.00
										Ba	1.75
										Cw, Yc	1.50
		05	1055332	Ba <sup>18</sup> Cw Hw Fd <sup>1,6</sup>	Ss <sup>17</sup>	900	500	400	3	Fd, Hw, Ss	3.00
				Yc <sup>15</sup>						Ba	1.75
										Cw, Yc	1.50
	06	1055333	Ba <sup>14,18</sup> Cw Hw Yc <sup>15</sup>	Ss <sup>17</sup>	900	500	400	6	Hw, Ss	3.00	
									Ba	1.75	
									Cw, Yc	1.50	
	07	1055334	Ba <sup>18</sup> Cw Fd <sup>1,6</sup>	Ss <sup>17</sup>	900	500	400	3	Fd, Hw, Ss	4.00	
			Hw <sup>2</sup> Yc <sup>15</sup>						Ba	2.25	
									Cw, Yc	2.00	
	08	1055335	Ba <sup>18</sup> Cw Hw <sup>2</sup>	Ss <sup>17</sup>	900	500	400	3	Hw, Ss	4.00	
									Ba	2.25	
									Cw	2.00	
	09	1055336	Ba <sup>18</sup> Cw Hw	Ss <sup>17</sup>	900	500	400	3	Hw, Ss	4.00	
									Ba	2.25	
									Cw	2.00	
	10	1055337	Cw <sup>1</sup>	Ba <sup>1,18</sup> Ss <sup>1,17</sup>	900	500	400	3	Ss	4.00	
									Ba	2.25	
									Cw	2.00	
	12	1055338	Cw <sup>1</sup> Hw <sup>1</sup> Yc <sup>1</sup>	Pl <sup>1</sup>	800	400	400	3	Fd, Hw	2.00	
									Pl	1.25	
									Cw, Yc	1.00	
	13	1055339	Pl <sup>1</sup>	Cw <sup>1</sup>	400	200	200	3	Pl	1.25	
									Cw	1.00	
	14	1055340	Cw <sup>1</sup> Hw <sup>1</sup> Ss <sup>1,17</sup>	Pl <sup>1</sup>	800	400	400	3	Hw, Ss	3.00	
									Pl	2.00	
									Cw	1.50	
	All IC 2G**	1055341	Fd Cw Hw Ba		400	300	300				
					>40 m2 basal area						

Biogeoclimatic Classification		STD ID	Species		Well Spaced Stocking			Regen Delay (Max yrs)	Minimum Height	
Zone/SZ	Series		Preferred (p)	Acceptable (a)	Target	MSS	MSP		Species	Ht (m)
					(well-spaced/ha)					
	All IC OG**	1055342	Fd Hw Cw Yc Ba		>40 m2 basal area					
<b>CWHm2</b>	01	1055343	Fd <sup>1,6,12</sup> Hw Cw Yc Ba <sup>18</sup> Hm <sup>50</sup>	Ss <sup>4,17</sup>	900	500	400	6	Ss 3.00 Hw 2.50 Fd 2.25 Ba 1.75 Cw, Yc 1.50 Hm 1.00	
	02	1055344	Pl Cw Fd <sup>6</sup> Yc	Hw Hm <sup>8</sup>	400	200	200	3	Hw 1.75 Fd 1.50 Pl 1.25 Cw, Yc 1.00 Hm 0.75	
	03	1055346	Cw Hw Fd <sup>6</sup> Yc	Pw <sup>11,16</sup>	800	400	400	6	Pw 2.50 Hw 1.75 Fd 1.50 Cw, Yc 1.00	
	04	1055347	Cw Hw Fd <sup>6</sup> Yc	Ba <sup>18</sup> Pw <sup>11,16</sup>	900	500	400	6	Pw 2.50 Hw 1.75 Ba, Fd 1.50 Cw, Yc 1.00 Hm 0.75	
	05	1055348	Cw Hw Yc Ba <sup>18</sup>	Fd <sup>1,5,6,12</sup> Ss <sup>10,17</sup> Hm <sup>8</sup>	900	500	400	3	Ss 3.00 Hw 2.50 Fd 2.25 Ba 1.75 Cw, Yc 1.50 Hm 1.00	
	06	1055349	Cw Hw Yc Hm <sup>15</sup> Ba <sup>18</sup>	Ss <sup>9,17</sup>	900	500	400	6	Ss 3.00 Hw 2.50 Ba 1.75 Cw, Yc 1.50 Hm 1.00	
	07	1055350	Cw Hw <sup>2</sup> Yc Ba <sup>18</sup>	Ss <sup>10,17</sup> Hm <sup>8</sup>	900	500	400	3	Ss 4.00 Hw 3.50 Ba 2.25 Cw, Yc 2.00 Hm 1.00	
	08	1055351	Cw <sup>9</sup> Hw <sup>2</sup> Yc Ba <sup>18</sup>	Ss <sup>17</sup> Hm <sup>8</sup>	900	500	400	3	Ss 4.00 Hw 3.50 Ba 2.25 Cw, Yc 2.00 Hm 1.00	
	09	1055352	Cw <sup>1</sup> Hw <sup>1</sup> Yc <sup>1</sup>	Ba Hm <sup>8</sup>	800	400	400	3	Hw 1.75	

Biogeoclimatic Classification		STD ID	Species		Well Spaced Stocking			Regen Delay (Max yrs)	Minimum Height	
Zone/SZ	Series		Preferred (p)	Acceptable (a)	Target	MSS	MSP		Species	Ht (m)
					(well-spaced/ha)					
								Ba	1.50	
								Cw, Yc	1.00	
								Hm	0.75	
	10	1055353	Pl <sup>1</sup> Yc <sup>1</sup>	Hm	400	200	200	3	Pl	1.25
								Yc	1.00	
								Hm	0.75	
	11	1055354	Cw <sup>1</sup> Yc <sup>1</sup>	Hw <sup>1</sup>	800	400	400	3	Hw	1.75
								Cw, Yc	1.00	
	All IC OG**	1055355		Fd Hw Cw Yc Ba	>40 m2 basal area					
<b>MHmm1</b>	01	1055356	Ba Hm Yc	Se <sup>12</sup> Hw <sup>9</sup>	900	500	400	7	Hm, Hw, Yc	1.00
								Se	1.00	
								Ba	0.60	
	02	1055357	Hm Yc	Ba Se <sup>12</sup>	800	400	400	4	Hm, Yc	0.75
								Se	0.75	
								Ba	0.60	
	03	1055358	Ba Hm Yc	Hw <sup>9</sup>	900	500	400	4	Hm, Hw, Yc	1.00
								Ba	0.60	
	04	1055359	Ba Hm Yc	Hw <sup>9</sup>	900	500	400	7	Hm, Hw, Yc	1.00
								Ba	0.60	
	05	1055360	Ba Yc	Hm Hw <sup>9</sup>	900	500	400	4	Hm, Hw, Yc	1.00
								Ba	0.60	
	06	1055361	Hm <sup>1</sup> Yc <sup>1</sup>	Ba <sup>1</sup>	800	400	400	7	Hm, Yc	0.75
								Ba	0.60	
	07	1055362	Ba <sup>1</sup> Yc <sup>1</sup>	Hm <sup>1</sup>	900	500	400	4	Hm, Yc	0.75
								Ba	0.60	
	08	1055363	Hm <sup>1</sup> Yc <sup>1</sup>		400	200	200	4	Hm, Yc	0.75
	09	1055364	Yc <sup>1</sup>	Hm <sup>1</sup>	800	400	400	4	Hm, Yc	0.75

\*Marginally suited for timber production

\*\* All site series, intermediate cut, old growth/second growth, standard applicable to layer 1 trees

**Footnotes**

- 1 elevated microsites are preferred
- 2 suitable on thick forest floors
- 3 restricted to nutrient very poor sites
- 4 restricted to nutrient medium sites
- 5 restricted to steep slopes
- 6 restricted to southerly aspects, or to locations transitional to CWHdm
- 7 restricted to northerly aspects
- 8 restricted to upper elevations of the biogeoclimatic unit or where occurring as a major species in the pre-harvest natural stand

- 9 restricted to lower elevations of the biogeoclimatic unit or where occurring as a major species in the pre-harvest natural stand
- 10 restricted to the northern portion of the biogeoclimatic unit or where occurring as a major species in the pre-harvest natural stand
- 11 restricted to the southern portion of the biogeoclimatic unit or where occurring as a major species in the pre-harvest natural stand
- 12 restricted to trial use
- 13 suitable as a major species in the wetter portion of the biogeoclimatic unit
- 14 suitable as a minor species in salal dominated sites
- 15 restricted to sites where the species occurs as a major species in the pre-harvest natural stand
- 16 risk of white pine blister rust, unless rust resistant stock is planted, cannot contribute to MSS and limited to 10% of TSS; resistant stock can contribute to MSS and up to 25% of MSP and 100% of MSP in Phellinus root rot sites
- 17 risk of weevil damage, unless weevil resistant stock is planted, cannot contribute to MSS and limited to 10% of TSS; resistant stock can contribute to MSS and up to 25% of MSP
- 18 limited to 35% of TSS in recognized areas of balsam woolly adelgid
- 19 limited to 35% of MSP
- 20 preferred within 30 meters of north facing edges shaded by standing timber.
- 21 Fd, Cw and Hw limited to 20% of the mixedwood standard and will meet the free growing criteria established for conifer including the height to alder ratio noted in 1.3.2 above.