



HFN FORESTRY LP

2021 – 2026

HFN Forest Stewardship Plan Amendment 1

Forest Operations of HFN Forestry Limited Partnership

The Bamfield Huu-ay-aht Community Forest Society

Prepared by:

Authorized by:

*I certify that this work fulfills standards expected of an RPF,
and that I personally supervised this work.*

Kate Roth, RPF
Roth Resource Management Ltd
250-202-4528
krthforestry@gmail.com
-On behalf of:
Meridian Forest Services Ltd
250-586-0200

*I certify that this Forest Stewardship Plan is authorized by the HFN
Forestry Limited Partnership*

Darren Hiller, RFT
Licensee Signatory



*I certify that this Forest Stewardship Plan is authorized by the HFN
Forestry Limited Partnership*

Stefan Ochman
Bamfield Huu-ay-aht Community Forest Society

Table of Contents

List of Tables.....	4
1. Introduction	5
2. Term of the Forest Stewardship Plan	5
3. Date of Commencement	5
4. Map (FPRA s 5.1(a), Forest and Planning Practices Regulation (FPPR) 14	5
5. Designations in Effect at Date of Submission of this FSP (FPPR) s. 14(3)	6
6. Areas within FDUs Subject to Cutting Permit or Road Permit (FPPR) s. 14(3)(j)	6
7. Results & Strategies Objectives set by Government (FPPR s 1).....	8
7.1. Order Establishing Provincial Non-Spatial Old Growth Objectives	8
7.2. Vancouver Island Land Use Plan.....	9
7.2.1 HLP Order Objective 7 – Short-term Timber Availability	9
7.2.2 HLP Order Objective 8 – Hydrological Impacts in Fisheries Sensitive Watersheds	11
7.2.3 HLP Order Objective 9 and 9.1 – Species Composition	12
7.2.4 HLP Order Objectives 15 and 16 – Old Seral and Marbled Murrelet	12
7.3 Objectives prescribed under FRPA S.149.....	12
7.3.1 Objectives Set by Government for Soils (FPPR S.5).....	12
7.3.2 Objectives Set by Government for Wildlife (FPPR S. 7)	13
7.3.3 Objectives Set by Government for Water, Fish, Wildlife, and Biodiversity within Riparian Areas (FPPR S. 8) ..	14
7.3.4 Objectives Set by Government for Water in Community Watersheds (FPPR S.8.2)	16
7.3.5 Objectives Set by Government for Wildlife and Biodiversity – Landscape level (FPPR S. 9)	18
7.3.6 Objectives Set by Government for Wildlife and Biodiversity – Stand level (FPPR S 9.1).....	18
7.3.7 Objectives Set by Government for Cultural Heritage Resources (FPPR S. 10).....	19
7.4 Objectives established under the Government Actions Regulation (GAR)	22
7.4.1 Objectives Set by Government for Visual Quality (FPPR S.9.2).....	22
7.5 Objectives continued under FRPA S 181.....	23
7.5.1 Objective Set by Order – Ungulate Winter Range #U-1-013 Unit 11	23
7.5.2 Objective Set by Order – Wildlife Habitat Area #1-028.....	23
7.6 Special Tree Protection Regulation	23
8. Stocking Standards	24
8.1 Situations or Circumstances that determine whether Free Growing is assessed on a Block Basis or Across Blocks.....	24
8.2 Regeneration Date and Stocking Standards, Free Growing Height.....	24
8.3 Situations or Circumstances that Determine when FPPR S. 44(4) and the Standards Applicable Under FPPR S.16 Applies.....	24
9. Measures to Prevent the Introduction and Spread of Invasive Plants (FRPA s.47, FPPR s.17).....	24

10. Measures to Mitigate the Effect of Removing or Rendering Ineffective Natural Range Barriers	26
11. Public Review and Comment	26
11.1 Providing Notice & Review and Comment FPPR Sections 20 & 21	26
11.2 Public Review and Comment– FPPR Sections 22.....	26
11.2.1 First Nations.....	26
12. Appendix 1- FSP Stocking Standards	27
12.1 Stocking Standards Reference Notes	29
12.1.1 Stocking Standard Footnotes.....	29
12.1.2 Definitions	30
12.1.3 Variations from General Stocking Standards.....	30
12.1.4 Clarifications	30
13. Appendix 2- Partial Cutting Stocking Standards	31
13.1 Administration	31
13.2 Partial Cutting	31
13.3 Retention Silviculture System	31
13.3.1 Application of Single Entry Dispersed Retention Stocking Standards.....	32
13.3.2 Situations and Circumstances.....	32
13.3.3 Management and Scope.....	33
13.3.4 Consistency with Timber Supply Review	33
13.3.5 Single Entry Dispersed Retention Stocking Standards within Tables 6 and 7	34
13.4 Intermediate Cutting.....	40
13.4.2 Application of Single Stem Harvest Standards.....	40
13.4.3 Situations and Circumstances.....	40
14. Appendix 3- Review & Comment Summary	44

List of Tables

Table 1: Licensee, licence, and Forest Development Units (FDU's) included in this FSP.	5
Table 2: Designations in effect under FPPR s 14 and overlap with FDU areas covered by this FSP.	6
Table 3: Cutting Permits (CP) and Road Permits (RP) that are held by the licensee(s) and in effect four months before FSP submission.	7
Table 4: Non-Spatial Old Growth Objectives for the Sarita Landscape Unit	8
Table 5: Non-Spatial Old Growth Objectives for the Klanawa Landscape Unit	8
Table 6: VILUP Enhanced Resource Management Zones.....	9
Table 7: FSP Stocking Standards	27
Table 8: Stocking Standards - Tree Species Abbreviations.....	29
Table 9: Single Entry Dispersed Retention Stocking Standards for Species Composition, Target Regeneration*** and Free Growing Density and Minimum Heights – 2021 – 2026 HFN Forest Stewardship Plan Amendment 1.	34
Table 10: Single Entry Dispersed Retention Stocking Standards Densities	37
Table 11: Intermediate Cut Stocking Standards.....	42
Table 12: Footnotes for intermediate cutting stocking standards.....	43
Table 13: Public stakeholder engagement, review and comment summary.....	44
Table 14: First Nations consultation summary	44

1. Introduction

This Forest Stewardship Plan (FSP) has been prepared for the HFN Forestry Limited Partnership and the Bamfield Huu-ay-aht Community Forest Society for the **HFN Community Forest Agreement 1 Licence #CFA K3N**, the **Huu-ay-aht First Nations Woodland Licence #FNWL- N1A** and the **Bamfield Huu-ay-aht Community Forest Licence #K1E**. Upon approval, this document replaces the following document:

2016-2021 HFN Forest Stewardship Plan, and will be renamed as the **2021-2026 HFN Forest Stewardship Plan**

2. Term of the Forest Stewardship Plan

The term of this Forest Stewardship Plan (FSP) will be for a term of 5 years, per the Forest and Range Practices Act (FRPA) s. 6(1)(a) and subject to FRPA s.6(2).

3. Date of Commencement

The dates of submission, approval, and effective date of this FSP are listed on the front cover of the FSP.

4. Map (FPRA s 5.1(a), Forest and Planning Practices Regulation (FPPR) 14

The attached maps show the boundaries of the Forest Development Units (FDUs) included under this FSP:

Table 1: Licensee, licence, and Forest Development Units (FDU's) included in this FSP.

LICENSEE	LICENCE	FDU
Huu-ay-aht First Nation Community Forest Licence	CFA K3N	1
Huu-ay-aht First Nation First Nations Woodland Licence	FNWL-N1A	2
Bamfield Huu-ay-aht Community Forest Society	K1E	3

5. Designations in Effect at Date of Submission of this FSP (FPPR) s. 14(3)

The attached maps identify the designations and requirements described in FPPR s. 14(3) that are in effect on the Date of Submission, including the designations listed below

Table 2: Designations in effect under FPPR s 14 and overlap with FDU areas covered by this FSP.

FPPR 14 (3) Subsection	Identifier	FDU	Date of Designation
(a) Ungulate Winter Range (UWR)	U-1-013 Unit 11	2	October 18, 2004
(b) Wildlife Habitat Areas (WHA)	WHA 1-028	2	January 15, 2003
(c) Fisheries Sensitive Watershed (FSW)	f-1-007	2	December 19, 2005
(e) Scenic Areas	<ul style="list-style-type: none"> • Bamfield Mainline Travel Corridor – from Port Alberni to Bamfield • Alberni Inlet Travel Corridor – Port Alberni to Bamfield • Barclay Sound – Including views between Tzartus Island and Toquart Bay 	1 2 3	Established in Amendment to GAR Order; effective December 30, 2011
(g) Community Watersheds	Sugsaw Lake Community Watershed	2	July 16, 1999

6. Areas within FDUs Subject to Cutting Permit or Road Permit (FPPR) s. 14(3)(j)

The attached FSP Active Cutting and Road Permits map, along with Table 2 below identify the areas within the Forest Development Units that are subject to a Cutting Permit (CP) or Road Permit (RP):

- Held by the licensee(s); and
- In effect four months before the submission of this Forest Stewardship Plan for approval. Individual Roads within the RP's listed in the table below are found on the attached FSP Map "Active Cutting and Road Permits".

Table 3: Cutting Permits (CP) and Road Permits (RP) that are held by the licensee(s) and in effect four months before FSP submission.

Tenure	Cutting Permit or Road Permit	Cutblocks or road in permit	1:20,000 TRIM Mapsheet #
N1A	CP019	863226S	92C.086
	CP020	854104 854105 861421C	92C.085, 92C.086
	CP022	861102	92C.086
	R18843	Refer to map	92C.075, 92C.085, 92C.086, 92C.096
K3N	CP019	962366	92C.096
	CP020	962241	92C.096
	CP021	962240	92C.096
	CP022	961114	92C.096
	CP023	961214	92C.096
	CP024	971119	92C.097
	CP025	961115	92C.096
	CP026	971113	92C.097
	R18674	Refer to map	92C.087, 92C.086, 92C.087, 92C.096, 92C.097
K1E	CP005	One Permit	92C.085

7. Results & Strategies Objectives set by Government (FPPR s 1)

7.1. Order Establishing Provincial Non-Spatial Old Growth Objectives

The Order Establishing Provincial Non-Spatial Old Growth Objectives clarifies the amount of area available for timber harvesting. This order supplements but does not replace FPPR s.9.

FDU	Result or Strategy																								
1, 2, 3	<p>In this result:</p> <p>“Order” means the Order Establishing Provincial Non-Spatial Old Growth Objectives (effective June 30, 2004);</p> <p>“Old forest retention” means those retention targets, by biogeoclimatic (BEC) variant, that are specified in the Order Establishing Provincial Non-Spatial Old Growth Objectives;</p> <p>“Landscape Unit (LU)” includes the Sarita LU and the Klanawa LU; and</p> <p>“Biogeoclimatic variant” includes the following: CWHvh1, CWHvm1, CHWvm2.</p> <p>1. The Holder(s) of the FSP must maintain old forest by biogeoclimatic variant within each Landscape Unit (LU) according to the age of old forest and the percentage of old forest retention specified in Table 4 and Table 5.</p> <p><i>Table 4: Non-Spatial Old Growth Objectives for the Sarita Landscape Unit</i></p> <table border="1"> <thead> <tr> <th>Biogeoclimatic Zone</th> <th>Biodiversity Emphasis Option (BEO)</th> <th>Landscape Unit</th> <th>Natural Disturbance Type</th> <th>Age of Old Forest</th> <th>Percent Old Forest Retention (min %)</th> </tr> </thead> <tbody> <tr> <td>CWH</td> <td>LOW</td> <td>Sarita</td> <td>1</td> <td>>250 years</td> <td>>13</td> </tr> </tbody> </table> <p><i>Table 5: Non-Spatial Old Growth Objectives for the Klanawa Landscape Unit.</i></p> <table border="1"> <thead> <tr> <th>Biogeoclimatic Zone</th> <th>Biodiversity Emphasis Option (BEO)</th> <th>Landscape Unit</th> <th>Natural Disturbance Type</th> <th>Age of Old Forest</th> <th>Percent Old Forest Retention (min %)</th> </tr> </thead> <tbody> <tr> <td>CWH</td> <td>INTERMEDIATE</td> <td>Klanawa</td> <td>1</td> <td>>250 years</td> <td>>13</td> </tr> </tbody> </table> <p>2.</p> <p>a) Subject to subsection 1 of this result, Table 4 Sarita LU, the old forest retention percent listed above in 1(a) may be reduced by up to 2/3, to the extent necessary to address impacts on timber supply. The target amount of old growth and a recruitment strategy must be in place by the end of the third rotation for the Sarita LU.</p> <p>b) Subject to subsection 1 of this result, Table 5, Klanawa LU, where insufficient amounts of old growth are present, the holder(s) of the FSP will commit to an immediate recruitment strategy of 13% as per the Order. The area within the FDU’s covered by this plan that fall within the Klanawa LU is 12.6ha, 13% of this area is 1.6ha.</p> <p>3. The holder(s) of the FSP will map and submit draft OGMA boundary adjustments and draft OGMA Replacement areas to the Delegated Decision Maker (DDM) at the end of each calendar year.</p>	Biogeoclimatic Zone	Biodiversity Emphasis Option (BEO)	Landscape Unit	Natural Disturbance Type	Age of Old Forest	Percent Old Forest Retention (min %)	CWH	LOW	Sarita	1	>250 years	>13	Biogeoclimatic Zone	Biodiversity Emphasis Option (BEO)	Landscape Unit	Natural Disturbance Type	Age of Old Forest	Percent Old Forest Retention (min %)	CWH	INTERMEDIATE	Klanawa	1	>250 years	>13
Biogeoclimatic Zone	Biodiversity Emphasis Option (BEO)	Landscape Unit	Natural Disturbance Type	Age of Old Forest	Percent Old Forest Retention (min %)																				
CWH	LOW	Sarita	1	>250 years	>13																				
Biogeoclimatic Zone	Biodiversity Emphasis Option (BEO)	Landscape Unit	Natural Disturbance Type	Age of Old Forest	Percent Old Forest Retention (min %)																				
CWH	INTERMEDIATE	Klanawa	1	>250 years	>13																				

	To meet subsection 1, 2 and 3 above, the holder(s) of the FSP will designate spatial areas (ie. Draft OGMA) to meet the old forest retention/recruitment targets by BEC Zone.
--	---

7.2 Vancouver Island Land Use Plan

The applicable Higher-Level Plan (HLP) Order Objectives under the Vancouver Island Land Use Plan (VILUP) for the Enhanced Forestry Zones (EFZs) are listed in the following table and described below.

Table 6: VILUP Enhanced Resource Management Zones.

Enhanced Forestry Zone (EFZ)	FDU	Applicable HLP Objective
EFZ 43 – Sarita	1, 2, 3	7, 8, 9, 9.1, 15, 16
EFZ 44 – Klanawa	1, 2	7, 8, 9, 9.1

7.2.1 HLP Order Objective 7 – Short-term Timber Availability

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; 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 manager is at 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.

FDU	Result or Strategy
1, 2, 3	<p>In this result:</p> <p>“Net Area to be Reforested” means the area on which the licensee is responsible for establishing a free-growing crop of trees.</p> <ol style="list-style-type: none"> 1. The holder(s) of the FSP may carry out or authorize timber harvesting and road construction within cutblocks that: <ol style="list-style-type: none"> a) apply any silvicultural system; b) exceed 40 ha; except in the portion of FDU 2 within the Sugsaw Lake Community Watershed where the maximum cutblock size will be < 40 ha; c) are adjacent to areas that are greened-up as provided in HLP Objective 7 (b); and 2. In determining the size of a proposed cutblock, the non-greened up portion of a cutblock adjacent to a cutblock proposed for harvest will be considered part of the Net Area to be Reforested; and 3. To avoid or mitigate significant impacts to specific hydrological, wildlife, biodiversity, scenic or recreation values, cutblocks described in subsection (1) will be consistent with <ol style="list-style-type: none"> a) Results/strategies for Objective 8 – Hydrological Impacts (FSP 7.2.2 HLP Order Objective 8 – Hydrological Impacts in Fisheries Sensitive Watershed); and b) Results/strategies in Wildlife (FSP 7.3.2 Objectives Set by Government for Wildlife (FPPR S. 7)), and Objectives under FRPA s.181 (FSP 7.5.1 Objective Set by Order – Ungulate Winter Range #U-1-013 Unit 11) and (FSP 7.5.2 Objective Set by Order – Wildlife Habitat Area #1-028); and c) Results/strategies in Water, Fish, Wildlife, and Biodiversity within Riparian Areas (FSP 7.3.3 Objectives Set by Government for Water, Fish, Wildlife, and Biodiversity within Riparian Areas (FPPR S. 8)); and d) Results/strategies in Objectives set by Government for Wildlife and Biodiversity – Stand Level (FSP 7.3.5 Objectives Set by Government for Wildlife and Biodiversity – Landscape level(FPPR S. 9.1); and e) Results/strategies in Visual Quality Objects for the South Island Forest District (FSP 7.4.1 Objectives Set by Government for Visual Quality (FPPR S.9.2)); and f) FPPR S. 70(1) for recreational values identified as resource features as per Government Actions Regulations 5(1)(f).

7.2.2 HLP Order Objective 8 – Hydrological Impacts in Fisheries Sensitive Watersheds

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 environmental official.

FDU / FSW	Result or Strategy
2 / Klanawa Fisheries Sensitive Watershed	<p>In these results or strategies:</p> <p>“Qualified Professional” (QP) is defined as a person belonging to a certified, self-regulating professional organization established by legislation who, in the opinion of the RPF responsible for the specified work, has the experience and qualifications necessary to carry out this work to an appropriate standard.</p> <p>Prior to authorizing or undertaking timber harvesting or road construction, the Holder(s) of the FSP will as a strategy:</p> <ol style="list-style-type: none"> 1. To have a qualified professional complete or update a watershed assessment within the applicable FSW that is consistent with the methodology of the <i>Coastal Watershed Assessment Procedure</i> and the ABCFP/EGBC Professional Practice Guidelines <i>“Watershed Assessment and Management of Hydrologic and Geomorphic Risk in the Forest Sector”</i>. The watershed assessment should consider all existing, known, and proposed developments within the watershed, and assess the potential for adverse impacts to the FSW; and 2. Ensure timber harvesting and road construction is consistent with the recommendations set forth in the watershed assessment unless a modification is supported by a rationale prepared by a QP that addresses the FSW objectives and is prepared prior to the commencement of timber harvesting and/or road construction. 3. Ensure timber harvesting and road construction is consistent with: <ol style="list-style-type: none"> a) any recommendations of a Terrain Stability Field Assessment for the cutblocks and roads; and b) the recommendations of windthrow assessments completed for the cutblocks, if any. <p>In respect of FSWs, the holder(s) of the FSP will adopt as a result, practice requirements in FPPR S. 55, 56, and 57.</p>

7.2.3 HLP Order Objective 9 and 9.1 – Species Composition

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.

Objective 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.

FDU	Result or Strategy
1, 2, 3	<p>In this result or strategy:</p> <p>“Biogeoclimatic variant” includes the following: CWHvh1, CWHvm1, CHWvm2.</p> <p>“Net Area to be Reforested” means the area on which the licensee is responsible for establishing a free-growing crop of trees.</p> <ol style="list-style-type: none"> If the Holder(s) of the FSP carries out or authorizes the harvest of timber within the area(s) designated as EFZ(s) 43 and 44, the Holder(s) of the FSP will ensure as a result that not more than 20% of the total Net Area to be Reforested (NAR) for all of the cutblocks will be reforested using a single species that is ecologically suited to the applicable biogeoclimatic variant, using a preferred species as set out in the applicable stocking standards.

7.2.4 HLP Order Objectives 15 and 16 – Old Seral and Marbled Murrelet

Objective 15: Retain old growth forests to meet old seral targets and Marbled Murrelet habitat requirements in the non-contributing (the crown forested land base that does not contribute to the annual allowable cut, but does contribute to biodiversity objectives and targets) land base to the fullest extent possible

Objective 16: Beyond retention in the non-contributing land base, retain old forests in the timber harvesting land base, up to the full target amount, if the district manager and the designated environmental official determine that such retention is required to maintain critical Marbled Murrelet habitat (retention or recruitment of old growth forests will be achieved through the establishment of old growth management areas as part of landscape unit planning)

FDU / RMZ	Result or Strategy
1, 2, 3 / EFZ	1. Old forest retention objectives will be managed as per FSP Section 7.1.
43	2. Marbled Murrelet habitat requirements will be managed as per FSP Section 7.3.2.

7.3 Objectives prescribed under FRPA S.149

7.3.1 Objectives Set by Government for Soils (FPPR S.5)

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.

FDU	Result or Strategy
-----	--------------------

1, 2, 3	<p>2. The Holder(s) of the FSP will undertake to comply with FPPR s. 35 (soil disturbance) and 36 (permanent access structures).</p> <p>3. In accordance with FPPR s. 12.1(1), the FSP Holder(s) is exempt from the requirement to specify intended results and strategies set out in FPPR S 5.</p>
---------	---

7.3.2 Objectives Set by Government for Wildlife (FPPR S. 7)

1. *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 amount of area, distribution of areas and attributes of those areas, for*
 - (a) *The survival of species at risk,*
 - (b) *The survival of regionally important wildlife, and*
 - (c) *The winter survival of specified ungulate species.*
2. *A person required to prepare a forest stewardship plan must specify a result or a strategy in respect of the objective stated under subsection (1) only if the minister responsible for the Wildlife Act gives notice to 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).*
3. *If satisfied that the objective set out in subsection (1) is addressed, in whole or in part, by an objective in relation to a wildlife habitat area or an ungulate winter range, a general wildlife measure, or a wildlife habitat feature, the minister responsible for the Wildlife Act must exempt a person from the obligation to specify a result or strategy in relation to the objective set out in subsection (1) to the extent that the objective is already addressed.*
4. *On or after December 31, 2004, a notice described in subsection (2) must be given at least 4 months before the forest stewardship plan is submitted for approval.*

FDU	Species	Result or Strategy
1, 2, 3	Marbled Murrelet; Brachyramphus marmoratus	<p>In these results or strategies:</p> <p>“Marbled Murrelet notice” means the Notice titled <i>“Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of species at risk in the South Island Forest District for Marbled Murrelet”</i> dated December 21, 2004;</p> <p>“non-contributing land base” means the crown forest land base that does not contribute to the annual allowable cut but does contribute to biodiversity objectives and targets.</p> <p>“detailed survey” references Standard Methods for Identifying and Ranking Nesting Habitat of Marbled Murrelets (<i>Brachyramphus marmoratus</i>) in British Columbia using air photo Interpretation and Low-level Aerial Surveys, Burger, A. ed 2004.</p> <ol style="list-style-type: none"> 1. A detailed survey has been previously conducted within the areas to

		<p>which this FSP applies. The Holder(s) of the FSP will carry out or authorize timber harvesting or road construction in a manner that retains the habitat specified in the Marbled Murrelet notice, where the habitat is described as the following forest types:</p> <ul style="list-style-type: none"> i) Amount: Class 1, 2 or 3 Marbled Murrelet habitat within the non-contributing land base at the time the Marbled Murrelet Notice was issued; ii) Distribution: Pursuant with the Marbled Murrelet notice, the amount of habitat must be distributed to provide areas of suitable nesting habitat of the size and spatial distribution identified in the species account for Marbled Murrelet, and the areas are located within the biogeoclimatic units and preferred elevations identified in the species account for Marbled Murrelet in the <i>Accounts and Measures for Managing Identified Wildlife</i>. iii) Attributes: Class 1, 2 or 3 Marbled Murrelet habitat, as described in <i>Standard Methods for Identifying Marbled Murrelet Habitat in British Columbia Using Air Photo Interpretation and Low-level Aerial Surveys</i>. <p>2. For the purposes of subsection (2), the amount of habitat specified in the marbled murrelet notice will be:</p> <ul style="list-style-type: none"> a) first, identified on the non-contributing land base or areas that are otherwise constrained with respect to timber harvesting opportunities, and if there is insufficient habitat on that land base, then identified on the contributing land base; and b) reduced by the amount of area of suitable habitat within any wildlife habitat area, old growth management area, or ungulate winter range established in the FDU's after the date of the Marbled Murrelet Notice, except where: <ul style="list-style-type: none"> i) a wildlife habitat area is established specifically for marbled murrelet, then the amount will be reduced by the entire amount of area in the wildlife habitat area.
--	--	--

7.3.3 Objectives Set by Government for Water, Fish, Wildlife, and Biodiversity within Riparian Areas (FPPR S. 8)

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.

FDU	Result or Strategy
-----	--------------------

1, 2, 3

In these results or strategies:

“Qualified Professional” is defined as a person belonging to a certified, self-regulating professional organization established by legislation who, in the opinion of the RPF responsible for the specified work, has the experience and qualifications necessary to carry out this work to an appropriate standard.

“Primary Forest Activity” means one or more of the following:

- a) timber harvesting;
 - b) silviculture treatments;
 - c) wildlife habitat enhancement;
 - d) road construction, maintenance and deactivation;
1. In respect of FPPR Section 8, the Holder(s) of the FSP will adopt as a **result** FPPR Section, 47(1) to (3), (5) to (8), 48(1) and (2), (4) to (7), 49 (1), (3) to (5) 50, 51, 52(2) and 53, except in those circumstances as described below.
 - a) For areas of primary forest activity authorized or carried out by the Holder(s) of the FSP, the widths of the riparian management area, riparian reserve zone and riparian management zone will be adopted as **results**:
 - i) As specified in FPPR Sections 47(4) to (6), 48(3) to (5) and 49(2) to (3);
or
 2. Any decrease in width from Section 1 of this result, will require a conditional exemption as per FPPR 12.3 and as a **strategy** a qualified professional will prepare a written rationale that:
 - a) Applies the Factors in Schedule 1, Section 2 of the FPPR; and
 - b) Is prepared prior to commencement of the primary forest activity and is consistent with the *Legislated Riparian Assessments in BC by APEGBC/ABC FP/CAP Professional Practice Guidelines* and takes into consideration:
 - i) Danger trees,
 - ii) Windthrow (hazard and consequence),
 - iii) Slope stability,
 - iv) Tree protection during construction,
 - v) Encroachment,
 - vi) Stormwater management
 - vii) Sediment and erosion control,
 - viii) Sensitive stream protection,
 - ix) Floodplain concerns.
 3. In respect of FPPR 12(3), if the holder(s) of the FSP authorizes or carries out timber harvesting or road construction in a riparian management zone that is associated with a cutblock, retention of trees will be as specified in a written rationale that:

	<ul style="list-style-type: none"> a) Applies the Factors in Schedule 1, Section 2 of the FPPR; and b) Is prepared by a qualified professional prior to commencement of the timber harvesting or road construction. <ul style="list-style-type: none"> 4. As a result, in respect of FPPR Section 50, for construction of roads through a stream, wetland or lakeshore Riparian Management Area, the Riparian Management Area will be specified in FPPR Sections 47(4), 48(3) and 49(2). 5. In respect of FPPR Section 51, all roads outside of cutblocks as a result will have riparian reserve zones in accordance with FPPR Sections 47(4), 48(3) and 49(2).
--	---

7.3.4 Objectives Set by Government for Water in Community Watersheds (FPPR S.8.2)

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 licence 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.*

FDU	Result or Strategy
2	<p>In these results or strategies:</p> <p>“Qualified Professional” is defined as a person belonging to a certified, self-regulating professional organization established by legislation who, in the opinion of the RPF responsible for the specified work, has the experience and qualifications necessary to carry out this work to an appropriate standard.</p> <p>The calculation of “Equivalent Clearcut Area (ECA)” is based on the methodology outlined in the <i>Coastal Watershed Assessment Procedures (CWAP) Guidebook</i> 1999, modified by the research results and recommendations provided by Hudson and Horel 2008, and recommendations provided by Brayshaw 2013.</p> <p>Prior to authorizing or undertaking timber harvesting or road construction within a designated community watershed area, the Holder(s) of the FSP will adopt as a strategy:</p> <ol style="list-style-type: none"> 1. To have a qualified professional complete or update a watershed assessment within the applicable FDU that is consistent with the methodology of the <i>Coastal Watershed Assessment Procedure</i> and the ABCFP/EGBC Professional Practice Guidelines <i>“Watershed Assessment and Management of Hydrologic and Geomorphic Risk in the Forest Sector”</i>. The watershed assessment should consider all existing, known, and proposed developments within the watershed, and assess the potential for adverse impacts to the Community Watershed, and take into account: <ol style="list-style-type: none"> a) the history of resource development and natural disturbances, b) the history of water quality issues and availability of monitoring, c) potential changes to peak flow, likelihood of landslides, d) accelerated surface erosion and changes to the channel riparian vegetation and stability, e) intake location(s) for water diverted for human consumption by a licensed waterworks, f) the percent of the watershed based on licence area by important elevation bands, corrected for Equivalent Clearcut Area (ECA) %, road density (km/km²) and mass wasting potential. 2. Ensure timber harvesting and road construction is consistent with the recommendations set forth in the watershed assessment unless a modification is supported by a rationale prepared by a QP that addresses the Community Watershed objectives and is prepared prior to the commencement of timber harvesting and/or road construction. 3. In respect of community watersheds, the holder(s) of the FSP will adopt as a result the practice requirements in FPPR 59, 60, 61, and 62.

7.3.5 Objectives Set by Government for Wildlife and Biodiversity – Landscape level (FPPR S. 9)

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

FDU	Result or Strategy
1, 2, 3	<ol style="list-style-type: none"> 1. The Holder(s) of the FSP will adopt FPPR Sections 64 and 65 as results under this FSP. 2. Further to subsection 1, cutblocks located within EFZs 43 and 44, cutblock harvesting will be in accordance with the result or strategy, section 7.2.1 HLP Order Objective 7 – Short-term Timber Availability of this FSP.

7.3.6 Objectives Set by Government for Wildlife and Biodiversity – Stand level (FPPR S 9.1)

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.

FDU	Result or Strategy
1, 2, 3	<p>In these results or strategies:</p> <p>“Net Area to be Reforested” means the area on which the licensee is responsible for establishing a free-growing crop of trees.</p> <p>“Qualified Professional” is defined as a person belonging to a certified, self-regulating professional organization established by legislation who, in the opinion of the RPF responsible for the specified work, has the experience and qualifications necessary to carry out this work to an appropriate standard.</p> <p>“Wildlife tree” is defined as an individual or group of trees that provide wildlife habitat and assist in the conservation of stand level biodiversity.</p> <p>“Wildlife Tree Retention Area (WTRA)” is defined as an area occupied by wildlife trees that is located in a cutblock, in an area that is contiguous to a cutblock, or in an area that is sufficiently close to the cutblock that the wildlife trees could directly impact on, or be directly impacted by, a forest practice carried out in the cutblock.</p> <ol style="list-style-type: none"> 1. The Holder(s) of the FSP will ensure that Wildlife Tree Retention Areas (WTRA): <ol style="list-style-type: none"> a) Will be distributed across the BEC subzone; b) Located within or immediately adjacent to a cutblock when designated at the operational site plan level; <ol style="list-style-type: none"> i) Will include, if present, remnant old-growth patches and live or dead veteran trees (excluding danger trees);

	<p>ii) Will include representative larger trees (dbh > average operational cruise) for the stand and any moderate to high value wildlife trees if available (excluding danger trees).</p> <p>2. The holder(s) of the FSP adopts, as a result or strategy, FPPR s. 66 and 67. The FSP holder must not harvest timber from a WTRA unless the trees on the net area to be reforested of the cutblock to which the WTRA relates, have developed attributes that are consistent with a mature seral condition, except with respect to FPPR s. 12.5(2), where:</p> <ul style="list-style-type: none"> a) Forest health issues pose a significant threat to areas outside the WTRA; or b) Conditions of high likelihood of windthrow exist, may be subject to pruning and/or topping to maintain the integrity of the WTRA; or c) Windthrow exceeds 50% of the dominant or co-dominant stems; or d) A tree or trees must be felled for to safely establish one or more tailholds or guy-line tiebacks; or e) A tree or trees pose a safety hazard risk. <p>3. Where timber harvesting is planned or authorized within a Wildlife Tree Retention Area, subject to subsection 2 of this result, the licensee will specify one of more replacement WTRAs that provide an area, number of trees, or habitat that is equivalent to the portion of the WTP from which the timber is being harvested, as follows:</p> <ul style="list-style-type: none"> a) Within the cutblock to which the Wildlife Tree Retention Area is related; or b) In an area contiguous to the cutblock to which the Wildlife Tree Retention Area is related; or c) In an area that is sufficiently close to the cutblock to which the Wildlife Tree Retention Area is related that the wildlife trees could directly impact on, or be directly impacted by, a forest practice carried out in the cutblock. <p>And that the process to replace the WTRA:</p> <ul style="list-style-type: none"> d) Includes a rationale as part of a Site Plan or Site Plan Amendment prepared by a Qualified Professional outline what was replaced and what was chosen as replacement area(s) prior to harvest commencement of the applicable cutblock; e) Includes data required to be submitted to the most current Province of BC database by the end of each calendar year, consistent with FPPR s. 86(3).
--	---

7.3.7 Objectives Set by Government for Cultural Heritage Resources (FPPR S. 10)

The objective set by government for cultural heritage resources 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.

FDU	Result or Strategy
1, 2, 3	<p>In these results or strategies:</p> <p>“Special Cultural Heritage Resource” means a cultural heritage resource, other than a resource feature, that is:</p> <ul style="list-style-type: none"> 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. <p>“Applicable First Nation” means a First Nation whose traditional territory falls within the FDUs in this FSP.</p> <ol style="list-style-type: none"> 1. The Holder(s) of the FSP will annually refer to applicable First Nations; areas identified for potential timber harvesting and road construction, 2. The Holder(s) of the FSP will evaluate the nature and extent of any possible site-specific special cultural heritage resources identified within areas of potential timber harvesting and road construction activities, including making reasonable efforts to share information or consult with the applicable First Nation in respect of the possible special cultural heritage resource. 3. The Holder(s) of the FSP, when designing a cutblock or road will, prior to harvest or construction, identify: <ul style="list-style-type: none"> a) the portion of the area occupied by a special cultural heritage resource b) the nature of the special cultural heritage resource, c) whether the special cultural heritage resource is to be protected or conserved, and d) if the special cultural heritage resource is to be conserved, what constraints, if any, are to apply to the forest practices carried out on the area and e) where the First Nation has provided comment on the special cultural heritage resource, notify the applicable First Nation in writing as to: <ol style="list-style-type: none"> i) whether the special cultural heritage resource is to be protected or conserved, and ii) if the special cultural heritage resource is to be conserved, what constraints, if any, are to apply to the forest practices carried out on the area.

4. For each special cultural heritage resource that has been identified under subsection 4 for protection, the Holder(s) of the FSP will carry out or authorize a person to carry out a forest practice only to the extent that the forest practice conserves and protects the special cultural heritage resource.
5. For each special cultural heritage resource that has been identified under subsection 4 for being conserved, the Holder(s) of the FSP will carry out or authorize a person to carry out a forest practice only to the extent that the forest practice is consistent with the constraints, if any, specified in the design for the cutblock or road.
6. If, within a cutblock or road where the Holder(s) of the FSP is carrying out or has authorized timber harvesting or road construction, a previously unidentified special cultural heritage resource is encountered, the Holder(s) of the FSP will:
 - a) consult with the applicable First Nation,
 - b) require operations within the cutblock or road to cease or be modified to the extent necessary to protect the special cultural heritage resource,
 - c) determine:
 - i) the nature of the special cultural heritage resource,
 - ii) whether the special cultural heritage resource is to be protected or conserved, and
 - iii) if the special cultural heritage resource is to be conserved, what constraints, if any, are to apply to the forest practices carried out on the area,
 - d) modify the design of the cutblock or road to conform with subsection 6(c)(iii),
 - e) authorize operations to resume within the cutblock or road to the extent that the operations are consistent with the modified design.
7. In addition to subsections 1 through 6, the Holder(s) of the FSP recognizes that mature western red Cedar and Cypress located within the identified FDU are special cultural heritage resources to the applicable First Nations and the Holder(s) of the FSP will ensure that, in addition to subsections 1 through 6,
 - a) where ecologically suited, western red cedar and cypress, will be planted on areas referred to in section 29 (1) of the Act in accordance with the stocking standards specified in this FSP;
 - b) The holder(s) of this FSP hereby recognize the outcomes of s.21.3.1 (“Harvest of Monumental Cedar and Cypress on Provincial Crown Land”) of the Maa-nulth First Nations Final Agreement and the Monumental Cedar and Cypress Harvest Agreements agreed upon by the Province of BC and individual Maa-nulth Treaty Nations.

7.4 Objectives established under the Government Actions Regulation (GAR)

7.4.1 Objectives Set by Government for Visual Quality (FPPR S.9.2)

FDU	Result or Strategy
1, 2, 3	<p>In these results or strategies:</p> <p>Visual Quality Objectives (VQOs) were set pursuant to GAR S. 7(2) for the South Island Forest District by Order to Establish Visual Quality Objectives for the South Island Forest District effective December 15, 2005, as shown on the map titled South Island Forest District, Visual Quality Objectives Established Under Section 7(2) GAR order, dated December 1, 2005. On December 30, 2011, the Order was amended to establish and amend established Visual Quality Objectives, Travel Corridors and associated Scenic Areas.</p> <p>“Qualified Professional” is defined as a person belonging to a certified, self-regulating professional organization established by legislation who, in the opinion of the RPF responsible for the specified work, has the experience and qualifications necessary to carry out this work to an appropriate standard.</p> <p>“significantly damaged timber” means an area greater than or equal to 10 ha.</p> <ol style="list-style-type: none"> 1. All authorized timber harvesting and road construction carried out by the FSP Holder(s) within the legally defined Scenic Areas will be consistent with the established Visual Quality Objective (VQO). VQO classes are defined as Categories of visually altered forest landscape as per FPPR Sec 1.1. 2. Design cutblocks and roads within the FDU in a manner such that the altered forest landscape for the applicable scenic area will be consistent with the applicable visual quality objective. 3. Complete a pre-harvest Visual Impact Assessment (VIA) from significant public viewpoints by a qualified professional. The VIA will include the following: <ol style="list-style-type: none"> a) Scale of perspective alteration measured relative to the landform Percent landform alteration limits for clearcutting will be guided by the <i>Visual Impact Assessment Guidebook</i>, MOF, January 2001; b) Concepts of visual landscape design to ensure the scale, shape, pattern, contrast, and location of all roads and cutblocks are consistent with VQO(s); c) An assessment and determination from significant public viewpoints that the VQO is consistent for all proposed roads and cutblocks. 4. The Holder(s) of the FSP may, subject to receiving an exemption from the DDM under FPPR s. 12(7), carry out timber harvesting or road construction that will not be consistent with section 2 of this R/S. Where harvesting or road construction is being conducted to recover timber that has been damaged or destroyed by fire, insects, disease, wind or other natural events, the following strategies apply: <ol style="list-style-type: none"> a) Before carrying out or authorizing the timber harvesting and road construction, the FSP holder will identify the damaging agent and estimate magnitude of area affected.

	<ul style="list-style-type: none"> b) Before carrying out or authorizing the timber harvesting and road construction, determine whether the visual impact caused by harvest of damaged timber is warranted. c) In the event it is determined that the VQO can not be met, utilize visual design and harvesting systems to minimize visual impact and if required meet the next lower (less restrictive) category of visually altered forest landscape. d) Prepare and retain with the relevant site plan a written rationale including a damaged timber Visual Impact Assessment that identifies how the strategy was implemented and the measures that were considered and taken to limit impact on the visual resource value.
--	--

7.5 Objectives continued under FRPA S 181

7.5.1 Objective Set by Order – Ungulate Winter Range #U-1-013 Unit 11

FDU	Result or Strategy
2	The Holder(s) of the FSP, as a result will ensure that any primary forest activities authorized or carried out by the holder(s) of the FSP will be carried out in accordance with the Order establishing Ungulate Winter Range #U-1-013 Unit 11, effective October 18, 2004.

7.5.2 Objective Set by Order – Wildlife Habitat Area #1-028

FDU	Result or Strategy
2	The Holder(s) of the FSP, as a result will ensure that any primary forest activities authorized or carried out by the holder(s) of the FSP will be carried out in accordance with the Order establishing Wildlife Habitat Area (MAMU) #U-1-028 effective January 15, 2003

7.6 Special Tree Protection Regulation

FDU	Result or Strategy
All	<ol style="list-style-type: none"> 1. The Holder(s) of the FSP, as a result will ensure that any primary forest activities authorized or carried out by the holder(s) of the FSP will be carried out in accordance with the Special Tree Protection Regulation, effective September 11, 2020 and future amendments.

8. Stocking Standards

8.1 Situations or Circumstances that determine whether Free Growing is assessed on a Block Basis or Across Blocks

FPPR s. 44(1) applies in all situations or circumstances under the FSP where a free growing stand is required to be established under FRPA s. 29.

8.2 Regeneration Date and Stocking Standards, Free Growing Height

1. The Appendix 1 Stocking Standards specify the regeneration date, free growing height and stocking standards for the situations or circumstances where FPPR S. 44(1) applies.
2. If any biogeoclimatic zones, variants, and/or site series that are not shown in the table are required, stocking standards will be defaulted as per the Reference Guide for Forest Development Stocking Standards referenced on the BC Government Webpage (<https://www2.gov.bc.ca/gov/content/industry/forestry/managing-our-forest-resources/silviculture/stocking-standards>) current to the date of the prescription.

8.3 Situations or Circumstances that Determine when FPPR S. 44(4) and the Standards Applicable Under FPPR S.16 Applies

1. If the Holder(s) of the FSP carries out or authorizes harvesting of special forest products, intermediate cuts or commercial thinning from an area within the area under this plan, cutblock specific uneven aged stocking standards will be proposed as an amendment of this FSP. Uneven aged stocking standards which may be amended into this FSP will be maintained on the area for twelve months following the completion of the harvesting.

9. Measures to Prevent the Introduction and Spread of Invasive Plants (FRPA s.47, FPPR s.17)

FPPR s.17: For the purpose of section 47 [invasive plants] of the Act, a person who prepares a forest stewardship plan must specify measures in the plan to prevent the introduction or spread of species of plants that are invasive plants under the Invasive Plants Regulation, if the introduction or spread is likely to be the result of the person's forest practices.

FDU	Result or Strategy
1, 2, 3	<p>In these measures:</p> <p>“applicable area” means an area where</p> <ol style="list-style-type: none"> a) it is likely that forest practices will result in introduction or spread of invasive plants, b) there is a moderate to high risk invasive plants, and any priority invasive plants are likely to germinate on soil exposed that is a result of a person’s forest practices under this FSP, c) it is reasonably expected that grass would grow on these exposed sites, and d) it is reasonably foreseeable that revegetation with grass seed would materially reduce the likelihood of invasive plant germination; and

the Holder(s) of the FSP has not deemed the area as an active surface area required for road construction, harvesting and reforestation.

“preferred seed” means seed with the following attributes:

- a) high sod-forming content, except in areas that are planted with tree seedlings;
- b) has been certified by the Canadian Seed Growers Association that the seed;
 - i) meets Common #1 Forage Grade or better standards for varietal purity established by the Association for seed of that species (Seeds Act, Seeds Regulation s.2(1)), and
 - ii) is of native origin.

“Priority invasive plants” “refers to Gorse, Japanese Knotweed, Giant Knotweed, Scotch Broom, Purple Loosestrife, Yellow Iris, and Marsh Thistle, consistent with s. 2 of the Invasive Plants Regulation, which may be found within the plan area.

1. The Holder(s) of the FSP will adopt as a **result**:
 - a) confirm known locations of priority invasive plants within the plan area using the most current recognized provincial database,
 - b) distribute information to staff and contractors on priority invasive plants that exist or threaten to establish within the plan area,
 - c) direct staff to monitor and report new incidences of priority invasive plants and enter them into most current recognized provincial database,
 - d) direct the holders of a cutting or road permit to inspect logging and road building equipment for invasive shrub vegetation, and remove from equipment prior to transporting equipment from an area of a known occurrence of the invasive plant to a remote location or site where the invasive plant is currently not present, or
 - e) direct the persons carrying out timber harvesting and/or road building activities to inspect logging and road building equipment for invasive shrub vegetation, and remove from equipment prior to transporting equipment from an area of a known occurrence of the invasive plant to a remote location or site where the invasive plant is currently not present.
2. If the Holder of the FSP carries out a forest practice in an applicable area, the Holder(s) of the FSP, within one year of completing the activity authorized in the cutting permit, will:
 - a) re-vegetate contiguous areas of exposed soil that exceed 0.1 ha giving preference to preferred seed that is:
 - i) readily available, and
 - ii) comparable in cost to agronomic mixtures, and

	<ul style="list-style-type: none"> iii) comparable in effectiveness to agronomic mixtures, and b) re-vegetate temporary access structures within cutblocks giving preference to preferred seed that is consistent with 2(a)(i) to (iii) above. <p>3. Should invasive plants establish and spread as a result of primary forest activities, the holder(s) of the FSP will develop an Invasive Plant Treatment Plan with assistance from the FLNRORD Invasive Plant Specialist.</p>
--	---

10. Measures to Mitigate the Effect of Removing or Rendering Ineffective Natural Range Barriers

FDU	Result or Strategy
1, 2, 3	There are no agreements under the Range Act in any of the FDU's covered under this Plan; therefore, results or strategies are not applicable.

11. Public Review and Comment

11.1 Providing Notice & Review and Comment FPPR Sections 20 & 21

As per the requirement in FPPR Section 20(1), the Forest Stewardship Plan was advertised on February 11, 2021 and was made available for review and comment for a period of 60 days ending April 12, 2021. The review and comment process also included direct referrals to three First Nations and a range of potential stakeholders (FPPR Section 21(1)(c)). The complete list has been included in Appendix 3 – Summary of Review and Comment, Table 13 and Table 14.

11.2 Public Review and Comment– FPPR Sections 22

There were no responses received through the Public Stakeholder consultation period as per Table 13. A summary of correspondence has been included in Appendix 3, Table 13 and the FSP Background Document provides additional details for all other correspondence and documentation pertaining to the Review and Comment process.

11.2.1 First Nations

11.2.2

As FPPR Sec 21(1)(d), reasonable efforts were made for consultation with First Nations. Emails and a follow up letter from the MoFLNRORD were sent to both Tshshaht and Ditidaht First Nations due to the immediate proximity of the territories. There is no formal overlap with the FSP area and the First Nation Territories.

An email was sent to Maa-nulth Treaty Society and follow up discussions with Maa-nulth representatives were had. On April 16, 2021, a formal Letter of Support for the FSP was sent by Mark Stephens, Chief Administrative Officer of the Maa-nulth Treaty Society. A copy of this letter, has been included in the FSP Backgrounder Document.

12. Appendix 1- FSP Stocking Standards

Table 7: FSP Stocking Standards

Standards ID (SSID)	ID #	BEC subzone & variant	Site Series	Preferred Species								Acceptable Species						Late Free Growing= 20 yrs for all SSIDs				
				1	Ht FG min	2	Ht FG min	3	Ht FG min	4	Ht FG min	1	Ht FG min	2	Ht FG min	3	Ht FG min	Target P&A (sph)	Min P&A (sph)	Min P only sph	MI TD metres	RG delay yrs
1067830	1	CWHvh1	01	Cw	1.5	Hw	2.0	Yc	1.5			Pl	1.5	Ba	1.75	Ss ^{8,23}	3.0	900	500	400	2.0	6
1067831	2	CWHvh1	03	Cw	1.0	Hw	1.25	Pl	1.25	Yc	1.0							800	400	400	2.0	6
1067832	3	CWHvh1	04	Ba	2.25	Hw	1.75	Cw	2.0			Ss ²³	4.0					900	500	400	2.0	6
1067833	4	CWHvh1	05	Ba	2.25	Cw	2.0	Yc	2.0			Hw	1.75	Ss ²³	4.0			900	500	400	2.0	3
1067834	5	CWHvh1	06	Ba	2.25	Cw	2.0	Yc	2.0			Hw	1.75	Ss ²³	4.0			900	500	400	2.0	3
1067835	6	CWHvh1	07	Ba	2.25	Cw	2.0					Hw	1.75	Ss ²³	4.0			900	500	400	2.0	3
1067836	7	CWHvh1	11	Cw ⁴	1.0	Pl ⁷	1.25	Yc ⁴	1.0	Hw ⁴	1.25	Pl	1.25	Ss ²³	2.0			800	400	400	2.0	3
1067837	8	CWHvh1	13	Cw ⁴	1.0	Yc	1.0					Hw ⁴	1.25	Pl ²⁹	1.25	Ss ^{4,23}	2.0	800	400	400	2.0	3
1067838	9	CWHvh1	17	Ss	2.0	Cw	1.0	Hw	1.25									900	500	400	2.0	3
1067839	10	CWHvm1	01	Cw	1.5	Hw	3.0	Fd ^{10,15}	3.0	Ba	1.75	Ss ^{8,23}	3.0	Yc ³¹	1.5			900	500	400	2.0	6
1067840	11	CWHvm1	01s	Cw	1.5	Hw	3.0	Fd ^{10,15}	3.0	Ba	1.75	Ss ^{8,23}	3.0	Yc ³¹	1.5			900	500	400	2.0	6
1067841	12	CWHvm1	03	Cw	1.0	Hw	2.0	Fd ^{10,15}	2.0			Pl ²⁶	1.25	Yc ³¹	1.0			800	400	400	2.0	6
1067842	13	CWHvm1	04	Cw	1.5	Hw	3.0	Fd ^{10,15}	3.0			Ba	1.75	Ss ^{8,23}	3.0			900	500	400	2.0	3
1067843	14	CWHvm1	05	Cw	1.5	Hw	3.0	Fd ^{4,10,15}	3.0	Ba	1.75	Ss ²³	3.0					900	500	400	2.0	3
1067844	15	CWHvm1	06	Cw	1.5	Hw	3.0	Ba ³⁰	1.75			Ss ^{8,23}	3.0					900	500	400	2.0	6
1067845	16	CWHvm1	06s	Cw	1.5	Hw	3.0	Ba	1.75			Ss ^{8,23}	3.0					900	500	400	2.0	6
1067846	17	CWHvm1	07	Cw	2.0	Hw ⁵	4.0	Fd ^{4,10,18}	4.0	Ba	2.25	Ss ^{8,23}	4.0					900	500	400	2.0	3
1067847	18	CWHvm1	08	Cw	2.0	Hw ⁵	4.0	Ba	2.25			Ss ^{8,23}	4.0					900	500	400	2.0	3

1067848	19	CWHvm1	12	Cw	1.0	Hw	2.0					Yc	1.0	Pl ²⁶	1.25	Hm	2.0	800	400	400	2.0	3
1067849	20	CWHvm1	14	Cw ⁴	1.5							Hw ⁴	3.0	Ss ^{8,23}	3.0	Pl ²⁶	2.0	800	400	400	2.0	3
1067850	21	CWHvm2	01	Cw/Yc ²⁸	1.5	Hw	2.5	Fd ^{4,8,10,18}	2.25	Ba	1.75	Hm ¹²	1.0	Ss ^{8,23}	3.0			900	500	400	2.0	6
1067851	22	CWHvm2	03	Cw	1.0	Hw	1.75	Fd ^{10,15}	1.5	Yc ²⁸	1.0	Pw ^{15,22}	2.5	Hm ¹²	0.75	Pl ²⁶	1.25	800	400	400	2.0	6
1067852	23	CWHvm2	04	Cw	1.0	Hw	1.75	Fd ^{10,15}	1.5	Yc ²⁸	1.0	Ba	1.5	Pw ¹⁵	2.5	Hm ¹²	0.75	900	500	400	2.0	6
1067853	24	CWHvm2	05	Cw	1.5	Hw	2.5	Yc ²⁸	1.5	Ba	1.75	Fd ^{4,8,10}	2.25	Hm ¹²	1.0	Ss ²³	3.0	900	500	400	2.0	3
1067854	25	CWHvm2	06	Cw	1.5	Hw	2.5	Yc ²⁸	1.5	Ba	1.75	Hm ¹²	1.0	Ss ^{8,23}	3.0			900	500	400	2.0	6
1067855	26	CWHvm2	07	Ba	2.25	Hw ⁵	3.5	Cw ¹³ /Yc ²⁸	2.0	Fd ^{10,15,26}	3.0	Hm ¹²	1.0	Ss ^{8,23}	4.0			900	500	400	2.0	3
1067856	27	CWHvm2	08	Cw ⁴	2.0	Hw ⁵	3.5	Yc ²⁸	2.0	Ba	2.25	Ss ^{8,23}	4.0	Hm ¹²	1.0			900	500	400	2.0	3
1067857	28	CWHvm2	09	Cw ⁴	1.0	Hw ⁴	1.75	Yc ^{4,28}	1.0	Hm ¹²	1.5	Ba	1.5	Pl ⁴	1.25	Ss ^{8,23}	2.0	800	400	400	2.0	3
1067858	29	CWHvm2	11	Fd	1.5	Yc ^{4,28}	1.0	Cw ⁴	1.0			Hw ⁴	1.75	Hm ^{12,26}	0.75	Ss ^{4,14,23}	2.0	800	400	400	2.0	3

12.1 Stocking Standards Reference Notes

Table 8: Stocking Standards - Tree Species Abbreviations

Abbreviation	Tree Species – Common Name	Tree Species - Scientific Name
Ba	Amabilis fir	<i>Abies amabilis</i>
Cw	Western Red Cedar	<i>Thuja plicata</i>
Fd	Coastal Douglas-fir	<i>Pseudotsuga menziesii</i>
Hw	Western Hemlock	<i>Tsuga heterophylla</i>
Hm	Mountain Hemlock	<i>Tsuga mertensiana</i>
Pl	Lodgepole Pine	<i>Pinus contorta</i>
Pw	Western White Pine	<i>Pinus monticola</i>
Ss	Sitka Spruce	<i>Picea sitchensis</i>
Yc	Yellow Cedar	<i>Cupressus nootkatensis</i>

12.1.1 Stocking Standard Footnotes

The following footnotes, which relate to Table 7, do not necessarily correspond to the footnote # in the Reference Guide for Forest Development Stocking Standards.

1. Footnote deleted
2. Pw is considered an acceptable species where root diseases are prevalent. It will be acceptable to form 20% of the free-growing stand.
3. Cw will be considered an acceptable species where root diseases are prevalent and on standards units where an unmappable mosaic of site series includes moister site series. It will be acceptable to form within 5 percentage points leading up to the 10% of the free-growing stand.
4. Elevated microsites are preferred.
5. Suitable on thick forest floors (forest floor >20cm)
6. Restricted to coarse-textured soils (sand and loamy sand; or sandy loam, loam, sandy clay loam with >70% coarse fragments)
7. Restricted to nutrient-very-poor sites
8. Restricted to nutrient-medium sites
9. Restricted to steep slopes (≥50% slopes)
10. Restricted to southerly aspects (SSE to WSW with slopes ≥35%)
11. Restricted to northerly aspects
12. Restricted to upper elevations of biogeoclimatic unit
13. Restricted to lower elevations of biogeoclimatic unit
14. Footnote deleted
15. Restricted to southern portion of biogeoclimatic unit in region
16. Restricted to western portion of biogeoclimatic unit in region
17. Restricted to eastern portion of biogeoclimatic unit in region
18. Footnote deleted
19. Suitable (as a major species) in wetter portion of biogeoclimatic unit.
20. Suitable minor species on salal-dominated sites
21. Footnote deleted
22. Risk of white pine blister rust
23. Risk of weevil damage. Use resistant stock wherever available to minimize risk.
24. Suitable in areas with stronger maritime influence
25. Risk of balsam woolly adelgid.
26. Minor component
28. Species is restricted to upper elevations of the biogeoclimatic unit only when used in the southern portion of the biogeoclimatic unit.
29. Restricted to nutrient-rich sites
30. Suitable as a minor species on nutrient poor sites.
31. Yc is acceptable as a minor species per section 7.3.7(7) of this FSP for cultural heritage purposes.

12.1.2 Definitions

'Biogeoclimatic' or 'BGC classification' means the zone, subzone, variant, and site series described in the most recent field guide published by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development for the identification and interpretation of ecosystems, as applicable to a harvested area.

12.1.3 Variations from General Stocking Standards

Site specific conditions may result in a variation from the stocking standards listed in Table 7. If a variation is required, one of the following must be applicable:

1. Amended Climate Change recommendations per the most current version of the *Reference Guide for Forest Development Stocking Standards* will be considered as approved stocking standards for the Holder(s) of this FSP.
2. Reduction of inter-tree spacing to 1.5m for all SSIDs is acceptable for site specific conditions:
 - a) On rocky sites where target stocking cannot be achieved due to the presence of rock;
 - b) Where based on a silvicultural survey, an SU or portion thereof, which has previously been planted has failed to maintain minimum stocking densities;
 - c) Where mechanical site preparation, other than slash piling has been undertaken to create microsites prior to planting;
 - d) On hygric sites for selection of appropriate microsites; or
 - e) On disturbed roadside areas which generally contain a higher percentage of mineral and morainal type soils.
3. In the *Vancouver Forest Region Reference Guide for Forest Development Stocking Standards*, species are listed as tertiary but not acceptable. They have been included as acceptable as a minor portion of the stand if a cruise report indicates it was present as merchantable volume in the pre-harvest stand. The percentage of the free-growing stand that may be comprised of the species will be on a sliding scale within 5 percentage points leading up to the 20%. For example, if a cruise report showed 15% Hw merchantable volume in the pre-harvest stand, within 5 percentage points leading up to the 15% of the free-growing stand could be Hw.

12.1.4 Clarifications

1. Table 7 is based on the *Vancouver Forest Region Reference Guide for Forest Development Stocking Standards* dated March 2019.
2. Site series where the stocking standards state 'avoid logging', or the site series that are floodplain site series, sites with strongly fluctuating water tables or shoreline/ocean spray sites have been excluded.
3. The minimum density post-spacing is listed as recommended in the *Establishment to Free-Growing Guidebook* for the VFR (i.e. the same as the minimum stocking standard).
4. Where standards units (SUs) are comprised of an un-mappable mosaic of site series, the practice will be to manage for the stocking standards of the dominant site series provided that the tree species are suitable in all site series contained within the SU.
5. The use of registered white pine blister rust "resistant" seed will waive the requirement of mandatory pruning for all white pine (Pw) that are to be counted in a free-growing survey as one of the well-spaced stems
6. Yellow Cedar, Yc, has been included as an acceptable species in the CWHvm1 01, 01s, and 03 site series as per section 7.3.7(7) of this FSP. Yellow Cedar is a culturally significant species and where ecologically appropriate, will be included as a minor component of the stand for cultural heritage purposes.

13. Appendix 2- Partial Cutting Stocking Standards

13.1 Administration

As per sections 16 and 29 (e) of the Forest Planning and Practices Regulation (FPPR), the following stocking standards will apply to blocks harvested under the 2021 – 2026 HFN Forest Stewardship Plan Amendment 1 (FSP), within the applicable licenses, that do not utilize a clearcut or clearcut with reserve silvicultural system. The typical silvicultural system used in this section will be Retention (grouped or dispersed).

Single entry dispersed retention stocking standards (SEDRSS) species composition, heights, layers and densities are outlined in Table 9 and 10 of this document. The ecological suitability, free growing heights and densities will be consistent with Table 9 of this document. Layer 2 (pole), Layer 3 (sapling) and Layer 4 (regeneration) trees that are considered for stocking purposes must meet the standards in the FSP Stocking Standards Appendix 2 and section 1.3.5.2 of this document. The required dispersed retention stocking densities by layer are stated in Table 10 of this Appendix. These tables are to be used along with the block specific site plans as required by Section 10 of the Forest and Range Practices Act.

Intermediate cutting and single stem harvest standards are outlined in section 1.4 of this document.

13.2 Partial Cutting

Partial cutting refers to stand entries, under any of the several silvicultural systems, to cut selected trees and leave desirable trees for various stand objectives¹. Partial cutting will be accomplished via the clearcut with reserves silvicultural system, retention silvicultural system or intermediate cutting. Partial cutting standards are required to be consistent with all Government and Higher Levels Plan objectives unless an alternative management result or strategy is indicated. The stocking standards associated with the clearcut with reserves silviculture system can be found in Appendix 1. Therefore, the focus of Appendix 2 will be the retention silviculture system and intermediate cutting. The retention silviculture system is discussed in Section 13.3 of this appendix. Intermediate cutting is discussed in Section 13.4 of this appendix.

13.3 Retention Silviculture System

The objectives of a retention silviculture system are often unique to the individual area, landscape unit, resource management zone or watershed and can include biodiversity, wildlife habitat and visual quality, among other values. These objectives are achieved by retaining dispersed trees and/or aggregates in combination with any ‘hard’ retention or reserves (e.g. bird nests, bear dens, culturally modified trees) which have been incorporated into the block layout.

The retention silviculture system sustains the major ecological conditions and processes characteristic of a forest by maintaining a level of stand structure, complexity and diversity². A harvested area is not a clearcut if the major ecological conditions and processes characteristic of a forested environment remain more or less intact³. Forest influence extends from residual trees into a harvested area.

The retention system is a silviculture system that is designed to:

- (a) retain individual trees or groups of trees to maintain structural diversity over the area of the cutblock for at least one rotation, and
- (b) leave more than half the total area of the cutblock within one tree-height from the base of a tree or group of trees, whether or not the tree or group of trees is inside the cutblock.

The Coast Region FRPA Implementation Team (CRIT) silviculture working group has recently published a collaborative paper entitled Single Entry Dispersed Retention System Stocking Standard Framework Implementation Guide⁴. This paper complements earlier work that CRIT had published with further refinement to the single entry dispersed retention silviculture system. Single Entry Dispersed Retention Silvicultural System (SEDRSS) is defined as a partial cut harvest entry where retained

¹ (British Columbia Ministry of Forests, Forest Practices Branch, 1995)

² (British Columbia Ministry of Forests, Forest Practices Branch, 2003)

³ (Kimmins, 1997)

⁴ (Coast Region FRPA Implementation Team, Silviculture Working Group, 2014)

overstorey stems contribute towards a regen and free growing obligation. It is a partial cut harvest entry where retained overstorey stems contribute towards a stocking obligation and where future stand entries are not required to meet stand structural objectives. Under SEDRSS, dispersed Residual Basal Area (RBA) within the post-harvest stand would range from 9 to 39 m²/ha.

The level of retention is based on trees retained at the block level and/or standards unit level. The level of retention will be based on meeting the management objectives placed on the land base while balancing the requirement to minimize the impact on timber supply. **The management objectives and the specific level of retention will be established in the pre-harvest documents.**

13.3.1 Application of Single Entry Dispersed Retention Stocking Standards

SEDRSS will apply to blocks and/or standards units where the achievement of specific management objectives requires the retention of dispersed trees. SEDRSS does not apply to blocks that utilize a clearcut or clearcut with reserve silviculture system. Low levels of dispersed retention (<9 m²/ha) do not require SEDRSS. Even-aged stocking standards are appropriate for these situations. SEDRSS within Appendix 2 are based on the stocking standard recommendations within the CRIT silviculture working group's discussion paper.

13.3.2 Situations and Circumstances

13.3.2.1 9-39 m²/ha Dispersed Residual Basal Area to be Retained

The minimum basal area to be retained over the area of the block will vary depending on the specific management objectives of the site. These objectives may include:

- visuals - preservation, retention and partial retention when clearcutting with reserves will not meet the visual objective (FPPR S.9.2),
- terrain stability (as recommended by a professional geoscientist),
- wind-firmness (in moderate to high windthrow hazard),
- riparian prescriptions,
- protection of various features (wildlife habitat features, culturally modified tree areas, resource features and recreation features or resources),
- to sustain forest ecosystem structure and function in Special Management Zones (SMZ) as established by the Vancouver Island Land Use Plan (VILUP) Higher Level Plan Order; and,
- rate of cut constraints in watersheds.

The residual basal area (RBA) can range from 9-39 m²/ha and the residual density or target basal area requirements will be established in the pre-harvest documents. The majority of the retention will be in aggregates; however, some low levels of dispersed trees may be required to meet the definition of a retention silviculture system. With low levels of dispersed trees and the majority of the retention in aggregates the impact on yield should be minimal.

13.3.2.2 Target 40% Dispersed Residual Basal Area to be Retained

The use of the SEDRSS with a dispersed target residual basal area (RBA) of 32-39 m² per ha (approximately 40% of pre-harvest basal area) would be limited to the following scenarios:

- Where maximum cutblock size will be exceeded, subject to FPPR section 64 (3); and,
- Where visually constrained by designated scenic areas (preservation, retention)

Maximum cutblock size does not apply to an opening if a retention silviculture system is employed and is consistent with section 7.3.3 (Wildlife and Biodiversity) of the 2021 – 2026 HFN Forest Stewardship Plan Amendment 1. Specific to FPPR section 64 (3), maximum cutblock size does not apply if the timber harvesting that is being carried out on the cutblock retains a minimum of 40% or more of the basal area of the stand that was on the cutblock before timber harvesting. Under these circumstances the target RBA, measured at the block level, will be >40%. This type of harvesting is described as “high retention harvesting with regeneration objectives”. For SEDRSS to be applied the maximum RBA over the area of the standard unit(s) is between 9 - 39 m²/ha.

For visually constrained areas, retention may be required to meet the visual objectives as determined under the Government

Action Regulation (GAR) Order (GAR S. 7(1) and 7(2)) and the designated scenic areas.

The majority of the retention will be in aggregates but may also include low levels of dispersed retention. Retention arranged in aggregates should make subsequent harvesting easier with the least amount of damage to the regeneration. The retention of a low level of dispersed trees may be required to meet the definition of the retention silviculture system. The retention will be comprised of short-term retention and wildlife tree retention areas. The short-term retention can be harvested at a later date if other management objectives are not limiting factors, specifically FPPR section 65 and visual objectives for established scenic areas.

13.3.3 Management and Scope

The stocking standards for SEDRSS is located in Tables 9 and 10. They apply to blocks and/or standards units where the achievement of specific management objectives requires the retention of dispersed trees. SEDRSS will only apply when the RBA is between 9-39 m²/ha. For the most part, stocking will be achieved by layer 1 trees retained from the original stand and layers 2, 3 and 4 trees in the canopy gaps. SEDRSS apply to the specific situations and circumstances outlined in Section 1.3.2; therefore, their scope or application is limited.

13.3.4 Consistency with Timber Supply Review

The goal of SEDRSS is to minimize the impact of partial cutting on growth and yield. SEDRSS are based on managing towards a future stand species profile similar to the pre-harvest species profile (CRIT, 2009). In doing so, future stand management opportunities should be sustained or enhanced.

13.3.5 Single Entry Dispersed Retention Stocking Standards within Tables 9 and 10

Table 9: Single Entry Dispersed Retention Stocking Standards for Species Composition, Target Regeneration*** and Free Growing Density and Minimum Heights – 2021 – 2026 HFN Forest Stewardship Plan Amendment 1.

Stocking Standards for Species Composition, target Density Layer 4 and Minimum Heights ** Layer 3 and 4																			
				Preferred Species								Acceptable Species						Late Free Growing= 20 yrs for all SSIDs	
Standards ID (SSID)	ID #	BEC subzone & variant	Site Series	1	Ht FG min	2	Ht FG min	3	Ht FG min	4	Ht FG min	1	Ht FG min	2	Ht FG min	3	Ht FG min	Target P&A (sph)	RG delay yrs
	30	CWHvh1	01	Cw	1.5	Hw	2.0	Yc	1.5			PI	1.5	Ba	1.75	Ss ^{8,23}	3.0	900	6
	31	CWHvh1	03	Cw	1.0	Hw	1.25	PI	1.25	Yc	1.0							800	6
	32	CWHvh1	04	Ba	2.25	Hw	1.75	Cw	2.0			Ss ²³	4.0					900	6
	33	CWHvh1	05	Ba	2.25	Cw	2.0	Yc	2.0			Hw	1.75	Ss ²³	4.0			900	3
	34	CWHvh1	06	Ba	2.25	Cw	2.0	Yc	2.0			Hw	1.75	Ss ²³	4.0			900	3
	35	CWHvh1	07	Ba	2.25	Cw	2.0					Hw	1.75	Ss ²³	4.0			900	3
	36	CWHvh1	11*	Cw ⁴	1.0	PI ⁷	1.25	Yc ⁴	1.0	Hw ⁴	1.25	PI	1.25	Ss ²³	2.0			800	3
	37	CWHvh1	13*	Cw ⁴	1.0	Yc	1.0					Hw ⁴	1.25	PI ²⁹	1.25	Ss ^{4,23}	2.0	800	3
	38	CWHvh1	17*	Ss	2.0	Cw	2.0	Hw	1.25									900	3
	39	CWHvm1	01	Cw	1.5	Hw	3.0	Fd ^{10,15}	3.0	Ba	1.75	Ss ^{8,23}	3.0	Yc	1.5	Pw ²²	2.5	900	6
	40	CWHvm1	01s	Cw	1.5	Hw	3.0	Fd ^{10,15}	3.0	Ba	1.75	Ss ^{8,23}	3.0	Yc	1.5			900	6
	41	CWHvm1	03	Cw	1.0	Hw	2.0	Fd ^{10,15}	2.0			PI ²⁶	1.25	Yc	1.0	Ba	1.2	800	6
	42	CWHvm1	04	Cw	1.5	Hw	3.0	Fd ^{10,15}	2.0			Ba	1.75	Ss ^{8,23}	3.0			900	3
	43	CWHvm1	05	Cw	1.5	Hw	3.0	Fd ^{4,10,15}	3.0	Ba	1.75	Ss ²³	3.0	Pw ²	2.0			900	3
	44	CWHvm1	06	Cw	1.5	Hw	3.0	Ba ³⁰	1.75			Ss ^{8,23}	3.0					900	6
	45	CWHvm1	06s	Cw	1.5	Hw	3.0	Ba	1.75			Ss ^{8,23}	3.0					900	6
	46	CWHvm1	07	Cw	2.0	Hw ⁵	4.0	Fd ^{4,10,18}	4.0	Ba	2.25	Ss ^{8,23}	4.0					900	3
	47	CWHvm1	08	Cw	2.0	Hw ⁵	4.0	Ba	2.25			Ss ^{8,23}	4.0					900	3
	48	CWHvm1	12*	Cw	1.0	Hw	2.0					Ss ^{8,23}	2.0	Yc	1.0	PI ²⁶	1.25	800	3
	49	CWHvm1	14*	Cw ⁴	1.5							Hw ⁴	3.0	Ss ^{8,23}	3.0	PI ²⁶	2.0	800	3

	50	CWHvm2	01	Cw/Yc ²⁸	1.5	Hw	2.5	Fd ^{4,8,10,18}	2.25	Ba	1.75	Hm ¹²	1.0	Ss ^{8,23}	3.0			900	6
	51	CWHvm2	03	Cw	1.0	Hw	1.75	Fd ^{10,15}	1.5	Yc ²⁸	1.0	Pw ^{15,22}	2.5	Hm ¹²	0.75	Pl ²⁶	1.25	800	6
	52	CWHvm2	04	Cw	1.0	Hw	1.75	Fd ^{10,15}	1.5	Yc ²⁸	1.0	Ba	1.5	Pw ¹⁵	2.5	Hm ¹²	0.75	900	6
	53	CWHvm2	05	Cw	1.5	Hw	2.5	Yc ²⁸	1.5	Ba	1.75	Fd ^{4,8,10}	2.25	Hm ¹²	1.0	Ss ²³	3.0	900	3
	54	CWHvm2	06	Cw	1.5	Hw	2.5	Yc ²⁸	1.5	Ba	1.75	Hm ¹²	1.0	Ss ^{8,23}	3.0			900	6
	55	CWHvm2	07	Ba	2.25	Hw ⁵	3.5	Cw ¹³ /Yc ²⁸	2.0	Fd ^{10,15,26}	3.0	Hm ¹²	1.0	Ss ^{8,23}	4.0			900	3
	56	CWHvm2	08	Cw ⁴	2.0	Hw ⁵	3.5	Yc ²⁸	2.0	Ba	2.25	Ss ^{8,23}	4.0	Hm ¹²	1.0			900	3
	57	CWHvm2	09	Cw ⁴	1.0	Hw ⁴	1.75	Yc ^{4,28}	1.0	Hm ¹²	1.5	Ba	1.5	Pl ⁴	1.25	Ss ^{8,23}	2.0	800	3
	58	CWHvm2	11*	Fd	1.0	Yc ^{4,28}	1.0	Cw ⁴				Hw ⁴	1.75	Hm ^{12,26}	0.75	Ss ^{4,14,23}		800	3

* - Avoid logging these sites. Incidental amounts of this site series may be found within the TAUP of a block and may contribute to the stocking status of the block.

** - Minimum heights: Minimum height (Min Ht) will be reduced by 25% of the stated height for each species when the average residual basal area across the standard unit exceeds 9 m²/ha due to shading from overstory trees.

*** - Regeneration refers to Layers 2, 3 and 4

Footnotes

1. *Footnote deleted*
2. Pw is considered an acceptable species where root diseases are prevalent. It will be acceptable to form 20% of the free-growing stand.
3. Cw will be considered an acceptable species where root diseases are prevalent and on standards units where an unmappable mosaic of site series includes moister site series. It will be acceptable to form within 5 percentage points leading up to the 10% of the free-growing stand.
4. Elevated microsites are preferred.
5. Suitable on thick forest floors
6. Restricted to coarse-textured soils
7. Restricted to nutrient-very-poor sites
8. Restricted to nutrient-medium sites
9. Restricted to steep slopes
10. Restricted to southerly aspects
11. Restricted to northerly aspects
12. Restricted to upper elevations of biogeoclimatic unit
13. Restricted to lower elevations of biogeoclimatic unit
14. *Footnote deleted*
15. Restricted to southern portion of biogeoclimatic unit in region
16. Restricted to western portion of biogeoclimatic unit in region
17. Restricted to eastern portion of biogeoclimatic unit in region

18. *Footnote deleted*
19. Suitable (as a major species) in wetter portion of biogeoclimatic unit.
20. Suitable minor species on salal-dominated sites
21. *Footnote deleted*
22. Risk of white pine blister rust
23. Risk of weevil damage. Use resistant stock wherever available to minimize risk.
24. Suitable in areas with stronger maritime influence
25. Risk of balsam woolly adelgid.
26. Minor component
28. Species is restricted to upper elevations of the biogeoclimatic unit only when used in the southern portion of the biogeoclimatic unit.
29. Restricted to nutrient-rich sites
30. Suitable as a minor species on nutrient poor sites.

DRAFT

Table 10: Single Entry Dispersed Retention Stocking Standards Densities

Single Entry Dispersed Retention Stocking Densities ****			
Target Stocking Density (sph) from Table 9	Layer *****	Site Occupancy:	
		Average Basal Area per hectare (m ² /ha) for Layer 1	
		Unimpeded Well-Spaced (UWS) per hectare (sph) for Layer 2, 3, 4	
		Target Stocking	Minimum Stocking
900	2, 3, 4	900	500
	1	9-15	N/A
	2, 3, 4	800	400
	1	16-22	N/A
	2, 3, 4	700	300
	1	23-28	N/A
	2, 3, 4	500	200
	1	29-39	N/A
	2, 3, 4	400	100
	1	≥40	N/A
2, 3, 4	0	0	
800	2, 3, 4	800	400
	1	9-15	N/A
	2, 3, 4	700	300
	1	16-22	N/A
	2, 3, 4	600	200
	1	23-28	N/A
	2, 3, 4	400	100
	1	29-39	N/A
	2, 3, 4	300	50
	1	≥40	N/A
	2, 3, 4	0	0

**** - Table 10 has been derived from the SEDRSS Implementation Guidebook with some minor changes. The approach recognizes two stand components: overstory trees (> 12.5 cm DBH) and understory trees (< 12.4 cm DBH). The integration of the overstory and understory densities in Table 10 defines the site occupancy. Evaluation of Free Growing densities will be done in accordance with the methodology described within the BC Silviculture Survey Procedures Manual (April 1, 2023)

The residual basal area category (average m²/ha) corresponds to the understory stocking density (sph). The stand is considered to be stocked when the numbers of well-spaced (WS) trees (sph) and the basal area range (m²/ha) have been achieved. The definition of well-spaced trees is consistent with the definition located within FSP Appendix 2 s.13.3.5.1.

***** - Stand Layer Definition:

Layer 1 Trees (Mature) > 12.5 cm DBH

Layer 2 Trees (Pole) 7.5 cm to 12.4 cm DBH

Layer 3 Trees (Sapling) > 1.3 m height to 7.4 cm DBH

Layer 4 Trees (Regeneration) < 1.3 m height

13.3.5.1 Minimum Inter-Tree Distance

The minimum inter-tree distance does not apply between layer 1 trees. Well-spaced trees in layer 2 have to be a minimum of 2 metres away from well-spaced trees chosen in layers 1 and 2 and be unimpeded. Well-spaced trees in layers 3 and 4 must also follow the minimum inter-tree requirements and well-spaced (UWS) definition described within the BC Silviculture Survey Procedures Manual (April 1, 2023).

13.3.5.2 Factors Relating to Single Entry Dispersed Retention Stocking Standards

The following information is in consideration of FPPR section 16 (2) and section 13.1 (factors relating to stocking standards) of Schedule 1.

13.3.5.2.1 Species to be Retained and/or Established for Stocking

Trees retained for the purposes of the single entry dispersed retention silviculture system may contribute to the stocking of the future stand and/or provide biodiversity in the future stand. For layers 1, 2 and 3, species to be retained will be based on the original stand composition of commercially viable coniferous species, considering forest health issues and management objectives. For layer 4 trees, species to be established post-harvest will be as specified in Table 9, Appendix 3 s.13.3.5. The single entry dispersed retention stocking standards promote the maintenance and, in some cases, the enhancement of a mix of species through artificial and/or natural regeneration.

13.3.5.2.2 Tree Characteristics to be Retained and/or Established for Stocking

In order for the residual overstory and understory trees to contribute towards stocking in the future stand and the achievement of the stocking obligation they must follow the Silviculture Survey Procedure Manual SEDRSS damage criteria and the Silviculture Survey Reference Card FS660 and have the following minimum characteristics:

Overstory Crop Trees – Layer 1

- (a) Leave tree form, health and vigour will be representative of the original stand condition.
- (b) Post-harvest tree species composition will be representative of the pre-harvest stand composition, where practicable.
- (c) Trees required to be retained for stocking purposes will be of a commercially valuable and ecologically suitable coniferous species.
- (d) Wounds and damage should be minimal:
 - i) Healed over wounds are acceptable; no open (unhealed) injuries with a horizontal damage width at the widest point(s) which is greater than 33% of the circumference of the tree at that point or a major root wound within 1 metre of the stem or 1 gouge (> 400 cm²);
 - ii) With the exception of Cw and Yc, no other externally visible pathological indicators should be present including broken tops, frost cracks, conk, extreme basal sweep or unacceptable forks or crooks.

- (e) Stem defect and scars are acceptable for layer 1 Cw leave trees. Stem defect such as dead (spiked) or broken tops are common in this layer. Cw bark stripping does not affect the vigour of the tree due to its natural resistance to decay. An acceptable tree must have economic value for lumber, shake and/or shingle type products. For all other species, an unacceptable tree has; a crook that displaces the portion of the stem above the defect by >50% from the line of growth formed by the stem below the point of defect in the bottom $\frac{2}{3}$ rds of the stem only; a fork occurs above stump height in the bottom $\frac{2}{3}$ rds of the stem only; a dead or broken top extends more than 20% of the stem length or the live crown is removed.
- (f) Continuous live crown must be greater than 20% for layer 1 trees with ≥ 17.5 cm DBH and 30% for layer 1 trees with < 17.5 cm DBH, with the exception of layer 1 Cw trees. These species must have a live crown; however, the amount of live crown is not as critical for old growth Cw trees as for other species.

Understory Crop Trees – Layers 2, 3 and 4

- (a) Free of significant disease and insect damage.
- (b) Continuous live crown must be greater than 30% for all species.
- (c) Trees will have the potential for post-harvest release.
- (d) Trees will have a distinguishable upright leader.
- (e) No leans >30° from the vertical with or without growth correction.
- (f) Wounds and damage should be minimal:
 - i) No open (unhealed) injuries; no closed (healed) injuries with a horizontal damage width at the widest point(s) which is greater than 25% of the circumference of the tree at that point; no closed injuries that exceed 10% of the total length of the stem and no infection caused by a stem rust or dwarf mistletoe;
 - ii) No other externally visible pathological indicators including broken top, frost crack, conk, extreme basal sweep or unacceptable forks and crooks.

In situations where leave trees will not contribute towards the stocking obligation, the leave trees will have characteristics appropriate to meet other objectives for the site. Trees retained for other objectives may include very old dominant trees (veterans), trees with broken tops, candelabras, mistletoe, heart rot, as well as understory trees and advanced regeneration if determined safe to do so. These trees will add structural value, potential wildlife habitat and coarse woody debris inputs to the future stand.

13.4 Intermediate Cutting

Intermediate cutting is defined as a stand entry to remove trees prior to the final harvest or regeneration cut phase. Specifically, an intermediate cut is a stand-tending phase of a silviculture system. The objectives of an intermediate cut generally do not relate to regeneration phase objectives (Ministry of Forests, Silviculture Systems Guidebook, April 1995). Variants of intermediate cutting include commercial thinning, removal of individual trees and harvesting special forest products.

For the purposes of this FSP, intermediate cutting will be accomplished via single stem harvesting. The average basal area to be retained over the area of the block or standard unit must be greater than 40 m²/ha. When the RBA exceeds 40 m²/ha the single entry dispersed retention stocking standards outlined in Tables 9 and 10 do not apply. There are no regeneration requirements for intermediate cuts, as per FPPR section 44 (3) (h) and (i), which provides an exemption from the requirement to establish a free growing stand. As per FPPR section 44 (4), a person who harvests timber for the reasons referred to in subsection (3) (h) and (i) must ensure that, for a period of 12 months after completion of harvest, the area on which timber harvesting was carried out conforms to the stocking standards specified in FPPR section 16 (4) for the area.

The following sections will discuss single stem harvest standards and outline the situations or circumstances when they will be applied.

13.4.2 Application of Single Stem Harvest Standards

Single stem harvesting will apply to areas contributing to timber supply.

13.4.3 Situations and Circumstances

13.4.3.1 Intermediate Harvest

The single stem harvest is intermediate to the final harvest and will be considered an 'intermediate harvest'. The temporal scale, or timing of the final harvest, is dependent on the constraints placed on the land base and the associated management objectives.

For the purposes of FPPR section 44 (3) (h), the removal of individual trees may apply in the following areas:

- Riparian management zones;
- Visually constrained areas that have exceeded or will exceed visual quality objectives given proposed harvesting and/or the viewscape is critical to a recreation or other feature and/or within designated scenic areas (preservation, retention);
- Areas of high traditional use by First Nations and a high incidence of culturally modified trees that would eliminate the use of a clearcut silviculture system but would allow some volume extraction without compromising the cultural values present;
- Watersheds within Enhanced Forestry Zones (EFZ), as designated by the Vancouver Island Land Use Plan, Higher Level Plan Order (effective December 1, 2000), that have exceeded or will exceed Equivalent Clearcut Area (ECA) limits given proposed harvesting. Single stem harvesting, with less than 30% basal area removal, does not factor into the ECA calculations;
- Windthrow management on block boundary edges that require feathering;
- Salvage windthrow adjacent to roads;
- Where western red cedar has been requested for traditional use, as per section 7.3.7;
- Areas that are constrained by terrain (field-verified unstable terrain polygons) that would preclude the use of a clearcut silviculture system but would allow some volume extraction without compromising slope stability;
- Protection of karst features, and
- Harvesting in areas where old growth representation is in deficit by expediting old growth characteristics in mid-seral timber types.

A sufficient amount of economically valuable species will remain for the final harvest, based on the original species composition of the pre-harvest stand. For intermediate harvests the following standards apply:

- (a) The basal area to be retained over the area of the standard unit must be greater than 40m²/ha for stems greater than 17.5cm dbh.
- (b) There will be a maximum 40% reduction in the pre-harvest basal area (m²/ha), or 30% reduction in an EFZ where the ECA limit has or will be exceeded.
- (c) The maximum canopy opening size will be < 0.25 ha, subject to safety concerns. This opening will be considered a canopy gap. Multiple openings can be identified within the same cutting permit. One opening does not necessarily constitute its own cutblock.
 - i) With opening under 0.1ha in size, no restocking standards apply.
 - ii) With openings >0.1 ha to 0.25ha, restocking standards apply with similar and ecologically appropriate species as consistent with the Even Aged Stocking Standards identified in Appendix 1. This will help mitigate forest health and timber supply risk going forward.
- (d) Pre-harvest and planned post-harvest stand composition will be documented in a rationale.
- (e) Post-harvest species composition will be representative of the pre-harvest stand composition, where practicable.
- (f) A Qualified Professional will oversee the pre and post harvest operations to ensure the Intermediate Cutting objectives are met.
- (g) A Qualified Professional will ensure the forest cover is reported to the Ministry within the designated RESULTS reporting dates.
- (h) Leave tree form, health and vigor will be representative of the original stand condition as per the pre-harvest cruise compilation.
- (i) Trees required to be retained for stocking purposes will be both a commercially valuable and an ecologically suitable coniferous species.
- (j) The quality and distribution of retained trees must be to a level that will ensure the area will remain adequately stocked for a period of 12 months following the completion of harvest (FPPR section 44 (4)) and has future growth potential, considering the objectives of the site and the health and vigor of the existing stand.
- (k) A component of stand structures suitable for wildlife habitat (e.g. snags, broken tops, large organic debris and veteran trees) may be left in the post-harvest stand and will contribute to the residual basal area if they are considered to still be living. If the tree is considered dead, then it will not contribute to the post-harvest stand. Snags (danger trees) determined to be hazardous to crews will be felled.
- (l) Post-harvest stand will have a density and species composition consistent with the pre-harvest stand that is greater than 17.5cm DBH.

Table 11: Intermediate Cut Stocking Standards

Intermediate Cut Stocking Standards																		
MoF ID# / SU#	BEC subzone & variant	Site Series	Ecologically Suitable Species												Stocking		Regen Date (yrs)	
			1	Min Ht	2	Min Ht	3	Min Ht	4	Min Ht	5	Min Ht	6	Min Ht	Target (sph)	Min (sph)		
	CWHvh1	All Int Cut OG**	Cw, Hw, Yc, Pl, Ba, Ss														>40m ² basal area	n/a
	CWHvm1	All Int Cut OG**	Cw, Hw, Fd, Ba, Ss, Yc, Pl, Hm														>40m ² basal area	n/a
	CWHvm2	All Int Cut OG**	Cw, Yc, Hw, Fd Ba, Hm, Ss, Pl, Pw														>40m ² basal area	n/a

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

Footnote Reference Guide for FSP Stacking Standards

Table 12: Footnotes for intermediate cutting stocking standards.

Footnote #	Footnote	Footnote #	Footnote	
	Conifer Tree Species			
"Ba" means amabilis fir;	1	suitable on elevated microsities	40	risk of redheart damage in areas subject to cold winter outflow winds
"Bg" means grand fir;	2	retired July 2017	41	limited by poorly drained soils
"Bl" means subalpine fir;	3	suitable on coarse-textured soils	42	suitable on sites with a fresh soil moisture regimes
"Bp" means noble fir;	4	suitable medium-textured soils	43	retired July 2017
"Cw" means western red cedar;	5	footnote retired	44	suitable in areas of strong maritime influence
"Fd" means Douglas-fir;	6	suitable on nutrient-very-poor sites	45	suitable in areas of strong continental influence
"Hm" means mountain hemlock;	7	suitable on nutrient-medium sites	46	use resistant seedlot south of the Dean Channel
"Hw" means western hemlock;	8	suitable on steep slopes	47	risk of balsam wooly adelgid
"Lt" means tamarack;	9	suitable on warm aspects	48	risk of browsing by deer
"Lw" means western larch;	10	suitable on cool aspects	49	retired November 2010
"Pa" means whitebark pine;	11	suitable on crest slope positions	50	restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
"Pl" means lodgepole pine;	12	suitable on cold air drainage sites	51	retired July 2017
"Pw" means white pine;	13	suitable at upper elevations	52	suitable on sheltered microsities with deep soil
"Py" means ponderosa pine;	14	suitable at lower elevations	53	minor component
"Sb" means black spruce;	15	suitable in the northern portion of biogeoclimatic unit	54	retired July 2017
"Se" means Engelmann spruce;	16	suitable in the southern portion of biogeoclimatic unit	55	retired July 2017
"Ss" means Sitka spruce;	17	suitable in the western portion of biogeoclimatic unit	69	suitable at upper elevations of the biogeoclimatic unit only when used in the southern portion of the biogeoclimatic unit
"Sw" means white spruce;	18	suitable in the eastern portion of biogeoclimatic unit	**	All site series, intermediate cut, old growth/second growth, standard applicable to layer 1 trees.
"Sx" means hybrid spruce or interior spruce;	19	retired July 2017		
"Sxs" means hybrid Sitka spruce;	20	retired July 2017		
"Sxw" means hybrid white spruce;	21	retired July 2017		
"Yc" means yellow cedar.	22	suitable in the southern Gardner Canal-Kitlope area		
Broadleaf Tree Species	23	retired July 2017		
"Acb" means balsam poplar;	24	suitable in wetter portion of biogeoclimatic unit		
"Act" means black cottonwood;	25	retired July 2017		
"At" means trembling aspen;	26	suitable minor species on nutrient poor sites	#	Broadleaf Management Constraints
"Dr" means red alder;	27	partial high-canopy shade required for successful establishment		
"Ep" means common paper birch;	28	limited by moisture deficit	a	productive, reliable, and feasible regeneration option
"Mb" means bigleaf maple;	29	risk of heavy browsing by moose	b	limited in productivity, reliability and/or feasibility
"Qg" means garry oak;	30	retired November 2010		
"Ra" means arbutus;	31	must use of blister rust resistant stock.		
"Biogeoclimatic unit" or "BGC classification" means the zone, subzone, variant and site series described in the most recent	32	limited by growing-season frosts		
	33	footnote retired and replaced with footnote 'a'		
	34	risk of snow damage		
field guide published by the Ministry of Forests for the identification and interpretation of ecosystems, as applicable to a harvested area.	35	use resistant stock to mitigate risk of spruce weevil damage - See Ss Weevil Decision Tool: http://pubs.cif-ife.org/doi/abs/10.5558/tfc2013-042		
"MIN or "Min" means minimum.	36	retired July 2017		
	37	retired November 2010		
	38	footnote retired		
	39	retired July 2017		

14. Appendix 3- Review & Comment Summary

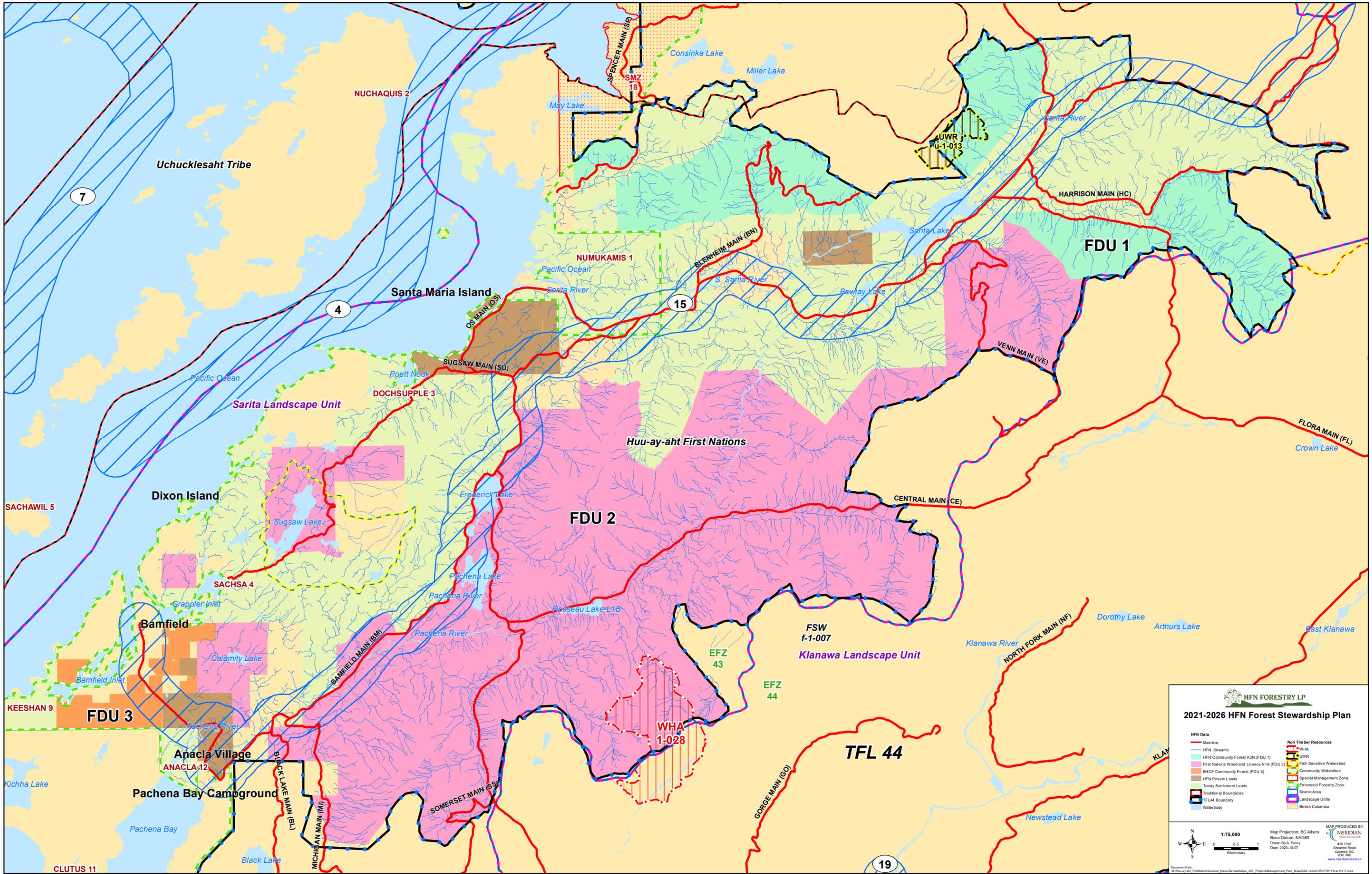
A complete summary of comments and review from stakeholders will be available upon final submission.

Table 13: Public stakeholder engagement, review and comment summary.

STAKEHOLDER		CONSULTATION PERIOD	
Organization	Representative(s)	Start Date	End Date
Alberni Valley Outdoor Club		July 29, 2024	August 26, 2024
Bamfield Millworks			
BC Hydro & Power			
Canadian Guide Outfitters Ltd.			
C'awak ʔqin Forestry			
Greenmax Resources			
Ministry of Forests, Lands and			
Natural Resource Operations			
Regional District of Alberni Clayoquot (ACRD)			
Telus			

Table 14: First Nations consultation summary

STAKEHOLDER		Active FCRSA or Other Agreements	CONSULTATION PERIOD		First Nation Territory Location
First Nation	Representative(s)		Start Date	End Date	
Tseshah First Nation					Consultation not required – no formal overlap with FSP area. Immediately adjacent.
Ditidaht First Nation					Consultation not required – no formal overlap with FSP area. Immediately adjacent.
Maa-nulth First Nation					Overlaps with FDU areas. 60-day consultation period required.



HFN FORESTRY LP

2021-2026 HFN Forest Stewardship Plan

HFN Data	Non Timber Resources
— Mainline	WHA
— HFN Streams	UWR
— HFN Community Forest KSN (FDU 1)	Fish Sensitive Watershed
— First Nations Woodland Licence N1A (FDU 2)	Community Watershed
— BHCF Community Forest (FDU 3)	Special Management Zone
— HFN Private Lands	Enhanced Forestry Zone
— Treaty Settlement Lands	Scenic Area
— Traditional Boundaries	Landscape Units
— TFL44 Boundary	Waterbody
— Waterbody	British Columbia

Map Scale: 1:75,000
 Map Projection: BC Albers
 Base Datum: NAD83
 Drawn By: A. Furey
 Date: 2020-10-07

MAP PRODUCED BY: MERIDIAN
 415 1610
 Skeena Road
 Courtenay, BC
 V9R 1M0
 www.meridianforest.ca