

SOUTH ISLAND NATURAL RESOURCE DISTRICT

2023 West Coast Forest Stewardship Plan

B.C. Timber Sales, Strait of Georgia Business Area

Revised to:

June 13 , 2023



BCTS

BC Timber Sales
Strait of Georgia

Submitted: June 14, 2023

FSP #: **892**

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1. APPLICATION OF THIS FSP

FRPA s. 3(4):

This Forest Stewardship Plan (FSP) applies to the following:

Licences	Licence Held By	Applicable FDU(s)
N/A - Operations within: Pacific TSA Arrowsmith TSA	BC Timber Sales – Strait of Georgia Business Area <i>South Island Operations</i>	All
Non-Replaceable Forest Licence A94022	Cisaa Forestry Corporation (subsidiary of Tseshaht First Nation)	Sproat Lake, Cous, Nahmint
First Nations Woodland Licence N1C	Cisaa Forestry Corporation (subsidiary of Tseshaht First Nation)	Sproat Lake, Cous

2. MAP

FRPA s. 5(1)(a) and Forest and Planning Practices Regulation (FPPR) s. 14:

The FSP Maps show the boundaries of the forest development units (FDUs) under this FSP. The maps also show the areas that are excluded from the FDUs and from this FSP. Any roads or road corridors identified on the British Columbia, Canada and Maa-nulth consensus maps dated March 11, 2005 (or as subsequently amended) that have been excluded from Maa-nulth treaty land are included in the FDU. Refer to Appendix 2 for the FSP Maps.

3. TERM AND COMMENCEMENT OF THE FSP

Forest and Range Practices Act (FRPA) s.6(1)(a) and (2): The date of submission of this Forest Stewardship Plan (FSP) is September 13, 2022. The term of this FSP is five years, beginning on the commencement date.

FRPA s.6(1)(b):

The commencement date for this FSP is **the date specified in the District Manager Decision Letter**. This FSP may be extended after the commencement date according to applicable legislation.

4. DESIGNATIONS IN EFFECT AT DATE OF SUBMISSION OF THIS FSP

FPPR s.14(3) and 14(4):

The FSP maps show the designations and requirements described in **FPPR s.14(3)** that are in effect as of the date of FSP Submission, including, for ease of reference, the designations listed below.

Table 1: Designations in Effect

Designation	FDU	Date Designated
<i>FPPR 14 (3)(a): Ungulate Winter Ranges</i>		
U1-013: Tag #: 27, 28, 29, 30, 31, 32, 33, 34, 35, 36 37, 38, 39, 40, 41, 42, 43, 44, 48, 49, 50, 56, 59	Cous Nahmint Sproat	October 18, 2004 June 13, 2014
U1-017: Tag #12	Effingham	November 26, 2003
<i>FPPR 14 (3)(b): Wildlife Habitat Areas</i>		
1-004 Brand Creek (species: Marbled Murrelet)	Effingham	December 22, 2005
1-006 Nahmint (species: Data Sensitive)	Nahmint	February 10, 2005
1-030 Snow Creek (species: Marbled Murrelet)	Sproat	January 15, 2003
1-031 Two Rivers (species: Marbled Murrelet)	Sproat	January 15, 2003
1-053 No Name Lakes (species: Marbled Murrelet)	Effingham	December 22, 2005
1-054 Black Peaks (species: Marbled Murrelet)	Effingham	January 24, 2008
1-058 Nahmint Firebreak (species Marbled Murrelet)	Nahmint	May 1, 2015
1-060 Lucky Lake (species: Marbled Murrelet)	Toquart	December 22, 2005
1-066 Skull Lake (species: Marbled Murrelet)	Effingham	December 22, 2005
1-067 Lucky Creek (species: Marbled Murrelet)	Toquart	December 22, 2005
1-271 Cous Creek (species: Red-legged Frog)	Cous	January 21, 2010
1-458 Nahmint Avalanches (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-459 Nahmint Mountain Base (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-460 French Falls (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-461 Mt Klitsa Base (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-462 Beverly Creek (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-463 Nahmint Lake (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-464 Mint Peak (species: Marbled Murrelet)	Nahmint	May 1, 2015
1-465 Cous Creek Source (species: Marbled Murrelet)	Cous	May 1, 2015
1-466 Cous Tributary (species: Marbled Murrelet)	Cous	May 1, 2015
1-467 Macktush Ridge (species: Marbled Murrelet)	Cous	May 1, 2015
1-468 Macktush Valley (species: Marbled Murrelet)	Cous	May 1, 2015

Designation	FDU	Date Designated
1-470 Macktush South (species: Marbled Murrelet)	Cous	May 1, 2015
1-471 Macktush Creek Outlet (species: Marbled Murrelet)	Cous	May 1, 2015
<i>FPPR 14 (3)(c): Fisheries Sensitive Watersheds</i>		
F-1-002 Effingham River	Effingham	December 28, 2005
F-1-008 Macktush Creek	Cous	December 28, 2005
F-1-010 Nahmint River	Nahmint	December 28, 2005
<i>FPPR 14 (3)(d): Lakeshore Management Zones</i>		
No Lakeshore Management Zones are established under the Government Actions Regulation for the FDU's under this FSP.		
<i>FPPR 14 (3)(e): Scenic Areas</i>		
2 (Highway 4 from Parksville to Ucluelet and Tofino) 3 (Sproat Lake) 4 (Alberni Inlet from Port Alberni to Bamfield) 5 (Nahmint River Valley) 7 (Barkley Sound, including views between Tzartus Island and Toquart Bay) 8 (Coastal shorelands between Toquart Bay and Ucluelet) 9 (Toquart River Valley to the North end of Toquart Lake) 10 (Effingham Inlet, Pipestem Inlet and Uchucklesaht Inlet) 15 (Bamfield Road from Port Alberni to Bamfield)	Cous Nahmint Sproat Barkley Sound Islands, Effingham Toquart Sarita	November 13, 1998 Established in GAR order December 15, 2005, Updated December 14, 2011
<i>FPPR 14 (3)(f): Lake Riparian Class L1-B</i>		
There are no lakes within the FDU's under this FSP designated by the Minister as Riparian Class L1-B.		
<i>FPPR 14 (3)(g): Community Watersheds</i>		
Sproat Community Watershed	Sproat	June 15, 1995
<i>FPPR 14 (3)(h): Old Growth Management Areas</i>		
OGMAs (Sproat Landscape Unit Plan)	Sproat	July 18, 2005
S.8 OGMA Notice (Barkley Sound)	Effingham Toquart	January 24, 2005
<i>FPPR 14(4): Declared Areas</i>		
The FSP Mapping identifies cutblocks and roads subject to a Block Declaration submitted as minor amendments to previous FSPs.	Cous, Nahmint Sproat	

5. AREAS WITHIN FDUs SUBJECT TO A ROAD PERMIT OR TIMBER SALE LICENCE BUT NOT SUBJECT TO THIS FSP

FPPR s. 14 (3)(j) and (k): The FSP Maps identify the areas that are within the outer boundaries of the FDU, but subject to a road permit, cutting permit or timber sale licence.

6. STOCKING STANDARDS AND S. 197(5) OF THE FRPA

Applies to FDUs: All

In accordance with *FRPA s. 197(5)*, the holder(s) of this FSP may specify in a written notice to Government that stocking standards approved as part of the FSP apply to cutblocks harvested prior to the commencement of this FSP by the holder(s) of the FSP.

7. RESULTS AND STRATEGIES

FRPA s. 5(1)(b): Objectives set by government (*FPPR s.1*)

7.1 PROVINCIAL NON-SPATIAL OLD GROWTH OBJECTIVES

The Order Establishing Provincial Non-spatial Old Growth Objectives (effective June 30, 2004) (the Order) clarifies the amount of area available for timber harvesting. This order supplements, but does not replace, FPPR S. 9.

Provincial Non-Spatial Old Growth Objectives

1. In this strategy:
 - "Non-contributing land base"** means the non-contributing land base as described in the Timber Supply Review for the Arrowsmith Timber Supply Areas (effective date September 1, 2002), or the non-contributing land base described in the Tree Farm License (TFL) 44 Management Plan No. 4, dated September 2002¹;
 - "Order"** means the Order Establishing Provincial Non-Spatial Old Growth Objectives (effective June 30, 2004);
 - "retention targets"** means those retention targets, by biogeoclimatic (BEC) variant, that are specified in the Order Establishing Provincial Non-Spatial Old Growth Objectives; and
 - "draft OGMA"** are those old growth management areas identified consistent with provision A8 of the Order and provisions 2(c) and 6 of the Implementation Policy².
2. Where draft OGMAs are identified, the holder(s) of the FSP in accordance with the written notice specifying that the draft OGMAs meet the intent of the Order:
 - a) Will maintain or recruit old growth forest attributes within draft OGMAs; and
 - b) Will authorize or carry out road construction or timber harvesting or other such operations within draft OGMAs in accordance with direction in the written notice specifying that draft OGMAs meet the intent of the non-spatial Order for the landscape unit; and
 - c) May authorize or carry out road construction or timber harvesting within draft OGMAs, provided that replacement areas are selected by the holder(s) of the FSP that:
 - i. are within the same biogeoclimatic variant;

	<ul style="list-style-type: none"> ii. have similar or more suitable ecological attributes for conserving biological diversity than the area being removed from draft OGMA; iii. such replacement will not result in the insufficient suitable forest being available to meet the retention targets. <p>3. Where amendments are made to draft OGMA as provided for in subsection 2(c) (iii), the holder(s) of the FSP will provide copies of the replacement area to the applicable Provincial ministry responsible for establishing and amending OGMA.</p> <p>4. 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> <p>5. In addition to subsection (2), where there are no draft OGMA, the holder(s) of the FSP, in concert with holders of major licences operating in the same FDU, will:</p> <ul style="list-style-type: none"> a) not carry out or authorize timber harvesting or road construction in areas of old forest within the non-contributing land-base in that FDU, to the extent necessary to meet the specified retention targets; and b) if the amount of old forest in the non-contributing land-base is insufficient to meet the specified retention target, determine if the identified shortfall can be achieved in the old forest in the timber harvesting land-base and in the mature forest in the non-contributing land-base, and <ul style="list-style-type: none"> i.) not carry out or authorize timber harvesting or road construction in areas of mature forest assessed to have old forest structure in the non-contributing land-base; and/or ii.) not carry out or authorize timber harvesting or road construction in areas of old forest within the timber harvesting landbase to the extent necessary to meet the specified retention targets.
	<p>FDUs to which these R/S apply: Cous, Nahmint, Effingham, Toquart, Barkley Sound Islands, Sarita</p>
	<p>¹The application of this FSP is for licenses wholly external to TFL 44; however, for the purposes of this FSP, the definition of non-contributing land-base includes non-contributing land base as described in Tree Farm License (TFL) 44 Management Plan no. 4, dated September 2002, as was in effect at the time the Order Establishing Provincial Non-Spatial Old Growth Objectives came into force (June 30, 2004). This definition of non-contributing land-base applies to FSP licenses within the Pacific TSA which were derived from TFL 44 in 2009.</p> <p>² The Implementation Policy provides guidance for the implementation of the provincial order for non-spatial old growth objectives.</p>

7.2 VANCOUVER ISLAND LAND USE PLAN

The applicable Vancouver Island Land Use Plan (VILUP) Higher Level Plan Order Objectives for the Special Management Zones (SMZs) and Enhanced Forestry Zones (EFZs) are listed in the following tables and described below.

Table 2: VILUP Special Management Zones

Special Management Zone	Applicable HLP Objective	FDU
SMZ 13 – Nahmint	1, 2, 4, 5	Nahmint
SMZ 14 – Barkley Sound	1, 2	Barkley Sound Islands Effingham Toquart Sarita
SMZ 17 – Strathcona-Taylor	1, 2	Sproat

Table 3: VILUP Enhanced Resource Management Zones

Enhanced Resource Management Zone	Applicable HLP Objective	FDU
EFZ 36 – Cous	7, 8, 9, 9.1	Cous
EFZ 38 – Effingham ¹	7, 8, 9, 9.1	Effingham

7.2.1 OBJECTIVE 1(A) – MATURE AND OLD SERAL

Legislative Reference:

Sustain forest ecosystem structure and function in SMZs, by:

- a) *Creating or maintaining stand structures and forest attributes associated with mature and old forests subject to the following:*
 - i. *The target for mature seral forest should range from one quarter to one third of the forested area of each SMZ; and*
 - ii. *In the SMZs where the area of mature forest is currently less than the mature target range referred to in (i) above, the target amount of mature forest must be in place within 50 years.*

VILUP – Obj 1a Mature	<p>1. In this result:</p> <p>“areas” means the Net Area to be Reforested (NAR) plus the area occupied by Permanent Access Structures (PAS);</p> <p>“spatially defined areas” are areas of mature² or older³ forest that can be mapped at a 1:20,000 scale.</p>
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¹ Objectives 7, 8, 9, and 9.1 apply save and except for the parts of those zones, which are designated as community watersheds as defined in section 41(8) of the *Forest Practices Code of British Columbia Act*.

	<ol style="list-style-type: none"> 2. The holder(s) of the FSP will only authorize or carry out harvesting such that no less than 25% of the forested area of SMZ 13 is retained as mature or old seral age classes. 3. The holder(s) of the FSP will only authorize or carry out the harvesting such that no less than 25% of the forested area of the portion of the FDUs covered by SMZ14 and SMZ17 is retained as mature or old seral age classes. 4. In addition to subsections 2 and 3, where the area of mature or old seral forest within the portions of the FDUs covered by SMZ 13, 14 and 17 is currently less than 25%, the FSP holder(s) will ensure that mature and old seral forest within the portions of the FDUs covered by SMZs 13, 14 and 17 is 25%, or more, within 50 years. 5. Where applicable, the holder(s) of the FSP will consult with forest tenure holders to ensure that this objective is being met for SMZ 13, 14 and 17.
	<p>FDUs to which these R/S apply: Nahmint, Barkley Sound Islands, the portions of Effingham and Toquart in SMZ 14, the portion of Sproat within SMZ 17, Sarita</p>

7.2.2 OBJECTIVE 1(B) – STRUCTURAL FOREST ATTRIBUTES

Legislative Reference:

Sustain forest ecosystem structure and function in SMZs by:

- a) *Retaining, within cutblocks, structural forest attributes and elements with important biodiversity functions.*

VILUP Obj 1b - Structural Forest Attributes	<ol style="list-style-type: none"> 1. In this strategy, "structural forest attributes with important biodiversity functions" includes but is not limited to snags, wildlife trees, and downed logs. 2. The holder(s) of the FSP will: <ol style="list-style-type: none"> a) design cutblocks in a manner that is consistent with retaining structural forest attributes and elements with important biodiversity functions that exist in each of the following: <ol style="list-style-type: none"> i. wildlife tree patches/wildlife tree retention areas; ii. no-work zones; iii. riparian management areas; iv. other potential leave areas; that are generally within cutblock boundaries; and b) carry out harvesting or forest practices only if the forest practices are consistent with the design for the cutblock referred to in paragraph (a); and c) enter into a timber sale licence or cutting permit only if the licence or permit is consistent with
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² The mature seral forest is defined as generally 80 to 120 years old or older, depending on species and site conditions. The structure of mature seral forests generally includes canopies that vary vertically or horizontally, or both. The age and structure of the mature seral stage will vary significantly by forest type and from one biogeoclimatic zone to another.

³ The old seral forest is defined as generally greater than 250 years old, containing live and dead (downed and standing) trees of various sizes, including large diameter trees, and of various tree species, including broad-leaved trees. The structure of old seral forest varies significantly by forest type and from one biogeoclimatic zone to another.

	the design for the cutblock referred to in paragraph (a).
	FDUs to which these R/S apply: Nahmint, Barkley Sound Islands, the portions of Effingham and Toquart in SMZ 14, and the portions of Sproat in SMZ 17, and Sarita

7.2.3 OBJECTIVE 1(c) – SILVICULTURE SYSTEMS

Legislative Reference:

Sustain forest ecosystem structure and function in SMZs by:

Applying a variety of silvicultural systems, patch sizes and patch shapes across the zone, subject to a maximum cutblock size of 5 ha if clearcut, clearcut with reserves or seed tree silvicultural systems are applied, and 40 ha if shelterwood, selection or retention silvicultural systems are applied.

VILUP obj 1c – Silviculture Systems	<p>1. In this result:</p> <p>“shelterwood silviculture system” is defined as a system where the old stand is removed in a series of cuttings to promote the establishment of a new even-aged stand under the shelter of the old one. The intent is to protect and shelter the developing regeneration;⁴</p> <p>“selection silviculture system” includes single tree and group selection and is defined as a system that removes mature timber either as single scattered individuals or in small groups at relatively short intervals, repeated indefinitely, where an uneven-aged stand is maintained. Regeneration should occur throughout the life of the stand with pulses following harvest entries. This system depends on recruitment of trees into successive age classes over time and the predictable yield from merchantable age classes;⁵</p> <p>“retention silviculture system” is defined as sustaining the major ecological conditions and processes characteristic of a forest by maintaining a level of stand structure, complexity, and diversity. It is designed to retain individual trees or groups of trees to maintain structural diversity over the area of the cutblock for at least one rotation, and 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;⁶</p> <p>“Clearcut silviculture system” is defined as a system managing successive even-aged stands by cutting the entire stand of trees at planned intervals (the rotation) then regenerating and tending a new stand in place of the old;⁷</p> <p>“Seed tree silviculture system” is defined as a system where the entire cutting unit is managed as it is with clearcut systems except that, for a designated time period, harvesting excludes those</p>
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⁴ Silvicultural Systems Handbook for British Columbia, Ministry of Forest, Forest Practices Branch, March 2003.

⁵ Silvicultural Systems Handbook for British Columbia, Ministry of Forest, Forest Practices Branch, March 2003.

⁶ Silvicultural Systems Handbook for British Columbia, Ministry of Forest, Forest Practices Branch, March 2003.

⁷ Silvicultural Systems Handbook for British Columbia, Ministry of Forest, Forest Practices Branch, March 2003.

	<p>trees selected for the purpose of supplying seed.</p> <p>2. The holder(s) of the FSP will:</p> <ul style="list-style-type: none"> a) design cutblocks in a manner that is consistent with: <ul style="list-style-type: none"> i. establishing a variety of silvicultural systems and patch sizes and shapes across the SMZ; and ii. for shelterwood, selection, or retention silvicultural systems⁸: <ul style="list-style-type: none"> A. maintaining varying levels of retention associated with cutblocks based on a consideration of the site-specific site conditions and the forest values; and B. limiting the Net Area to be Reforested (NAR) to 40 hectares except as provided in FSP section 7.2.4 Objective 2 – Salvage; and iii. for clearcut, clearcut with reserves or seed tree silvicultural systems, limiting the NAR to 5 hectares except as provided for in FSP section 7.2.4 Objective 2 – Salvage; and b) carry out forest practices only if the forest practices are consistent with the design for the cutblock referred to in paragraph (a); and c) enter into a timber sale licence or cutting permit only if the licence or permit is consistent with the design for the cutblock referred to in paragraph (a).
	<p>FDUs to which these R/S apply: Nahmint, Barkley sound Islands, the portions of Effingham and Toquart in SMZ 14, and the portions of Sproat in SMZ 17, and Sarita.</p>

7.2.4 OBJECTIVE 2 – SALVAGE

Legislative Reference:

Despite subsection 1(c) above, cutblocks larger than 5 or 40 ha as the case may be, may be approved if harvesting is being carried out to recover timber that was damaged by fire, insects, wind or other similar events and wherever possible, the cutblock incorporates structural characteristics of natural disturbances.

VILUP Obj 2 - Salvage	<p>1. In this result, if timber harvesting is to be carried out in a cutblock to recover timber damaged by fire, insects, wind or other similar events, the holder(s) of the FSP may plan the cutblock to have a NAR that exceeds:</p> <ul style="list-style-type: none"> a) 40 hectares for shelterwood, selection, or retention silvicultural systems; and b) 5 hectares for clearcut, clearcut with reserves or seed tree silvicultural systems <p>provided that the cutblock plan incorporates structural characteristics of natural disturbances into the cutblock where safe, and practicable.</p>
	<p>FDUs to which these R/S apply: Nahmint, Barkley Sound Islands, the portions of Effingham and Toquart in SMZ 14, and the portions of Sproat in SMZ 17, and Sarita</p>

⁸ A Retention silvicultural system is as described in the document “The Retention System: Maintaining Forest Ecosystem Diversity” from the Silvicultural Systems Program Notes to the Field. Forest Practices Branch March 2002.

7.2.5 OBJECTIVES 4 AND 5 – RARE ECOSYSTEMS

Legislative Reference:

Objective 4: Maintain late-successional habitat elements and attributes of biodiversity in forested ecosystems with emphasis on regionally rare and underrepresented ecosystems, by retaining old seral forest at the site series/surrogate level of representation.

Objective 5: Retain late-successional habitat elements and attributes of biodiversity in patches of variable size.

1. In this strategy:

“old seral forest” is defined in the Vancouver Island Land Use Plan Higher Level Plan Order (VILUP HLP) as generally greater than 250 years old, containing live and dead (downed and standing) trees of various sizes, including large diameter trees, and of various tree species, including broad-leaved trees. The structure of old seral forest varies significantly by forest type and from one biogeoclimatic zone to another;

“Regionally rare ecosystem” is defined as a red- or blue-listed ecological community as defined and listed by the Conservation Data Centre; and,

“Underrepresented ecosystem” is defined as an ecosystem (site series or surrogate) that makes up less than 2% of a landscape unit.
2. Regarding the VILUP HLP Objective 5, the holder(s) of the FSP will:
 - a) design cutblocks to retain, within and adjacent to cutblocks, late successional habitat elements and attributes of biodiversity⁹ in old seral forest in:
 - i. Wildlife Tree Retention Areas (WTRAs);
 - ii. riparian management areas; or
 - iii. other areas reserved from harvesting;that are of various sizes and which will include site series representative of the areas to be harvested and are internal or immediately adjacent to the perimeter of the cutblock. Where old seral forest is not present at the site level, the oldest available age class will be prioritized for retention; and
 - b) carry out forest practices only if the forest practices are consistent with the design for the cutblock referred to in paragraph (a); and
 - c) enter into a timber sale licence or cutting permit only if the licence or permit is consistent with the design for the cutblock referred to in paragraph (a).
3. Regarding the VILUP HLP Objective 4 and 5, the holder(s) of the FSP will
 - a) will retain old seral forest with emphasis on regionally rare and underrepresented ecosystems at the site series level of representation in the area of SMZ 13 by not constructing roads or

⁹ This includes, but is not limited to: large diameter (>60 cm) live, decaying and dead standing trees (providing nest and cavity sites); downed wood, including large diameter pieces (50 to 150 cm); deciduous broad-leaved trees, both in riparian and upland areas.

harvesting cutblocks in draft OGMA (as per Appendix 2 map) where the minimum target for emphasis is defined in the Table 4 below;

- b) will not authorize or carry out harvesting within the draft OGMA, unless it is for the purposes of the following:
 - i. preventing insect infestation or diseases posing a significant threat to forest health;
 - ii. felling trees to remove a safety hazard along cutblock boundaries or within road right-of-ways, recreation sites or trails;
 - iii. timber harvesting for First Nations' cultural purposes;
 - iv. wind firming treatments along a boundary;
 - v. road or bridge construction for access to resource values beyond or adjacent to the draft OGMA, and no other practicable option for the road or bridge location exists;
 - vi. construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure, and will affect the OGMA by less than 0.5 hectares in total;
 - vii. road maintenance, deactivation, or brushing and clearing on existing roads under active tenure within the road permit area; or,
 - viii. felling to provide guyline clearance, or tailhold anchor trees.

- c) Where adjustments to draft OGMA remove greater than 0.5 hectares, the FSP holder(s) will identify replacement forest in consultation with the Nahmint Landscape Unit Planning Ministry representative, provided it:
 - i. is within the same:
 - 1. biogeoclimatic variant; or,
 - 2. site series if harvesting impacts a Regionally rare ecosystem or Underrepresented ecosystem;
 - ii. has similar or more suitable ecological attributes for conserving biological diversity than the area being removed from draft OGMA;
 - iii. removal and replacement areas will be field verified to ensure the accuracy of the site series inventory information;

- d) Draft OGMA boundary adjustments resulting from the activities listed in (b), or changes of any size made under (c), and the replacement forests, if applicable, will be communicated to the District Manager on an annual basis including updated spatial files of amended OGMA boundaries

FDUs to which these R/S apply: Nahmint

Table 4. Nahmint LU Site Series Rarity and Minimum protection targets for VILUP Objectives 4 and 5¹⁰.

BEC Variant	Site Series	Rarity	Minimum target for emphasis ¹¹
CWH vm1	02	Underrepresented ecosystem	24
	03	Regionally rare ecosystems	
	04		
	05		
	06		
	07		
	08	Underrepresented and regionally rare ecosystems	
	09		
	10		
	14	Underrepresented and regionally rare ecosystem	
CWH vm2	02	Underrepresented ecosystem	25
	03	Regionally rare ecosystems	
	04		
	05		
	06		
	07		
	08	Underrepresented and regionally rare ecosystem	
	09	Underrepresented ecosystems	
CWH xm2	01	Underrepresented and regionally rare ecosystems	13
	04		
	05		
MH mm1	01	Underrepresented ecosystems	45
	03		
	04		
	05		
	06		
	08		
	09		

¹⁰ Source: Results of analysis provided Nahmint Landscape Unit planning Working Group

¹¹ Percent of total site series area to be protected. Basis for draft OGMAs in 3) a)

7.2.6 OBJECTIVE 7 – SHORT-TERM TIMBER AVAILABILITY

Legislative Reference:

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.

VILUP Obj 7 – Short-term Timber Availability	<ol style="list-style-type: none"> 1. In this result, 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; and c) are adjacent¹² to areas that are greened-up as defined in HLP Objective 7 (b)(i) and (ii); 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 NAR; and 3. In order 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 FSP section 7.2.7 Objective 8 – Hydrological Impacts; b) results/strategies in FSP section 7.4.2 Wildlife (FPPR S.7), General Wildlife Measures specified under UWR #U-1-013, dated October 18, 2004, and General Wildlife Measures specified under UWR #U1-017, dated November 26, 2003; and c) results/strategies in FSP section 7.4.3 Water, Fish, Wildlife and Biodiversity within Riparian Areas (FPPR S. 8); d) results/strategies in FSP section 7.4.6 Wildlife and Biodiversity – Stand Level (FPPR S. 9.1); e) results/strategies in FSP section 7.7.1 Visual Quality Objectives for the South Island District; and f) FPPR s. 70 (1) for recreation values identified as resource feature as per Government Actions Regulation s. 5(1)(f).
	FDUs to which these R/S apply: Cous, the portion Effingham within EFZ 38

¹² "Adjacent" means an area that is sufficiently close to a cutblock that, due to its location, could directly impact on, or be impacted by, a forest practice carries out within the cutblock – from **FPPR s. 65(1)**.

7.2.7 OBJECTIVE 8 – HYDROLOGICAL IMPACTS

Legislative Reference:

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

VILUP 8 – Hydrological	<p>1. In this strategy, in order to avoid or mitigate adverse hydrological impacts which may result from the practices referred to in FSP section 7.2.6 Objective 7 – Short-term Timber Availability within the Effingham River, Mactush Creek Fisheries Sensitive Watersheds, timber harvesting and road construction activities authorized or carried out by the holder(s) of the FSP will be consistent with the results/strategies in FSP section 7.7.2 Objectives for Fisheries Sensitive Watersheds.</p>
	<p>FDUs to which these R/S apply: The portion of the Effingham and Cous within EFZs within the Fisheries Sensitive Watersheds established by GAR Order dated December 28, 2005</p>

7.2.8 OBJECTIVES 9 AND 9.1 – SPECIES COMPOSITION

Legislative Reference:

Objective 9: When proposing the species composition for the purposes of OPR s. 39(3)(o), a person may, pursuant to OPR s. 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.

VILUP 9 and 9.1 – Species Composition	<p>1. In this result: “variant” is defined as a subset of a Biogeoclimatic zone and subzone as determined using the <i>Field Guide for Site Identification and Interpretation for the Vancouver Forest Region</i>.</p> <p>2. For those areas that are harvested within an Enhanced Forestry Zone (EFZ) during the term of this plan, the holder(s) of the FSP will ensure that not more than 20% of the total Net Area to Reforest (NAR) for all of the cutblocks in a variant will be reforested using a single species that is ecologically suited to the area, using a preferred species as set out in the applicable stocking standards.</p>
	<p>FDUs to which these R/S apply: Cous, the portion Effingham within EFZ 38</p>

7.3 SPROAT LAKE LANDSCAPE UNIT OBJECTIVES

The Order to establish the Sproat Lake Landscape Unit and Objectives came into effect on July 18, 2005 under Section 4 of the *Forest Practices Code of British Columbia Act (FPC Act)*. Approved Old Growth Management Areas (OGMAs) and associated Objectives for this Landscape Unit were established under this Order. [[Link](#)]

7.3.1 OBJECTIVE 1 – OLD GROWTH MANAGEMENT AREAS

Legislative Reference:

- Maintenance or recruitment of old growth forests:
 Maintain or recruit old growth forests in established old growth managements areas (OGMAs), as*

shown on the attached Sproat Lake Landscape Unit map dated June 30, 2005, subject to subsection 2 below.

2. *Permissible Activities.*

a) *Minor OGMA boundary adjustments for operational reasons:*

To accommodate operational requirements for timber harvesting and road or bridge construction, boundaries of OGMAs that are 10 ha or greater in size may be adjusted, provided that:

- i. *the boundary adjustment does not affect more than 10 per cent of the area of the OGMA,*
- ii. *road or bridge construction is required to access resource values beyond or adjacent to the OGMA and no other practicable option for road or bridge location exists, and*
- iii. *suitable OGMA replacement forest of at least equivalent quantity is identified either (in order of priority) directly adjacent to, or in the same variant and landscape unit as the adjusted OGMA.*

In the case of ii) above, as an alternative to finding replacement area the licensee may permanently deactivate and rehabilitate a temporary road or bridge site within four years after construction.

b) *Other permissible activities:*

- i. *Boundary pruning of trees to improve wind firmness.*
- ii. *Timber harvesting to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMAs. Salvage within OGMAs will be done in a manner that retains as many old growth forest attributes as possible.*
- iii. *Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.*
- iv. *Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value wildlife trees) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements.*
- v. *Construction of rock quarries and gravel pits under authority of forest tenure where the development will be located immediately adjacent to existing roads under tenure and will affect the OGMA by less than 0.5 ha in total.*
- vi. *Intrusions, other than those specified that affect an OGMA by less than 0.5 hectares in total.*

OGMA replacement forest is required as a result of activities under 2b) above, if the total net change to the OGMA exceeds 0.5 ha in size. Replacement forest must be biologically suitable, of at least equivalent quantity and situated (in order of priority), either immediately adjacent to the existing OGMA, or in the same variant and landscape unit as the existing OGMA.

Sproat LUO Obj 1 – Old Growth	<p>1. In this result:</p> <p>“suitable OGMA replacement” means forest that is biologically suitable and is of at least equivalent quantity and is identified either (in order of priority) directly adjacent to the existing OGMA, or in the same variant and landscape unit as the adjusted OGMA.</p> <p>2. The holder(s) of the FSP will not carry out or authorize road construction or timber harvesting within OGMAs delineated as part of the Sproat Lake Landscape Unit Plan established July 18, 2005 except under the following circumstances, deemed “Permissible Activities”:</p> <p>a) to accommodate operational requirements for OGMAs that are 10 ha or greater in size provided that:</p>
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	<ul style="list-style-type: none"> i. a boundary adjustment does not affect more than 10% of the area of the OGMA; ii. road or bridge construction is required to access resource values beyond or adjacent to the OGMA and no other practicable option exists; and iii. suitable OGMA replacement is identified. <ul style="list-style-type: none"> b) timber harvesting to prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA's; c) salvage provided that it is done in a manner that retains as many old growth forest attributes as practicable; d) removal of danger trees, or brushing and clearing within the right-of-way on existing roads under active tenure for safety purposes; e) felling of trees for guyline clearance, tailhold anchor trees, (except high value wildlife trees) or danger trees along cutblock boundaries or within the right-of-way on new road/bridge alignments to meet safety requirements; f) construction of rock quarries and gravel pits where development will be located immediately adjacent to existing roads and will affect the OGMA by less than 0.5 ha in total; or g) intrusions that affect an OGMA by less than 0.5 ha in total. <ul style="list-style-type: none"> 3. The holder(s) of the FSP may authorize or carry out boundary pruning of trees to improve wind firmness within an OGMA. 4. Suitable OGMA replacement forest will be identified as a result of activities under S. 2 b), c), d), or e), of this strategy where the total net change to an OGMA exceeds 0.5 ha in size. 5. Boundary adjustments and OGMA replacement areas will be documented, mapped and submitted to the DDM at the end of each calendar year.
	FDUs to which these R/S apply: Sproat

7.3.2 OBJECTIVE 2 – WILDLIFE TREE RETENTION

Legislative Reference:

Maintain stand-level structural diversity, by retaining wildlife tree patches (WTPs).

The holder of an agreement under the Forest Act, except a woodlot licence agreement, who completes harvesting in one or more cutblocks, except minor salvage cutblocks, located within the LU during any 60 month period beginning on January 1 of any calendar year following the establishment of this objective, must ensure that, at the end of the 60 month period, the total area covered by wildlife tree retention areas that relate to the cutblocks, meets or exceeds the percent of the total area of the cutblocks by subzone presented in Table [4]. In addition:

- 1) WTPs must be well distributed across the BEC subzone.*
- 2) When designated at the operational site plan level, WTPs must be located within or immediately adjacent to a cutblock.*
- 3) No timber harvesting, including single tree selection is to occur within WTPs, except as noted in 4 below.*
- 4) Salvage of windthrown timber is permitted within WTPs where windthrow impacts 25% to 50% of the dominant or co-dominant stems. Salvage of windthrown timber and harvesting of remaining*

standing stems is permitted within WTPs where windthrow exceeds 50% of the dominant or co-dominant stems; or where forest health issues pose a significant threat to areas outside the WTP. Where salvage/harvesting is planned and authorized, suitable replacement WTP of at least equivalent quantity must be identified concurrently to achieve the retention target.

- 5) *WTPs should include, if present, remnant old-growth patches and live or dead veteran trees (except danger trees).*
- 6) *WTPs must include representative larger trees for the stand (dbh > average operational cruise) and any moderate to high value wildlife trees if available (excluding danger trees).*
- 7) *BEC subzones and variants will be determined by operational site plan information.*
- 8) *In WTPs with a likelihood of windthrow, pruning and/or topping may be carried out to maintain the integrity of the WTP.*

Sproat LUO Obj 2 – Wildlife Tree Retention

1. In this result:

“cutblock” means an area within which a tenure holder is authorized to harvest timber, as identified in a cutting permit, timber sale license or other cutting authority¹³;

“wildlife tree” means a tree that provides wildlife habitat and assists in the conservation of stand level biodiversity (*FPPR s. 1.1*);

“wildlife tree retention areas (WTRA)” means 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 (*FPPR s. 1.1*);

“wildlife tree patches (WTP)” is the same as **“wildlife tree retention areas (WTRA)”** which is defined in *FPPR s. 1(1)*.

2. When harvesting is completed in one or more cutblocks, except minor salvage cutblocks, during any 5 year period beginning on January 1 of any calendar year, the holder(s) of the FSP will ensure that, at the end of the 5 year period, the total area covered by WTRA(s) that relates to the cutblocks meets or exceeds the percent of the total area of the cutblocks by subzone presented in the following table:

Table 5: Wildlife Tree Retention by BEC Subzone in the Sproat Lake LU

Biogeoclimatic Subzone	% WTP requirement
<i>CWH mm (Coastal Western Hemlock, moist maritime)</i>	7
<i>CWH vm (Coastal Western Hemlock, very wet maritime)</i>	5

¹³ As defined in recently approved Provincial regulation:

<https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/west-coast/great-bear-rainforest/great-bear-rainforest-legal-direction-agreements>

<i>CWH xm (Coastal Western Hemlock, very dry maritime)</i>	12
<i>MH mm (Mountain Hemlock, moist maritime)</i>	0

3. The holder(s) of the FSP will ensure that:
 - a) WTPs are distributed across the BEC subzone;
 - b) WTPs area located within or immediately adjacent to a cutblock when designated at the operational site plan level;
 - c) no timber harvesting, including single tree selection, is allowed to occur within a WTP except:
 - i. salvage of windthrown timber within WTPs where windthrow impacts 25% to 50% of the dominant or co-dominant stems;
 - ii. salvage of windthrown timber and harvesting or remaining standing stems within WTPs where windthrow exceeds 50% of the dominant or co-dominant stems; or
 - iii. where forest health issues pose a significant threat to areas outside the WTP;
 - d) WTPs include, if present, remnant old-growth patches and live or dead veteran trees (except danger trees);
 - e) WTPs include representative larger trees (diameter at breast height (dbh) > average operational cruise) for the stand and any moderate to high value wildlife trees if available (except danger trees);
 - f) BEC subzones and variants will be determined by operational site plan information;
 - g) WTPs with a high likelihood of windthrow may be pruned or topped to maintain the integrity of the WTP.

4. Where timber harvesting is planned or authorized to occur subject to subsection 3(c) of this result, the licensee will specify one or more replacement WTPs 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:
 - a) the replacement WTP will be of equivalent age, forest structure, and area;
 - b) the replacement WTP will be located:
 - i. within the cutblock to which the original WTP was related; or,
 - ii. in an area contiguous to the cutblock to which the original WTP was related; or,
 - iii. in an area sufficiently close to the cutblock to which the original WTP was related that the wildlife trees could directly impact on, or be directly impacted by, a forest practice carried out in the cutblock;
 - c) the process to replace the WTP will:
 - i. include a rationale as part of a Site Plan prepared by a Qualified Professional outlining what was replaced and what was chosen as a replacement area prior to harvest commencement of the applicable cutblock;
 - ii. include 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\(3\)](#).

	<ol style="list-style-type: none"> The holder(s) of the FSP will authorize or carry out forest practices only if consistent with the design for the cutblock in paragraphs 2, 3, and 4 of this strategy. The holder(s) of the FSP will enter into a timber sale licence or cutting permit only if the licence or permit is consistent with the design for the cutblock referred to in paragraphs 2, 3 and 4 of this strategy. The percentage of cutblock Wildlife Tree Retention Area (WTRA) shall be determined as a percentage of the WTRA (ha.) divided by the Total Area Under Prescription (TAUP): $\%WTRA = \frac{WTRA (ha.)}{TAUP (ha.)}$
	FDUs to which these R/S apply: Sproat

7.3.3 OBJECTIVE 3 – SPECIAL MANAGEMENT ZONE 17

Legislative Reference:

Sustain forest ecosystem structure and function within the portion of Special Management Zone 17 located in the Sproat Lake Landscape Unit, by retaining mature and old forests (i.e. > 80 years of age) on an area covering at least 25 per cent of the total forested area of the SMZ portion located within the landscape unit.

Sproat LUO Obj 3 – SMZ 17	<ol style="list-style-type: none"> In this result, ecosystem structure and function to achieve this objective will be managed according to FSP section 7.2.1 Objective 1(a) – Mature and Old Seral.
	FDUs to which these R/S apply: The portion of Sproat within SMZ 17

7.4 OBJECTIVES PRESCRIBED UNDER FRPA S.149

7.4.1 SOILS (FPPR S.5)

Legislative Reference:

The objective set by government for soils is to conserve the productivity and the hydrologic function of soils.

Soils	<ol style="list-style-type: none"> In this result, the holder(s) of the FSP will undertake to comply with FPPR s. 35 and 36. In accordance with FPPR s. 12.1(1) and (5), the holder(s) of the FSP is exempt from the requirement to specify intended results and strategies set out in FPPR s.5. Where the holder of the FSP is the timber sales manager, the timber sales manager will notify each holder of a timber sale licence entered into or a road permit granted during the term of the plan that FPPR s. 35 and 36 apply to the holder, as per FPPR s. 12.1(5)(a).
	FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita

7.4.2 WILDLIFE (FPPR S.7)

Legislative Reference:

- 1) *The objective set by government for wildlife is to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for*
 - a) *the survival of species at risk,*
 - b) *the survival of regionally important wildlife, and*
 - c) *the winter survival of specified ungulate species.*
- 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.*

7.4.2.1 **Marbled Murrelet**

7.4.2.1.1 ***FPPR S. 7 Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet (*Brachyramphus marmoratus*)***

The notice includes indicators of the amount, distribution and attributes of wildlife habitat required for the survival of the species at risk outlined in Schedule 1.

Suitable habitat within approved Wildlife Habitat Areas is included in the indicators of the amount, distribution and attributes for each of the species outlined in Schedule 1. As per section 7(3) of the Forest Planning and Practices Regulation, forest tenure holders are exempt from the obligation to specify a result or strategy in relation to the objective set out in section 7(1) of the Forest Planning and Practices Regulation, for approved Wildlife Habitat Areas.

SCHEDULE 1

1) *Marbled Murrelet (*Brachyramphus marmoratus*)*

Amount:

- a) *Table 1 provides the minimum amount of Marbled Murrelet nesting habitat (Suitable Habitat) to be maintained within both Marbled Murrelet Wildlife Habitat Areas (WHAs) and Old Growth Management Areas (OGMAs) combined and the minimum amount of Suitable Habitat to be maintained within Marbled Murrelet WHAs within Forest Districts.*

Distribution:

- a) *Table 2 provides the minimum amount of Suitable Habitat to be maintained within both Marbled Murrelet WHAs and OGMAs combined and the minimum amount of Suitable Habitat to be maintained within Marbled Murrelet WHAs within landscape unit aggregates.*

- b) *Table 3 provides the target and minimum amount of Suitable Habitat to be maintained within both Marbled Murrelet WHAs and OGMA's combined and the minimum amount of Suitable Habitat to be maintained within Marbled Murrelet WHAs within landscape unit portions.*

Wildlife (s.7) Marbled Murrelet	<p>Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet (<i>Brachyramphus marmoratus</i>)</p> <ol style="list-style-type: none"> 1. In this Strategy, <ul style="list-style-type: none"> “Marbled Murrelet notice” means the notice entitled “<i>NOTICE-Indicators of the amount, distribution and attributes of wildlife habitat required for the survival of Marbled Murrelet (<i>Brachyramphus marmoratus</i>)</i>” effective December 2, 2021; “non-contributing land base” means the non-contributing land base described in the Timber Supply Review for the Arrowsmith Timber Supply Area (effective date September 1, 2002), or the non-contributing land base described in the Tree Farm License (TFL) 44 Management Plan No. 4, dated September 2002¹⁴; “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; 2. The holder(s) of the FSP will carry out or authorize timber harvesting and road construction in a manner that retains the habitat consistent with the amount, distribution and attributes as specified in the Marbled Murrelet Notice. 3. For the purposes of subsection (2), the amount of habitat specified in the Marbled Murrelet Notice will be: <ol style="list-style-type: none"> a) first, identified on the non-contributing landbase 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 landbase; 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 subsequent to the date of the Marbled Murrelet Notice. 4. The holders of this FSP will work with forestry licensees as needed to identify additional Suitable Habitat required to meet; <ol style="list-style-type: none"> a) the Suitable Habitat Minimum area for retention in WHA’s, and in WHA’s and OGMA’s combined, at the District level as indicated in <u>Table 1</u> of the Notice; b) the Suitable Habitat Minimum area for retention in WHA’s, and in WHA’s and OGMA’s combined, at the Landscape Aggregate level as indicated in <u>Table 2</u> of the Notice; and c) the Suitable Habitat Target area to be maintained in WHA’s, and in WHA’s and OGMA’s
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¹⁴ The application of this FSP is for licences wholly external to TFL44; however, for the purposes of this FSP, the definition of non-contributing land base includes non-contributing land base as described in Tree Farm License (TFL) 44 Management Plan No. 4, dated September 2002, as was in effect at the time the Order Establishing Provincial Non-Spatial Old Growth Objectives came into force (June 30, 2004). This definition of non-contributing land base applies to FSP licenses within the Pacific TSA which were derived from TFL44 in 2009.

	<p>combined, at the Landscape Unit level as indicated in <u>Table 3</u> of the Notice. Where sufficient Suitable Habitat cannot be identified to meet the Suitable Habitat Target Area at the Landscape Unit Level, the holders of this FSP will work with other FSP holders to identify sufficient Suitable Habitat area to meet at least the Suitable Habitat Minimum Area requirements at the Landscape Unit level.</p> <p>5. The holders of this FSP will work with forestry licensees to contribute equally and proportionally to spatial MAMU habitat management to the extent that the distribution of suitable habitat permits. If fair and effective agreement with forestry licensees in the Notice area cannot be reached the FSP holder will request the Minister to act under FPPR section 19.</p>
	<p>FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita</p>

7.4.2.1.2 Land Act S. 93.4 - Order for the Recovery of Marbled Murrelet (*Brachyramphus marmoratus*)

1) Objectives for Marbled Murrelet nesting habitat

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

Order for the Recovery of Marbled Murrelet	<p>Order for the Recovery of Marbled Murrelet (effective December 2, 2021)</p> <p><i>Pursuant to section 93.4 of the Land Act, the objectives set out in paragraph 3 of this Order are established as land use objectives for the purposes of the Forest and Range Practices Act.</i></p> <p>In this Strategy;</p> <ol style="list-style-type: none"> 1. The holder(s) of the FSP will carry out or authorize timber harvesting and road construction in a manner that retains suitable habitat consistent with the amounts specified in the Order for the Recovery of Marbled Murrelet, effective December 2, 2021. 2. The holders of this FSP will work with forestry licensees as required to identify and retain Suitable Habitat Area at the Landscape Unit Aggregate Level equal to or greater than the amounts indicated in the Schedule 7 Table 1, Column A of the Order. 3. In the West and North Vancouver Island Conservation Region, the holders of this FSP will work with forestry licensees as required to identify and retain sufficient Suitable Habitat Polygons at the Landscape Unit Portion Level to meet the Suitable Habitat Target levels indicated in the Schedule 7 Table 2 Column A. If insufficient Suitable Habitat area is identified within that Landscape Unit Portion, the holders of this FSP will work with forestry licensees as required to meet at least the Minimum Habitat Threshold level indicated in Schedule 7 Table 2 Column B. 4. In the East Vancouver Island Conservation Region, the holders of this FSP will not harvest within identified Suitable Habitat Polygons, unless harvesting is required for road access, other infrastructure, or to address safety concerns, where there is no practicable alternative. 5. A Variance to the Objectives under this Order may be approved by a Provincial Biologist, provided that an assessment is completed by a Qualified Professional that identifies the characteristics of Suitable Habitat using established standards, and confirms the alteration will result in no net loss or functional loss of Suitable Habitat. 6. The holders of this FSP will work with forestry licensees to contribute equally and proportionally to spatial MAMU habitat management to the extent that the distribution of suitable habitat permits. If fair and effective agreement with forestry licensees in the Notice area cannot be reached the FSP holder will request the Minister to act under FPPR section 19. <p>FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands , Sarita</p>
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7.4.3 WATER, FISH, WILDLIFE AND BIODIVERSITY WITHIN RIPARIAN AREAS (FPPR S. 8)

Legislative Reference:

The objective set by government for water, fish, wildlife and biodiversity within riparian areas isto conserve, at the landscape level, the water quality, fish habitat, wildlife habitat and biodiversity associated with those riparian areas.

Water, Fish, and Wildlife	<p>In this strategy;</p> <ol style="list-style-type: none"> 1) In respect to FPPR S. 8, the FSP holder(s) will adopt the FPPR sections listed below: <ol style="list-style-type: none"> a) The FPPR sections are as follows: <ol style="list-style-type: none"> i) s. 47 – Stream Riparian Classes ii) s. 48 – Wetland Riparian Classes iii) s. 49 – Lake Riparian Classes
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- iv) [s. 50 – Restrictions in a Riparian Management Areas](#)
 - v) [s. 51 – Restriction in a Riparian Reserve Zone](#)
 - vi) [s. 52\(2\) – Restrictions in a Riparian Management Zone](#)
 - vii) [s. 53 – Temperature Sensitive Streams](#)
- 2) In respect of [FPPR S. 50](#), for construction of roads through a stream, wetland or lakeshore Riparian Management Area, the Riparian Management Area will be as specified in [FPPR S. 47\(4\)](#), [48\(3\)](#) and [49\(2\)](#).
- 3) In respect to sections 8 and 12 (3) of the FPPR, to address retention of trees in a riparian management zone defined in Table 5, the FSP Holder(s) will ensure that retention levels within Riparian Management Zones (RMZs) are determined by a qualified professional:
- a) through assessments that consider site specific safety considerations, and:
 - i) windthrow risk;
 - ii) stream channel morphology, including dependence on streamside vegetation;
 - iii) transport potential and downstream values;
 - iv) fish and wildlife habitat;
 - v) licensed consumptive water use and intake locations;
 - vi) coarse woody debris requirements;
 - vii) terrain stability; and,
 - viii) timber objectives and operational constraints and issues;
 - b) with the management intent of meeting the factors set out in [FPPR Schedule 1 S. 2](#) which includes:
 - i) the type of management regime that is required for a riparian area, having regard to:
 - (1) the need to buffer the ecosystem of a stream, wetland or lake from introduction of materials that are deleterious to water quality or fish habitat;
 - (2) the role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity;
 - (3) the need to maintain stream bank and stream channel integrity; and,
 - (4) the relative importance and sensitivity of different riparian classes of streams, wetlands and lakes in conserving water quality, fish habitat, wildlife habitat and biodiversity;
 - ii) the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish or fish habitat.
- 4) Along steam segment where trees are to be retained in the riparian reserve zone or the riparian management zone, the FSP holder(s) will assess and document the windthrow hazard using BCTS's Windthrow Management Handbook. The result of these assessments will guide the appropriate retention of trees within riparian management zones as described in Table 5.
- 5) For all streams, merchantable and/or non-merchantable trees will be retained in RMZs where deemed necessary by the FSP holder(s) for the conservation of wildlife and biodiversity values. Where trees are retained in RMZs, windfirm dominant and co-dominant conifers displaying good wildlife tree attributes such as large limbs and decay indicators will be targeted for retention.

6) For streams which are within or proximal to the cutblock, the FSP holder(s) will assess and document the dependence of streams on woody debris/streamside trees to maintain channel and/or bank stability. For all S4, S5 and S6 streams that are assessed as being dependent on streamside vegetation to maintain stream bank stability, the FSP holder(s) will retain enough trees adjacent to the stream to maintain the streambank or channel stability, and understory vegetation will be retained wherever practicable, if the stream meets the criteria in FPPR s. 52(2)(a), (b) or (c).

Table 5. RMZ Retention by Windthrow Hazard

Riparian Class	RMZ Retention (% RMZ width) by Windthrow Hazard	
	Low to Moderate	High or Very High
S1A - and all active floodplains within RMZs	100%	
S1B	0%-100%	40%-100%
S2	0%-100%	40%-100%
S3	0%-100%	40%-100%
S4	10%-100%	0%-100%
S5 (alluvial)	30%-100%	
S5(non-alluvial/semi-alluvial)	0%-100%	
S6	0%-100%	

FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita

7.4.4 COMMUNITY WATERSHEDS (FPPR S. 8.2)

Legislative Reference:

- 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 though 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.

Community Watersheds

1. In this strategy,
“qualified professional”¹⁵ means an applied scientist or technologist, acting alone or together with another professional, if:
 - a) the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, is acting under that association’s code of ethics and is subject to disciplinary action by that association; and
 - b) the individual is acting within that individual’s area of expertise.
2. Prior to authorizing or undertaking timber harvesting or road construction within a designated community watershed area, the holder(s) of the FSP will:
 - a) have a qualified professional complete or update a watershed assessment for the community watershed¹⁶ that follows methodology outlined in the *Coastal Watershed Assessment Procedure Guidebook Version 2.1*¹⁷, as amended from time to time in Forest Research Technical Reports, such that all proposed timber harvesting and road construction developments are assessed; or,
 - b) have a qualified professional complete or update a watershed assessment for the community watershed²⁰ such that all proposed timber harvesting and road construction developments are assessed, that produces similar results to those intended by the *Coastal Watershed Assessment Guidebook Version 2.1*, consistent with sections 3 and 4 of this strategy;
 - c) where timber harvesting or road construction is planned to occur, update the watershed assessment in 2(a) or 2(b) following any previously unaccounted for landslide or significant sedimentation events with the potential to result in material adverse effects¹⁸ to water quality.
3. Pursuant to subsections 2(a) and 2(b) of this strategy, the assessment of hydrologic impacts in the watershed assessment described in 2(a) and 2(b) will assess the potential for:
 - a) adverse changes to peak stream flows, low stream flows and timing of flows;
 - b) adverse changes in sedimentation;
 - c) adverse changes in terrain stability;
 - d) adverse changes to riparian zones;
 - e) adverse changes to channel morphology;
 - f) adverse changes to the watershed as a follow up to previous assessments for the watershed;
 - g) adverse changes as identified by the qualified professional through site-specific fieldwork;

¹⁵ As defined in recently approved Provincial regulation: <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/west-coast/great-bear-rainforest/great-bear-rainforest-legal-direction-agreements>

¹⁶ For the community watershed and terrain adjacent to the watershed, as necessary, to inform the assessment.

¹⁷ <http://www.llbc.leg.bc.ca/public/PubDocs/bcdocs/330041/WAPGdbk.pdf>

¹⁸ Where a “material adverse effect” is understood to be an injurious result or unfavourable influence that might have some real, appreciable consequence.

	<p>h) adverse changes identified to the qualified professional through consultation with local watershed managers and local stakeholders; and</p> <p>where applicable, take into consideration results from consultation with forest tenure holders whose tenures are situated within the watershed.</p> <p>4. Where the assessment in subsection 2(a) or 2(b) of this strategy identifies potential adverse effects as described in subsections 3(a) to 3(h), the qualified professional preparing the assessment is to provide recommendations to manage, mitigate, or eliminate the impact(s), taking into consideration and corresponding to severity of the consequence of the potential adverse impact.</p> <p>5. The holder(s) of the FSP will follow the results of section 4 of this strategy unless a variance to the recommendation(s) is supported by a rationale¹⁹ written by a qualified professional.</p> <p>6. In respect of community watersheds, the holder(s) of the FSP will adopt as a result, practice requirements in <i>FPPR S. 59, 60 and 61</i>.</p>
	FDUs to which these R/S apply: Sproat

7.4.5 WILDLIFE AND BIODIVERSITY – LANDSCAPE LEVEL (FPPR S. 9)

Legislative Reference:

The objective set by government for wildlife and biodiversity at the landscape level is, 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.

Wildlife and Biodiversity – Landscape Level	<p>1. The holder(s) of the FSP will adopt <i>FPPR Sections 64 and 65</i> as a result under this FSP.</p> <p>2. Further to subsection (1):</p> <p>a) cutblocks located in SMZs 13, 14, or 17 will have a NAR in accordance with the result or strategy for FSP section 7.2.3 Objective 1(c) – Silviculture Systems or FSP section 7.2.4 Objective 2 – Salvage; and</p> <p>b) For cutblocks located within EFZ 36 and 38 cutblock harvesting will be in accordance with the result or strategy for FSP section 7.2.6 Objective 7 – Short Term Timber Availability.</p>
	FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita

¹⁹ Rationale must meet the intent of practice requirements in FPPR s. 8.2 that provide for the protection of drinking water.

7.4.6 WILDLIFE AND BIODIVERSITY – STAND LEVEL (FPPR S. 9.1)

Legislative Reference:

The objective set by government for wildlife and biodiversity at the stand level is to retain wildlife trees.

Wildlife and Biodiversity – Stand Level

1. In this Strategy:
 - “**cutblock**” means an area within which a tenure holder is authorized to harvest timber, as identified in a cutting permit, timber sale license or other cutting authority²⁰;
 - “**wildlife tree**” means a tree that provides wildlife habitat and assists in the conservation of stand level biodiversity (*FPPR s. 1.1*);
 - “**wildlife tree retention areas (WTRA)**” means 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 (*FPPR s. 1.1*);
 - “**wildlife tree patches (WTP)**” is the same as “**wildlife tree retention areas (WTRA)**” which is defined in *FPPR s. 1(1)*.
2. Subject to subsections 2 and 3 of this Strategy, the holder(s) of the FSP adopts, as a Strategy, *FPPR s. 66 and 67*, except with respect to *FPPR s. 12.5(2) and (4)*, where:
 - a) a tree must be felled to safely establish one or more tailholds or guy-line tiebacks in a WTRA to facilitate adjacent cable logging operations; or,
 - b) a tree, or trees, within a WTRA is modified (pruned or topped) to maintain the integrity of that WTRA;
 - c) timber may be harvested in WTRA, or WTP, where the licensee specifies one or more replacement WTRA that provide an area, number of trees, or habitat, that is equivalent to the portion of the WTRA from which the timber is being harvested and is documented consistent with subsections (4)(d) and (e) of this strategy.
 - d) operations are subject to subsection (4) of this strategy.
3. Where wildlife tree retention targets are specified in approved Landscape Unit Plans, wildlife tree retention will meet or exceed targets specified in approved Landscape Unit Plans.
4. Where timber harvesting is planned or authorized within a WTRA, replacement forest of equivalent age, structure and area must be identified that is:
 - a) Within the cutblock to which the WTRA is related; or,
 - b) In an area contiguous to the cutblock to which the WTRA is related; or,
 - c) In an area that is sufficiently close to the cutblock to which the WTRA is related that the wildlife trees could directly impact on, or be directly impacted by, a forest practice carried out in the cutblock.

²⁰ As defined in recently approved Provincial regulation: <https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/west-coast/great-bear-rainforest/great-bear-rainforest-legal-direction-agreements>

	<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 outlining what was replaced and what was chosen as a replacement area 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 <i>FPPR s. 86(3)</i>. <p>5. The percentage of cutblock Wildlife Tree Retention Area (WTRA) shall be determined as a percentage of the WTRA (ha.) divided by the Total Area Under Prescription (TAUP): %WTRA= WTRA (ha.) / TAUP (ha.)</p>
	<p>FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, and Sarita</p>

7.4.7 CULTURAL HERITAGE RESOURCES (FPPR S. 10)

Legislative Reference:

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.*

Cultural Heritage Resources	<p>1. In this strategy:</p> <p>“cultural heritage resource” means an object, a site, or the location of a traditional societal practice that:</p> <ul style="list-style-type: none"> (i) is of historical, cultural, or archaeological significance to an aboriginal people, (ii) is the focus of a traditional use by an aboriginal people that is of continuing importance to that people, and (iii) is not regulated under the <i>Heritage Conservation Act</i>, or (iv) Is confirmed and communicated by Government as being considered important, valuable, or scarce. <p>“monumental western red cedar or cypress” refers to western red cedar or cypress log used for making paddles, masks, totems, canoes, and similar traditional use items, or a standing tree of similar size and dimension;</p> <p>“traditional ecological knowledge (TEK)” means a cumulative body of ecological knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission;</p> <p>“applicable First Nation” means a First Nation whose asserted traditional territory or treaty land falls within the FDUs in this FSP Plan area.</p> <p>2. To provide the opportunity for applicable First Nations to inform the holder(s) of the FSP of information related to proposed road-building or timber harvesting activities that may impact cultural heritage resources, the following process will be used:</p>
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- a) The holder(s) of the FSP will refer to applicable First Nations, areas identified for potential timber harvesting and road construction, if any, and request information respecting cultural heritage resources and TEK within the identified areas.
 - b) The holder(s) of the FSP will evaluate the nature and extent of a possible site-specific cultural heritage resource identified by applicable First Nations during 2(a) 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 cultural heritage resource.
 - c) Subject to and consistent with the results of 2(a), the holder(s) of the FSP, when designing a cutblock or road will, prior to timber harvesting or road construction, identify the following:
 - i. the portion of the area occupied by a cultural heritage resource,
 - ii. the nature of the cultural heritage resource,
 - iii. whether the cultural heritage resource is to be protected or conserved, and
 - iv. if the cultural heritage resource is to be conserved, what constraints, if any, are to apply to the forest practices carried out on the area.
 - d) Subject to and consistent with the results of 2(a), the holder(s) of the FSP will take into consideration TEK provided by an applicable First Nation and apply this to the site level plan where applicable, subject to ensuring consistency with all other results and strategies within the FSP, and applicable Legislation.
 - e) For each cultural heritage resource that has been identified under subsection 2(c) for protection, the holder(s) of the FSP will carry out or authorize a person to carry out a primary forest activity only to the extent that the primary forest activity does not damage or render ineffective the cultural heritage resource.
 - f) For each cultural heritage resource that has been identified under subsection 2(c) for conservation, the holder(s) of the FSP will carry out or authorize a person to carry out a primary forest activity only to the extent that the primary forest activity is consistent with the constraints, if any, specified in the design for the cutblock or road.
3. 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 cultural heritage resource is encountered, the holder(s) of the FSP will:
- a) consistent with the results of 2(a), require operations within the cutblock or road to be modified to the extent practicable to manage the cultural heritage resource;
 - b) determine:
 - i. the nature of the cultural heritage resource;
 - ii. whether the cultural heritage resource is to be protected or conserved based on results from 2(a) above or based on the outcome of 3(b)(i); and
 - iii. if the cultural heritage resource is to be conserved, what constraints, if any, are to apply to the forest practices carried out on the area;
 - c) modify the design of the cutblock or road to conform with subsection 3(b)(iii); and
 - d) authorize operations to resume within the cutblock or road to the extent that the operations are consistent with the modified design.
4. In addition to subsections (2) and (3), the holder(s) of the FSP recognize that mature western red cedar and cypress located within the identified FDUs are cultural heritage resources to the applicable

First Nations and the holder(s) of the FSP will ensure that, in addition to subsections (2) and (3):

- a) western red cedar and cypress, where ecologically suited, will be planted on areas referred to in *FRPA s. 29* in accordance with the stocking standards specified in this FSP; and
 - b) Save and except subsection 4(c) of this strategy, where requested by a First Nation, the holder(s) of the FSP will assist the First Nation with the implementation of the “Guidelines for Managing Cedar for Cultural Purposes”²¹ for the purposes of developing a strategy for management of western red cedar or cypress, including monumental western red cedar or cypress, within their asserted traditional territory that falls within the Plan area;
 - c) 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.
5. In addition to subsections (2) through (4), the holder(s) of the FSP recognizes that species such as sitka spruce, bitter cherry, and arbutus located within the identified FDUs within the Plan area may be cultural heritage resources to an applicable First Nation. The holder(s) of the FSP will ensure that:
- a) where one or more of these species is identified to the holder(s) of the FSP as a cultural heritage resource by a First Nation; and
 - b) where it is present within a cutblock to be harvested by the holder(s) of the FSP where practicable and safe to do so, a component of these species will be conserved within the total area under prescription of the cutblock.
 - c) Where one or more of these species is present in an existing cutblock where silviculture obligations exists (not free-growing), a component of these species will be maintained and exempted from silvicultural treatments provided it is in accordance with the stocking standards specified in this FSP.
6. In addition to subsections (2) through (5), the holder(s) of the FSP recognizes that western yew located within the identified FDUs within the Plan area may be a cultural heritage resource to an applicable First Nation. The holder(s) of the FSP will ensure that:
- i. where yew is identified to the holder(s) of the FSP as a cultural heritage resource by a First Nation; and
 - ii. where it is present within a cutblock to be harvested by the holder(s) of the FSP a component of the species will be conserved within the total area under prescription of the cutblock where it is safe and practicable to do so.
 - iii. Where western yew is present in an existing cutblock where silviculture obligations exists (not free-growing), a component of this species will be maintained and exempted from silvicultural treatments provided it is in accordance with the stocking standards specified in this FSP.

FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands ,

²¹ [Microsoft Word - Cedar Guidelines Final Dec 04.doc \(gov.bc.ca\)](#)

	Sarita
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7.5 OBJECTIVES CONTINUED UNDER FRPA S. 180 AND S.181

The objectives in respect of specified designations established or continued under the Code under FSP s. 7.5 are grandparented. FSP s. 7.5 is consistent with Orders establishing Ungulate Winter Range #U1-017 and Wildlife Habitat Areas #1-030 and #1-031 and is not subject to approval by the DDM of this FSP.

7.5.1 OBJECTIVE SET BY ORDER – UNGULATE WINTER RANGE #U1-017

Legislative Reference:

Objective 1

Road construction is not to occur within the designated ungulate winter ranges, with the exception of UWR unit 12 (Effingham), unless there is no other practicable option, the quality of the winter ranges will not be significantly affected and a variance is approved by the MWLAP Statutory Decision Maker or designate. For UWR unit 12 (Effingham), the MWLAP Statutory Decision Maker recognises that road access is required within this UWR and main road access will traverse through the UWR to reach timber in the Effingham valley beyond.

Objective 2

Harvesting is not to occur within the designated ungulate winter ranges unless a variance is approved by the MWLAP Statutory Decision Maker or designate. A variance would only normally be considered for the purposes of enhancing the quality of the winter range.

Objective 3

Salvage harvesting is not to occur within the designated ungulate winter ranges unless a variance is approved by the MWLAP Statutory Decision Maker or designate.

Objective 4

Road maintenance, road deactivation, felling of danger trees or brushing and clearing on existing roads to address worker safety is allowed. Felling of danger trees, felling for guyline clearance, felling of tail hold anchor trees along cutblock boundaries to address worker safety is allowed. Any trees that must be felled within a UWR will be left onsite to provide coarse woody debris, unless the felled tree lies outside the UWR. Licensees will ensure that UWR values are maintained and incorporated when addressing worker safety concerns.

Note: The Deputy Minister of Water, Land and Air Protection wishes to acknowledge that UWR units 12 13, 14, 15, 16, 40 and 44 are contained within areas undergoing an industry-led landscape unit planning process in the western portion of the Arrowsmith TSA and may be reviewed by professional biologists. Revisions to UWR units 12, 13, 14, 15, 16, 40 and 44 within the Effingham, Henderson, Toquart, Maggie and Escalante landscape units may be proposed to regional WLAP staff as a result of this process and will be evaluated and forwarded for consideration by the Deputy Minister of Water, Land and Air Protection within 60 days of their receipt by regional staff.

UWR #U1-017	<p>1. The holder(s) of the FSP 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, objectives 1 – 4, established by Order and the subsequent note, <i>Order-Ungulate Winter Range #U1-017</i> dated November 21, 2003 or as subsequently amended. The following is the summary of objectives.</p> <p style="padding-left: 20px;">a) Road construction is not to occur within the designated ungulate winter ranges, with the</p>
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	<p>exception of UWR 12 (Effingham), unless there is no other practicable option, the quality of the winter ranges will not be significantly affected and a variance is approved by the MWLAP Statutory Decision Maker or designate. For UWR unit 12 (Effingham), the MWLAP Statutory Decision Maker recognises that road access is required within this UWR and main road access will traverse through the UWR to reach timber in the Effingham valley.</p> <ul style="list-style-type: none"> b) Harvesting is not to occur within the designated ungulate winter ranged unless a variance is approved by the MWLAP Statutory Decision Maker or designate. A variance would only normally be considered for the purposes of exchanging the quality of the winter range. c) Salvage harvesting is not to occur within the designated ungulate winter ranges, unless a variance is approved by the MWLAP Statutory Decision Maker or designate. d) Road maintenance, road deactivation, felling of danger trees or brushing and clearing on existing roads to address worker safety is allowed. Felling of danger trees, felling for guy line clearance, felling of tail hold anchor trees along cutblock boundaries to address worker safety is allowed. Any trees that must be felled within a UWR will be left onsite to provide coarse wood debris, unless the felled tree lies outside the UWR. Licensees will ensure that UWR values are maintained and incorporated when addressing worker safety concerns.
	FDUs to which these R/S apply: Effingham

7.5.2 OBJECTIVES SET BY ORDER – WILDLIFE HABITAT AREA #1-030 AND #1-031 (MARBLED MURRELETS)

<p>WHA #1-030 and #1-031 (MAMU)</p>	<ul style="list-style-type: none"> 1. The holder(s) of the FSP 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 general wildlife measures 1-6 established by Orders – Wildlife Habitat Area #1-030 and Wildlife Habitat Area #1-031, both dated January 15, 2003 under OSPR s.70(1)(b) and (c),(2),(4), and (5) and/or as subsequently amended. The objectives for wildlife will be consistent with s. 7.5.2 of the FSP. The General Wildlife Measures established by the order are as follows: <ul style="list-style-type: none"> a) Do not build roads unless the district manager and regional fish and wildlife manager are satisfied there is no other practical option and the variance is approved by the district manager and regional fish and wildlife manager. b) Seasonal constraints on the building and use of the road may be required. Consult the Ministry of Water, Land and Air Protection so any seasonal constraints can be specified. c) Do not establish recreation sites. d) Do not harvest except for salvage, traditional aboriginal purposes, or construction of trail, penstock or facilities for small scale hydro-power generation when a variance is approved by the district manager and regional fish and wildlife manager. e) Identify WHAs (wildlife habitat areas) on forest district fire protection maps and consider them a priority for protection from fires. f) In second-growth stand use silvicultural techniques to encourage old-growth characteristics.
	FDUs to which these R/S apply: Sprout

7.6 ORDERS ESTABLISHED UNDER THE GOVERNMENT ACTIONS REGULATION

FSP s. 7.6 is consistent with Orders established under the Government Actions Regulation in which objectives were not specified; as such, FSP s. 7.6 is not subject to approval by the DDM of this FSP.

7.6.1 RESOURCE FEATURE SET BY ORDER – RESOURCE FEATURE ORDER: KARST

Identified resource features are subject to practice requirements; no result or strategy is required as objectives have not been established for the management of the resource feature. Where applicable within the Plan area, the holder(s) of the FSP will adhere to the requirements of *FPPR s. 70(1)* with respect to resource features:

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

GAR - Karst	<ol style="list-style-type: none"> 1. In this practice requirement, the holder(s) of the FSP 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 established Resource Feature Order under sections 5(1) (a) of the Government Actions Regulation (B.C. Reg. 17/04), Surface or Subsurface element or Karst system order dated January 15, 2010 or as subsequently amended. 2. Pursuant to Section 5(1) (a) of the Government Actions Regulation under the Forest and Range Practices Act, the following are defined as surface or subsurface elements of a karst system as resource features wherever they are found within the South Island Forest District: <ol style="list-style-type: none"> a) Karst caves, b) significant surface karst features, and c) important features and elements within high and very high vulnerability karst terrain. 3. The location of a surface or subsurface element of a karst system as described in subsection 2 must not be publically disclosed by the agreement holder(s). 4. Where a surface or subsurface element of a karst system as described in subsection 2 is located, and has not, in a previous reporting period, reported the resource feature, the agreement holder(s) must satisfy the annual reporting requirements for karst resource features as per <i>FPPR s. 86(3)(b)</i>.
	<p>FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita</p>

7.6.2 UNGULATE WINTER RANGE ORDER – UNGULATE WINTER RANGE # U1-013

The Order establishing Ungulate Winter Range #U1-013, dated October 18, 2004, specifies general wildlife measures applicable in the UWR. No result or strategy is required as objectives have not been established for the management of the UWR. Where applicable within the Plan area, the holder(s) of the FSP will adhere to the requirements of *FPPR s. 69* with respect to general wildlife measures:

An authorized person who carries out primary forest activities on an area must comply with each general wildlife measure that applies to the area.

GAR – UWR #U1-013	<p>1. The holder(s) of the FSP 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 general wildlife measures 1-6 established by Order – Ungulate Winter Range #U1-013 under sections 9(1) and 12(1) of the Government Actions Regulation (B.C. Reg. 17/04), order dated October 18, 2004 or as subsequently amended. The general wildlife measures established by the order are as follows:</p> <ul style="list-style-type: none"> a) Road construction is not to occur within the designated ungulate winter ranged unless there is no other practicable option and an exemption is approved by the MWLAP designated authority. b) An exemption is not required for road maintenance, road deactivation, felling of danger trees or brushing and clearing on existing roads within the UWR. These activities will be conducted in a manner that does not result in a material adverse impact on the ungulate winter range habitat within the designated ungulate winter range. c) Harvesting is not to occur within the designated ungulate winter ranges unless an exemption is approved by the MWLAP (Ministry of Water, Land and Air Protection) designated authority. An exemption would be considered for the purposes of exchanging the quality of the winter range. d) An exemption is not required for harvesting within the designated ungulate winter ranges when it is required to address worker safety: felling of danger trees, felling for guy line anchors, felling of tail hold anchor trees within an UWR along adjacent cutblock boundaries. Harvesting will be conducted in a manner that does not result in a material adverse impact on the ungulate winter range habitat within the designated ungulate winter ranges. e) Trees that must be felled within an UWR will be left onsite to provide coarse woody debris, unless the felled tree lies outside the UWR. f) Salvage harvesting is not to occur within the designated ungulate winter ranges unless an exemption is approved by the MWLAP designated authority.
	<p>FDUs to which these R/S apply: Cous, Nahmint, Sproat</p>

7.7 OBJECTIVES ESTABLISHED UNDER THE GOVERNMENT ACTIONS REGULATION

7.7.1 VISUAL QUALITY OBJECTIVES FOR THE SOUTH ISLAND FOREST DISTRICT

Legislative Reference:

Pursuant to Section 7(2) of the Government Actions Regulation (GAR), I, Jack Dryburgh, District Manager for the South Island Forest District, establish Visual Quality Objectives (VQOs) for the South Island Forest District as shown on the attached map titled South Island Forest District, Visual Quality Objectives Established Under Section 7(2) GAR order, dated December 1, 2005. This order is effective on December 15, 2005.

These VQOs apply to the scenic areas identified as known in the district manager’s letter dated November 13, 1998 and grandparented under Section 180 of the Forest and Range Practices Act. These objectives apply to the crown land portions of the South Island Forest District, and to the private land within Woodlot Licences and Tree Farm Licences. This order does not apply to the Clayoquot Sound Scientific Panel planning area. and as amended:

Pursuant to Section 7(2) of the Government Actions Regulation (GAR), I, Calvin Ross, A/District Manager for the South Island Natural Resource District, establish and amend established Visual Quality Objectives (VQOs), Travel Corridors and associated Scenic Areas for the South Island Natural Resource District as shown on the attached map titled South Island Forest District, Visual Quality Objectives Established Under Section 7(2) GAR Order Amendment map, dated December 14, 2011.

GAR - Visual Quality

1. In this result,
 - “applicable scenic area”** means a scenic area that was made known in the South Island Forest District by letter dated November 13, 1998, and as amended pursuant to *Government Actions Regulation s. 7(1)*;
 - “applicable visual quality objective”** means the visual quality objective (VQO) established for a scenic are in the South Island Natural Resource District pursuant to *Government Actions Regulation s. 7(2)* and as defined in *FPPR S. 1.1*; and
 - “significant public viewpoint”** means a place or location on the land or water that is accessible to the public and provides a direct viewing opportunity to the alteration and landform being assessed, including but not limited to travel routes, settlements, public use areas, tourism facilities, and parks.
2. Road construction and/or timber harvesting carried out or authorized by the holder(s) of this FSP within applicable scenic areas established on November 13, 1998, and as amended pursuant to *GAR s. 7(2)*, will be consistent with:
 - a) the VQOs as established by the District Manager effective December 15, 2005 and amended December 20, 2011; and
 - b) the categories of visually altered forest landscape as defined in *FPPR s. 1.1* as of the date the timber sale is advertised.
3. If the FSP holder(s) intends to carry out or authorize primary forest activities that will not be consistent with the requirements of *GAR s.7(2)*, an exemption from the DDM under *FPPR 12(7)* is required, provided that:
 - a) the timber has been damaged, destroyed or threatened by fire, insects, disease, wind, flooding, or other similar factors;
 - b) the cutblock or road design will:
 - i) attempt to mimic naturally occurring landscape characteristics; and,
 - ii) retain timber that is not damaged, destroyed or threatened where safe and operationally practicable to do so.

FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands , Sarita

7.7.2 OBJECTIVES FOR FISHERIES SENSITIVE WATERSHEDS

Legislative Reference:

For each of the Fisheries Sensitive Watersheds identified by the GAR Order dated December 28, 2005 for Fisheries Sensitive Watersheds on Vancouver Island, the objective is to provide, within the normal forest rotation, special management of the amount, timing and distribution of primary forest activities, in order to:

- i. conserve the natural hydrological conditions, natural stream bed dynamics and integrity of stream channels in the Fisheries Sensitive Watershed,*
- ii. conserve the quality, quantity and timing of water flows required by fish in the Fisheries Sensitive Watershed, and*
- iii. prevent the cumulative hydrological effects of primary forest activities in the Fisheries Sensitive Watershed from resulting in a material adverse impact on the fish habitat of the watershed.*

GAR – Fisheries Sensitive Watersheds	<p>1. In this strategy,</p> <p>“qualified professional”²² means an applied scientist or technologist, acting alone or together with another professional, if:</p> <ul style="list-style-type: none">a) the individual is registered and in good standing in British Columbia with an appropriate professional organization constituted under an Act, is acting under that association’s code of ethics and is subject to disciplinary action by that association; andb) the individual is acting within that individual’s area of expertise. <p>2. Prior to authorizing or undertaking timber harvesting or road construction within a designated Fisheries Sensitive Watershed area, the holder(s) of the FSP will:</p> <ul style="list-style-type: none">a) have a qualified professional complete or update a watershed assessment within the fisheries sensitive watershed²³ that follows methodology outlined in the <i>Coastal Watershed Assessment Procedure Guidebook Version 2.1</i>²⁴, as amended from time to time in Forest Research Technical Reports, such that all proposed timber harvesting and road construction developments are assessed; orb) have a qualified professional complete or update a watershed assessment within the fisheries sensitive watershed³⁰ such that all proposed timber harvesting and road construction developments are assessed, that produces similar results to those intended by the <i>Coastal Watershed Assessment Guidebook Version 2.1</i>, consistent with sections 3 and 4
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²² As defined in recently approved Provincial regulation:
<https://www2.gov.bc.ca/gov/content/industry/crown-land-water/land-use-planning/regions/west-coast/great-bear-rainforest/great-bear-rainforest-legal-direction-agreements>

²³ For the fisheries sensitive watershed and terrain adjacent to the watershed, as necessary, to inform the assessment.

²⁴ <http://www.llbc.leg.bc.ca/public/PubDocs/bcdocs/330041/WAPGdbk.pdf>

	<p>of this strategy;</p> <p>c) where timber harvesting or road construction is planned to occur, update the watershed assessment in 2(a) or 2(b) following any previously unaccounted for landslide or significant sedimentation events with the potential to result in material adverse effects²⁵ to fish habitat.</p> <p>3. Pursuant to subsection 2(a) and 2(b) of this strategy, the assessment of hydrologic impacts in the watershed assessment described in 2(a) and 2(b) will assess the potential for:</p> <p>a) adverse changes to peak stream flows, low stream flows and timing of flows;</p> <p>b) adverse changes in sedimentation;</p> <p>c) adverse changes in terrain stability;</p> <p>d) adverse changes to riparian zones;</p> <p>e) adverse changes to channel morphology;</p> <p>f) adverse changes to the watershed as a follow up to previous assessments for the watershed;</p> <p>g) adverse changes as identified by the qualified professional through site-specific fieldwork;</p> <p>h) adverse changes identified to the qualified professional through consultation with local watershed managers and local stakeholders; and</p> <p>where applicable, take into consideration results from consultation with forest tenure holders whose tenures are situated within the watershed.</p> <p>4. Where the assessment in subsection 2(a) or 2(b) of this strategy identifies potential adverse effects as described in subsections 3(a) to 3(g), the qualified professional preparing the assessment is to provide recommendations to manage, mitigate, or eliminate the impact(s), taking into consideration and corresponding to the severity of the consequence of the potential adverse impact.</p> <p>5. The holder(s) of the FSP will follow the results of section 4 of this strategy unless a variance to the recommendation(s) is supported by a rationale²⁶ written by a qualified professional.</p> <p>6. In respect of fisheries sensitive watersheds, the holder(s) of the FSP will adopt as a result and strategy practice requirements in FPPR s. 55, 56 and 57.</p>
	<p>FDUs to which these R/S apply: The portions of Effingham, Cous and Nahmint within the Fisheries Sensitive Watersheds</p>

²⁵ Where a “material adverse effect” is understood to be an injurious result or unfavourable influence that might have some real, appreciable consequence.

²⁶ Rationale must meet the intent of Objectives in FPPR s. 8.1 that provide for the protection of fish habitat.

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

The APPENDIX 1 FSP Stocking Standards specify the regeneration date, free growing height and stocking standards for the situations or circumstances where *FPPR S. 44(1)* applies.

8.3 SITUATIONS OR CIRCUMSTANCES THAT DETERMINE WHEN *FPPR S. 44(4)* AND THE STANDARDS APPLICABLE UNDER *FPPR S. 16(4)* APPLIES

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

Legislative Reference:

FRPA 47 – 1) A person carrying out a forest practice or a range practice must carry out measures that are

- a) specified in the applicable operational plan, or*
- b) authorized by the minister*

to prevent the introduction or spread of prescribed species of invasive plants.

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.

Measure: Invasive Plants

1. In these measures,
“applicable area” means an area where:
 - a) it is likely that forest practices authorized or carried out by the holder(s) of the FSP will result in introduction or spread of invasive plants;
 - b) there is moderate to high risk invasive plants 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;
 - d) it is reasonably foreseeable that revegetation with grass seed would materially reduce the likelihood of invasive plant germination; and
 - e) the holder(s) of the FSP has not deemed the area as an active surface area where primary

forest activities are occurring.

“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 the standards for varietal purity established by the Canadian Seed Growers Association for seed of that species (*Seeds Act, Seeds Regulation s.2(1)*); and
 - ii. is of native origin.

“Priority invasive plants” refers to the plant species listed in *s. 2 of the Invasive Plants Regulation*.

- 2. If the holder(s) of the FSP carries out a forest practice in an applicable area, the holder(s) of the FSP will:
 - a) confirm previously reported locations of priority invasive plants within the plan area using the most current recognized provincial database;
 - b) distribute information to field staff on priority invasive plants that exist or threaten to establish within the plan area; and
 - c) direct field staff to report previously unreported incidences of priority invasive plants and enter them into the most current, recognized provincial database.
- 3. If the holder(s) of the FSP carries out a forest practice in an applicable area, the holder(s) of the FSP will, within two growing seasons of completing the activity authorized in the timber sales licence or cutting permit:
 - a) Seed areas of exposed soil that exceed 0.25 contiguous hectares, excluding the road prism, that have been disturbed by primary forest activities authorized by the holder(s) of the FSP, recognizing that spring and fall are the optimum times to revegetate, and giving preference to preferred seed that is:
 - i. readily available;
 - ii. comparable in cost to agronomic mixtures; and
 - iii. comparable in effectiveness to agronomic mixtures,
 - b) revegetate previously rehabilitated temporary access structures within cutblocks with legumes.

FDUs to which these R/S apply: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita

10. MEASURES TO MITIGATE THE EFFECT OF REMOVING OR RENDERING INEFFECTIVE NATURAL RANGE BARRIERS (FPPR s. 18)

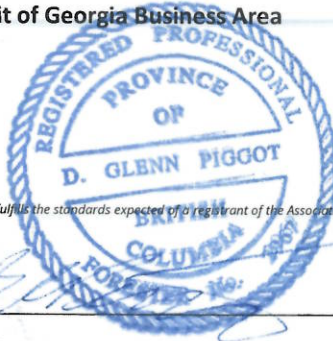
Applies to FDUs: Cous, Nahmint, Sproat, Effingham, Toquart, Barkley Sound Islands, Sarita

There are no range tenures established within the FSP area that overlap with the plan area; therefore, no result or strategy is required.

11. SIGNATURES OF PERSONS REQUIRED TO PREPARE PLAN

FRPA s. 5(3):

BC Timber Sales, Strait of Georgia Business Area



"I certify that the work described herein fulfills the standards expected of a registrant of the Association of British Columbia Forest Professionals and that I did personally supervise the work"

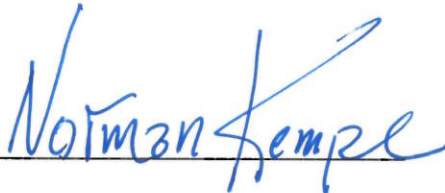
RPF Signature: _____

Name: Glenn Piggot, RPF

Planning Forester, BC Timber Sales, Strait of Georgia Business Area

Date: June 13, 2023

Timber Sales Manager Signature: _____



Name: Norm Kempe, RPF

Timber Sales Manager, BC Timber Sales, Strait of Georgia Business Area

Date: June 16, 2023

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12. APPENDIX 1 FSP STOCKING STANDARDS

Table 6: Stocking Standards

ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) ¹	Regen Delay	FG Date
		Zone	SZ/ Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)			
1070094	8	CWH	mm1	01	Fd	3	Cw	1.5					Hw ¹¹	2							900	500	400	2	6	20
1070095	9	CWH	mm1	02	Pl	1.25	Fd	2					Cw	1							800	400	400	2	6	20
1070096	10	CWH	mm1	03	Fd	2	Cw ³	1.0					Hw	1.75							800	400	400	2	6	20
1070097	11	CWH	mm1	04	Fd	2	Cw ²⁹	1.0					Pw ²²	2.5	Hw	1.75					900	500	400	2	6	20
1070098	12	CWH	mm1	05	Fd	3	Cw	1.5					Pw ²²	2.5	Hw	2	Ba	.75			900	500	400	2	6	20
1070100	13	CWH	mm1	06	Cw	1.5	Hw	2					Fd ⁸	3	Ba	.75					900	500	400	2	6	20
1070101	14	CWH	mm1	07	Cw	2	Fd	4					Ba ²⁵	1	Hw	2.5					900	500	400	2	6	20
1070102	15	CWH	mm1	12	Cw ⁴	1							Hw ⁴	1.5	Ss ⁴	2					800	400	400	2	6	20
1070103	16	CWH	mm2	01	Hm ¹² / Hw	1/ 1.25	Cw	1	Fd ¹⁰	2.25	Yc	1	Ba	.75							900	500	400	2	6	20
1070104	17	CWH	mm2	02	Pl	1.25	Fd	1.5					Cw	.75							800	400	400	2	6	20
1070105	18	CWH	mm2	03	Fd	1.5	Hw	1	Cw ²⁹	.75			Hm ¹²	.75	Yc	.75					800	400	400	2	6	20
1070106	19	CWH	mm2	04	Fd	1.5	Cw ²⁹	.75					Pw ²²	2.5	Yc	.75	Hw	1			900	500	400	2	6	20
1070107	20	CWH	mm2	05	Ba	.75	Cw	1	Yc	1	Fd ¹⁰	2.25	Pw ²²	2.5	Hw	1.25					900	500	400	2	6	20
1070108	21	CWH	mm2	06	Hw	1.25	Cw	1	Yc	1			Ba	.75	Hm ¹²	1.25	Fd ¹³	2.25			900	500	400	2	6	20
1070109	22	CWH	mm2	07	Cw ⁴	.75	Hw	1	Ba	.75			Hm ¹²	.75	Yc ⁴	.75					800	400	400	2	6	20
1070110	23	CWH	mm2	08	Cw	1.25	Yc	1.25	Ba	1			Hw ⁵	1.75	Fd ¹⁰	3					900	500	400	2	6	20



ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) ¹	Regen Delay Max (yrs)	FG Date Late (yrs)
		Zone	SZ/Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)			
1070111	24	CWH	mm2	10	Cw ⁴	.75							Pw ²²	2.5	Yc ⁴	.75	Hw ⁴	1			800	400	400	2	6	20
1070112	26	CWH	vh1	01	Cw	1.5	Hw	2	Yc	1.5			Pl ⁷	1.5	Ba ⁸	1.75	Ss ^{8,23}	3			900	500	400	2	6	20
1070113	27	CWH	vh1	03	Cw	1	Hw	1.25	Pl	1.25	Yc	1									800	400	400	2	6	20
1070114	28	CWH	vh1	04	Ba	2.25	Hw	1.75	Cw	2			Ss ²³	4							900	500	400	2	6	20
1070115	29	CWH	vh1	05 & 06	Ba	2.25	Cw	2	Yc	2			Hw ⁵	1.75	Ss ²³	4					900	500	400	2	6	20
1070116	30	CWH	vh1	07	Ba	2.25	Cw	2					Hw ⁵	1.75	Ss ²³	4					900	500	400	2	6	20
1070117	31	CWH	vh1	11	Cw ⁴	1	Pl ⁷	1.25	Yc ⁴	1	Hw ⁴	1.25									800	400	400	2	6	20
1070118	32	CWH	vh1	13	Cw ⁴	1	Yc	1					Hw ⁴	1.25	Pl	1.25	Ss	2			800	400	400	2	6	20
1070119	33	CWH	vm1	01	Cw	1.5	Hw	3	Fd ¹⁵	3	Ba ²⁰	1.75	Ss ^{8,23}	3							900	500	400	2	6	20
1070120	34	CWH	vm1	03	Cw	1	Hw	2	Fd ¹⁵	2			Pl ²⁶	1.25							800	400	400	2	6	20
1070121	35	CWH	vm1	04	Cw	1.5	Hw	3	Fd ¹⁵	3			Ba	1.75							900	500	400	2	6	20
1070122	36	CWH	vm1	05	Ba	1.75	Cw	1.5	Hw	3	Fd ^{4,15}	3	Ss ²³	3							900	500	400	2	6	20
1070123	37	CWH	vm1	06	Ba ²⁰	1.75	Cw	1.5	Hw	3			Ss ^{8,23}	3							900	500	400	2	6	20
1070125	38	CWH	vm1	07	Ba	2.25	Cw	2	Hw ⁵	4	Fd ^{4,10,18}	4	Ss ²³	4							900	500	400	2	6	20
1070126	39	CWH	vm1	08	Ba	2.25	Cw	2	Hw ⁵	4			Ss ²³	4							900	500	400	2	6	20
1070127	40	CWH	vm1	14	Cw ⁴	1.5							Hw ⁴	3	Ss ^{4,23}	3	Pl ²⁶	2			800	400	400	2	6	20



ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) ¹	Regen Delay Max (yrs)	FG Date Late (yrs)	
		Zone	SZ/Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)				
1070128	41	CWH	vm2	01	Fd ^{8,4}	2.25	Hw	2.5	Cw / Yc ²⁸	1.5	Ba	1.75			Hm ¹²	1						900	500	400	2	6	20
1070129	42	CWH	vm2	03	Cw	1	Hw	1.75	Fd ¹⁵	1.5	Yc ²⁸	1	Pw ^{15,22}	2.5	Hm ¹²	0.75	Pl ²⁶	1.25				800	400	400	2	6	20
1070130	43	CWH	vm2	04	Cw	1	Hw	1.75	Fd ¹⁵	1.5	Yc ²⁸	1	Ba	1.5	Pw ¹⁵	2.5	Hm ¹²	0.75	Ss ²³	2		900	500	400	2	6	20
1070131	44	CWH	vm2	05	Cw	1.5	Hw	2.5	Yc ²⁸	1.5	Ba	1.75	Fd ⁴	2.25			Hm ¹²	1				900	500	400	2	6	20
1070132	45	CWH	vm2	06	Cw	1.5	Hw	2.5	Yc ²⁸	1.5	Ba	1.75	Hm ¹²	1	Ss ⁸	3						900	500	400	2	6	20
1070133	46	CWH	vm2	07	Cw	2	Hw ⁵	3.5	Yc ²⁸	2	Ba	2.25			Hm ¹²	1						900	500	400	2	6	20
1070134	47	CWH	vm2	08	Cw ¹³	2	Hw ⁵	3.5	Yc ²⁸	2	Ba	2.25	Ss ²³	4	Hm ¹²	1						900	500	400	2	6	20
1070135	48	CWH	vm2	09	Cw ⁴	1	Hw ⁴	1.75	Yc ^{4,28}	1	Hm ¹²	1.75	Ba	1.5	Pl ⁴	1.25						800	400	400	2	6	20
1070136	49	CWH	vm2	11	Cw ⁴	1	Yc ^{4,28}	1					Hw ⁴	1.75	Hm ^{12,26}	0.75	Ss ^{4,23}	2				800	400	400	2	6	20
1070137	50	CWH	xm1	01	Fd	3							Cw	1.5	Pw ²²	2.5	Hw ¹⁹	2				900	500	400	2	6	20
1070138	51	CWH	xm1	03	Fd	2	Pl ⁷	1.25					Cw	1	Hw	1.25	Pw ²²	2.5				800	400	400	2	6	20
1070139	52	CWH	xm1	04	Fd	3							Cw	1.5	Pw ²²	2.5						900	500	400	2	6	20
1070140	53	CWH	xm1	05	Cw	2	Fd	4					Pw ²²	2.5	Bg ²⁶	3.5	Hw	1.75				900	500	400	2	6	20
1070141	54	CWH	xm1	06	Cw	1.5	Hw	2	Fd ¹⁷	3			Bg ⁸	3	Pw ²²	2.5						900	500	400	2	6	20
1070142	55	CWH	xm1	07	Cw	2	Fd	4	Bg	3.5			Hw	1.75								900	500	400	2	6	20



ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) ¹	Regen Delay	FG Date
		Zone	SZ/Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)			
1070143	56	CWH	xm1	12	Cw ⁴	1							Hw ⁴ **	1.5	Pw ²²	2.5	Ss ²³	1.5			800	400	400	2	6	20
1070144	57	MH	mm1	01	Ba	0.6	Hm	1	Yc	1.0			Hw _{13,26}	1							900	500	400	2	7	20
1070145	58	MH	mm1	02	Hm	.75	Yc	.75					Ba	0.6							800	400	400	2	6	20
1070146	59	MH	mm1	03	Ba	0.6	Hm	1	Yc	1			Hw _{13,26}	1							900	500	400	2	6	20
1070147	60	MH	mm1	04	Ba	0.6	Hm	1	Yc	1			Hw _{13,26}	1							900	500	400	2	7	20
1070148	61	MH	mm1	05	Ba	0.6	Yc	1					Hm	1	Hw _{13,26}	1					900	500	400	2	6	20
1070149	62	MH	mm1	06	Hm ⁴	.75	Yc ⁴	.75					Ba ⁴	0.6							800	400	400	2	7	20
1070150	63	MH	mm1	07	Ba ⁴	0.6	Yc ⁴	.75					Hm ⁴	.75							900	500	400	2	6	20
1070151	64	MH	mm1	09	Yc ⁴	.75	Hm ⁴	.75													800	400	400	2	6	20
1070152	Spruce1	CWH	xm1 xm2	08	BG	3.5	CW	2	SS	3.0											900	500	400	2	6	20
1070153	Spruce2	CWH	xm1 xm2	13	BG	3.5	CW	2					FDC	4	SS	3.0					800	400	400	1.5	6	20
1070154	Spruce3	CWH	xm1 xm2	14	BG	3.5	CW	2					SS	3.0							800	400	400	1	6	20
1070155	Spruce4	CWH	vm1	07/08/09	BA	2.25	CW	2	SS	4			HW	4							900	500	400	2	6	20
1070156	Spruce5	CWH	vm1	14	CW	1.5			SS	3			HW	3							800	400	400	1.5	6	20



ID	Silv Strat REF	BEC			Preferred Species								Acceptable Species								Stocking (w/s)			MIN Inter Tree Dist (m) ¹	Regen Delay	FG Date
		Zone	SZ/Variant	Site Series	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	1	Ht (min)	2	Ht (min)	3	Ht (min)	4	Ht (min)	Target P&A (sph)	Min P&A (sph)	Min P (sph)			
1070157	Spruce6	CWH	mm1	08	BA	1	CW	2	SS	4											900	500	400	1.5	6	20
1070901	50	CWH	xm2	01	Fd	3							Cw	1.5	Pw ²²	2.5	Hw ¹⁹	2			900	500	400	2	6	20
1070902	51	CWH	xm2	03	Fd	2	Pl ⁷	1.25					Cw	1	Hw	1.25	Pw ²²	2.5			800	400	400	2	6	20
1070903	52	CWH	xm2	04	Fd	3							Cw	1.5	Pw ²²	2.5					900	500	400	2	6	20
1070904	53	CWH	xm2	05	Cw	2	Fd	4					Pw ²²	2.5	Bg ²⁶	3.5	Hw	1.75			900	500	400	2	6	20
1070905	54	CWH	xm2	06	Cw	1.5	Hw	2	Fd ¹⁷	3			Bg ⁸	3	Pw ²²	2.5					900	500	400	2	6	20
1070906	55	CWH	xm2	07	Cw	2	Fd	4	Bg	3.5			Hw	1.75							900	500	400	2	6	20
1070907	56	CWH	xm2	12	Cw ⁴								Hw ^{4, **}	1.5	Pw ²²	2.5	Ss ²³	1.5			800	400	400	2	6	20

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12.1 REFERENCE NOTES FOR STOCKING STANDARDS

12.1.1 TREE SPECIES

'Ba' is amabilis fir

'Bg' is grand fir

'Cw' is western red cedar

'Fd' is coastal douglas fir

'Hm' is mountain hemlock'

Hw' is western hemlock

'Pl' is lodgepole pine

'Pw' is white pine

'Ss' is sitka spruce

'Yc' is yellow cedar

12.1.2 DEFINITIONS

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

'MIN' or 'Min' means minimum

12.1.3 CLARIFICATIONS

1. The Reference Guide for Forest Development Plan Stocking Standards, dated September 7, 2021 form the basis for the selection of Preferred and Acceptable species in the Free Growing Stocking Standards of this FSP. Some Tertiary species have been included as Acceptable species, to accommodate additional ecologically suited species within the Free Growing stand.
2. Site series where the stocking standards say '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. Zones and variants not shown on the BEC map for the South Island Forest District have been excluded from the table.
4. 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.
5. Where standards units (SUs) are comprised of an unmappable 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.

12.1.4 FOOTNOTES

1. Reduction of inter-tree spacing to 1.5 m is acceptable for site specific conditions involving bedrock, large blocky colluvium or hygric sites or on disturbed roadside areas. Roadside areas generally contain high percentages of mineral and morainal type soils.
2. Pw is considered an acceptable species, as root diseases are prevalent in the CDF variant, site series 01 to 06. 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 floors²⁷
 6. Restricted to coarse-textured soils²⁸
 7. Restricted to nutrient-very-poor sites
 8. Restricted to nutrient-medium sites
 9. Restricted to steep slopes
 10. Restricted to southerly aspects²⁹
 11. Restricted to northerly aspects³⁰
 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. Restricted to trial use.
 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
 24. Suitable in areas with stronger maritime influence.
 25. Risk of balsam woolly adelgid.
 26. Minor component
 27. Footnote deleted
 28. Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
 29. Will be preferred in wetter portions of the site series
- ** Hw is listed as an acceptable species in the VFR stocking standards but no height was given – 1.5 m is used as the minimum height

12.1.5 WESTERN WHITE PINE (PW).

1. Western white pine is a highly productive species with the potential for application to a wide range of site series in the CWH. However, due to disease risks associated with White Pine Blister Rust (*Cronartium ribicola*), this potential is severely limited. Even with intensive management, and

²⁷ forest floor >20 cm

²⁸ sand and loamy sand; or sandy loam, loam, sandy clay loam with >70% coarse fragments

²⁹ SSE to WSW with slopes >35%

³⁰ NW to ENE with slopes >50

genetically resistant stock, survival is at risk at any point in the rotation. The following outlines the application of Pw as an acceptable species:

Acceptable Species Status - the intent is to establish a component and manage the risk of mortality. Any Western White Pine planted by the holders of this FSP will be from rust-resistant stock.

12.1.6 SITKA SPRUCE (Ss)

1. When weevil-resistant planting stock is used, a substantially higher percentage of spruce is possible. If improved "A" Seed is used (From selected orchard-grown, weevil-resistant trees (R+87)), up to half of the stand could be planted with Sitka spruce in moderate- or high-hazard areas. If "B+" seed is used (from naturally resistant stands (R+64)), exercise caution; only about a third of the stand should be planted with Sitka spruce.

12.1.7 STOCKING STANDARDS FOR NON-TIMBER FOREST PRODUCT MANAGEMENT AREAS

1. The holder(s) of the FSP may, on a site by site basis, submit for approval, amendment requests in accordance with *FRPA s. 20(1) and FPPR s.29(e)*, for the purposes of managing trial areas for non-timber forest objectives jointly with wood fibre objectives (sometimes termed 'Agroforestry').

12.1.8 COASTAL DOUGLAS-FIR

1. The Free Growing Stocking Standard footnote #9 (Restricted to steep slopes) and footnote #10 (Restricted to southerly aspects) have been removed from Douglas-fir for the CWHvm1 site series 01, 03, 04, and 05; and the CWHvm2 site series 01, 03, 04, and 05. This is in contrast to the guidelines from the "Reference Guide for Forest Development Plan Stocking Standards, September 7, 2021". This is due to the option of planting these stands with high components of Western Hemlock and Western Red-cedar to achieve target stocking standards is not satisfactory, and recent stand survey results indicating that Douglas-fir has been performing well and is ecologically suitable on these sites. The planting of Douglas-fir is to be done on these sites on well to rapidly drained soils only.

13. APPENDIX 2: FSP MAP AND IDENTIFICATION OF FDUs
