



CRIBCO Forest Products Ltd.

1400 Weiwaikum Road, Campbell River, BC Canada V9W 5W8
Tel: (250) 286-6949
Fax: (250) 286-8838

CRIBCO
FOREST STEWARDSHIP PLAN
FNWL N2D

FSP I.D. # 575



Table of Contents

1.0	Introduction	1
2.0	INTERPRETATION	7
3.0	SUBMISSION DATE, TERM AND COMMENCEMENT.....	7
4.0	HOLDER, APPLICATION AND EXTENSION OR TERMINATION IN EFFECT	7
5.0	FSP MAP (FRPA SEC. 5 (1)(a) & FPPR SEC. 14): FDUS & DESIGNATIONS EFFECT	8
6.0	RESULTS AND STRATEGIES	10
6.1	Ministerial Order - Great Bear Rainforest dated January 28, 2016 – FDU 1.	10
6.1.1	Division 2 – First Nations.....	10
6.1.2	Division 3 – Aquatic Habitats	15
6.1.3	Division 4 – Biodiversity	21
6.1.4	Division 5 – Wildlife	28
6.2	Land Use Objectives (FPPR s.1 definition) – FDU 2.....	30
6.2.1	Order Establishing Landscape Unit Objectives	30
6.3	Objectives Prescribed Under Legislation (FRPA section 149; FPPR sections 5-10).....	35
6.3.1	Objectives set by government for soils (FPPR section 5).....	35
6.3.2	Objectives set by government for wildlife (FPPR section 7)	35
6.3.3	Objectives set by government for water, fish, wildlife and biodiversity in riparian areas (FPPR section 8).....	40
6.3.4	Objectives set by government for fish habitat in fisheries sensitive watersheds (FPPR section 8.1)	40
6.3.5	Objectives set by government for water in community watersheds (FPPR section 8.2)	40
6.3.6	Objectives set by government for wildlife and biodiversity (FPPR sections 9 and 9.1).....	41
6.3.7	Objectives set by government for cultural heritage resources (FPPR section 10)	42
6.4	Orders Established Under Government Action Regulation (GAR).....	44
6.4.1	Visual Resources	44
6.4.2	Recreation Resource Feature.....	44
6.4.3	Karst	45
7.0	MEASURES SET BY GOVERNMENT	46
7.1	Measure set by Government to Prevent the Introduction and Spread of Invasive Plants (FRPA section 47 and FPPR section 17)	46
7.2	Measures Set by Government Related to Range Barriers (FPPR section 18)	47
8.0	STOCKING STANDARDS	48



Signature of Person Required to Prepare Plan	50
APPENDIX 1.0 - CRIBCO FSP STOCKING STANDARDS	51
APPENDIX 2.0 - CRIBCO FSP MAPS	61



1.0 Introduction

CRIBCO Forest Products Ltd. is a forest company wholly owned by the Wei Wai Kum First Nation (Campbell River Indian Band – CRIB) who reside on the coast of British Columbia within the vicinity of the City of Campbell River, BC. The traditional territory of the Wei Wai Kum encompasses a portion of the area covered by this Forest Stewardship Plan (FSP). There is a long history of resource use within the traditional territory, including hunting, fishing, food collection and harvesting of trees. The vision of the Wei Wai Kum First Nation is to apply the best definition of the term sustainable to the wealth of resources found in the traditional territory in perpetuity.

It is an objective of CRIBCO to practice sound and sustainable forest stewardship on lands within the traditional territory of the Wei Wai Kum First Nation and to achieve a level of independence concerning forest management decisions.

This First Nation Woodland Licence (FNWL) FSP will provide opportunities for CRIBCO and supports the aforementioned objectives.

1.1 Forest Stewardship Plan-General Comments

There are two discrete areas to which this FSP applies. The first parcel is in the vicinity of Pye Lake/Stella Lake and is subject to the requirements of the Sayward Landscape Unit Plan (SLUP). The second parcel is in the vicinity of Heydon Bay on the Loughborough Inlet and is subject to the requirements of the Great Bear Rainforest Order. Both areas are within the Campbell River Natural Resource District (CRNRD) of the Coast Forest Region.

1.2 Definitions and Abbreviations

The following definitions and abbreviations are provided for reference:

Aboriginal Forest Resource (AFR) - means a forest plant resource listed in Schedule J of the GBRO, or other forest plant resource identified by first nations during First Nation Engagement that is utilized for food, social, medicinal or ceremonial purposes.

Aboriginal Heritage Feature (AHF) - means an artifact, feature, or site of the general types listed in Schedule I of the GBRO, other than a Contemporary Culturally Modified Tree or a Historical Culturally Modified Tree, that is known, is found, or is identified during First Nation Engagement and is important to the cultural practices, knowledge or heritage of a first nation.

Aboriginal Interests - means the asserted or proven aboriginal rights or aboriginal title or the treaty rights of an Applicable First Nation in the order area.

Aboriginal Tree Use - means the use of Monumental Cedar, other cedar or other tree species to fulfill the domestic needs of the Applicable First Nation for such things as shelter, transportation, tools, fuel, and art, but does not include the use of Monumental Cedar, other cedar or other tree species for purposes of commercial production or sale.

Active Fluvial Unit – means an active floodplain, where water flows over land in a normal flood event, and includes low and medium benches and the hydrogeomorphic zone of an active fan.

Adaptive Management Plan – a monitoring or research initiative that is developed and implemented during the operational planning and primary forestry activity phase to examine the outcomes of management strategies and practices that vary from default requirements.

Applicable First Nation – means any First Nation with an asserted or established aboriginal right, aboriginal title, or treaty right to the area under consideration.



Average Operational Landbase Netdown - means the area-weighted average percentage of the aspatial timber harvesting land base netdown percentages for a Site Series Group in a landscape unit.

Bear Den - means a den identified by a Qualified Professional that is suitable for winter hibernation and maternity.

Blue-listed Plant Community - means a plant community listed in Schedule O of the GBRO that is Sufficiently Established and meets the age, stand structure and area criteria described in Schedule O of the GBRO.

Cedar Stewardship Area - means an area identified in Schedule Q of the GBRO, or a similar area that is identified by first nations through First Nation Engagement that is for the purpose of maintaining, enhancing and providing access to cedar for cultural use.

Contemporary Culturally Modified Tree - means a tree that was modified less than eighty years ago by first nations people as part of their cultural use of the tree.

CRIBCO – Campbell River Indian Band Company.

Critical Spawning and Rearing Area - means a highly productive or potentially highly productive fish habitat, where alteration to the structure and composition of the area is reasonably likely to reduce the reproductive success for invertebrates, and anadromous and resident fish species.

CRNRD – Campbell River Natural Resource District.

Cultural Cedar Stand - means three or more Monumental Cedars or Contemporary Culturally Modified Trees where each tree is within 30 metres of another Monumental Cedar or Contemporary Culturally Modified Tree.

Cultural Cedar Use – means the use of monumental cedar or other cedar to fulfill the domestic needs of the applicable First Nation for such things as shelter, transportation, tools, fuel, and art, but does not include the use of monumental cedar or other cedar for purposes of sale, trade, barter, financing, or the production of assets.

Cultural Heritage Resource (CHR) – as defined in the Forest Act, means an object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people.

Culturally Modified Tree (CMT) area – means an area where more than 10 culturally modified trees are all found within one tree length of each other.

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 authority.

DDM – Delegated Decision Maker.

Development Area – means an area in a watershed defined by the boundaries shown on a site plan or multiple site plans where an annual or multi-year project of timber harvesting and road construction is planned or carried out, and includes any Stand Retention, Management Zones, Reserve Zones, mapped reserves, or other areas where timber harvesting is restricted or managed pursuant to the GBRO or [FRPA](#) and the regulations made under that Act.

EBM – Ecosystem Based Management.

ECA - Equivalent Clearcut Area means an indicator that quantifies the percentage of the forested portion of a watershed that has been altered by harvesting, fires, insects, or disease and has not recovered to a state of Hydrologically Effective Greenup.



First Nation Engagement - means reasonable efforts to communicate, share information, engage in dialogue, and identify and resolve issues with Applicable First Nations and includes provision and consideration of all relevant information about potential impacts on Aboriginal Interest.

FDU(s) – Forest Development Unit(s).

Forest Practice – means a prescribed activity under the [FPPR](#). A prescribed activity is:

- timber harvesting, road construction, road maintenance, road use, road deactivation, silviculture treatments, botanical forest product collecting and fire use, control and suppression;
- an activity carried out under an agreement under the *Forest Act*, a special use permit or a road use permit;
- an activity related to an activity described above.

Forested Swamp – means a forested mineral wetland or a forested peatland with standing or gently flowing nutrient rich water in pools or channels and the water table is usually at or near the surface of the wetland or peatland. It does not include poorly drained areas transitional to uplands where Folisolic growing substrate (i.e., folic material derived from the litter of trees and lesser vegetation of upland sites) occupies 50% or more of the site or hydromorphic organic matter (organic material accumulated under saturated conditions) and wetland species hydrophytes occupy less than 50% of the site area.

FPPR – Forest Planning and Practices Regulation of the Forest and Range Practices Act.

FRPA – Forest and Range Practices Act.

FSP – Forest Stewardship Plan.

FSP holder or plan holder or Holder – refers to licensees under the Forest Act that are holders and/or signatories to this FSP.

Functional Riparian Forest - means forest that has reached Hydrologically Effective Greenup and that also contains some large trees adjacent to streams to provide for large organic debris.

GAR – Government Actions Regulation of the Forest and Range Practices Act.

GBRO – Great Bear Rainforest Order.

High Value Fish Habitat - means Critical Spawning and Rearing Areas for anadromous and non-anadromous fish that are any of the following:

- (a) Estuaries that have eel grass beds or salmonid and eulachon rearing areas;
- (b) wet flood plains that are main channel salmonid and eulachon spawning habitat or off channel habitat used for rearing and spawning;
- (c) marine interface areas that are shallow intertidal areas, kelp beds, herring spawning areas, or shellfish beds;
- (d) High Value Fish Stream Channels; or
- (e) marsh, fen wetlands, or portions of lakes larger than .25 hectares with known sockeye salmon lakeshore spawning activity.

High Value Fish Stream Channel - means a fish stream channel with typically all of the following characteristics:

- (a) spawning quality non-compacted gravel substrate;
- (b) stream is prone to moving laterally beyond its active channel;
- (c) riparian vegetation is critical to limit bank erosion and channel widening;
- (d) highly productive fish habitat;
- (e) large woody debris is important for channel structure and habitat features; and



(f) sensitive to disturbance of adjacent riparian forest.

Historical Culturally Modified Tree - means a tree that was modified more than eighty years ago by first nations people as part of their cultural use of the tree.

Holder - refers to licensees under the Forest Act that are holders and/or signatories to this FSP.

Hydrologically Effective Greenup - means the height, stocking density and crown closure at which the hydrologic conditions of a harvested site are restored to near pre-harvest conditions with the regrowth of new forest at the site.

Important Fisheries Watershed - means a watershed area identified in Schedule E Of the GBRO, but not including watersheds composed entirely of S5 or S6 streams flowing directly to the ocean.

Landscape Reserve - means an area in a Landscape Unit where commercial harvesting is not permitted.

Landscape Reserve Design - means a system of Landscape Reserves in a Landscape Unit which is designed to meet requirements for Old Forest representation, and simultaneously contribute to protection of Aboriginal Heritage Features, Aboriginal Forest Resources and other land use objectives.

Landscape Unit - means a Landscape Unit within the order area shown in Schedule A of the GBRO.

Managed Forest - means the area of productive forest that is or will be available for timber harvest.

Minimum Old Forest Retention Level - means the minimum percentage of the total forest area in a Site Series Group to be retained as Old Forest for the order area shown in Column "B" of Schedule G of the GBRO.

MoFLNRORD – Ministry of Forests, Lands, Natural Resource Operations and Rural Development.

Monumental Cedar - means a large old western redcedar tree or a large old yellow cedar tree that has the attributes necessary to fulfill the Aboriginal Tree Use needs of the Applicable First Nation primarily for totem poles, canoes, or long beams and poles to build longhouses, community halls or similar community structures.

Natural Boundary - means the visible high water mark, or bankfull width, of any lake, river, stream or other body of water where the presence and action of the water are so common and usual, and so long continued in all ordinary years, as to mark on the soil of the bed of the body of water a character distinct from that of its banks, in vegetation, as well as in the nature of the soil itself.

Natural Forest - means the area of productive forest that is not Managed Forest.

OGMA(s) – Old Growth Management Area(s).

Old Forest - means any of the following:

- (a) a stand of trees 250 years or older;
- (b) an old, structurally complex stand comprised mainly of climax species where older seral remnants may still be present in the upper canopy and typically have:
 - (i) standing snags;
 - (ii) rotting logs on the ground; and
 - (iii) patchy understories; or
- (c) a stand of trees that has reached the climax state for the ecosystem it is found in where trees naturally cycle at an age less than 250 years.

Old Forest Representation Target - means a long term Old Forest Representation Target for a Site Series Group for the order area shown in Column "A" in Schedule G of the GBRO.



Primary Forest Activities – mean one or more of the following (according to the [FPPR](#)):

- (a) Timber harvesting
- (b) Silviculture treatments
- (c) Road construction, maintenance, and deactivation.

Qualified Professional – 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 subject to disciplinary action by that association; and
- (b) the individual is acting within that individual's area of expertise.

Red-listed Plant Community - means a plant community listed in Schedule N of the GBRO that is Sufficiently Established and meets the age, stand structure and area criteria described in Schedule N of the GBRO.

Reasonable Effort – pursuing a fair, rational approach that a sensible person in similar circumstances would logically employ.

Reserve Zone - means an area referred to in the GBRO where commercial timber harvesting and road building are not permitted unless otherwise specified in the Order.

Restoration Zone - means a zone established within a Restoration Landscape Unit Landscape Reserve Design that is established for the purpose of restoration of old forest structural attributes.

RMZ – in reference to riparian matters means a 'Riparian Management Zone'; and in the context of the Vancouver Island Land Use Plan and related Higher Level Plan Order means a 'Resource Management Zone'.

Site Series - means sites capable of producing the same late seral or climax plant communities within a biogeoclimatic subzone or variant.

Site Series Group - means a Site Series or Site Series Group listed in Schedule S of the GBRO.

SLUP – Sayward Landscape Unit Plan.

Stand Retention - means small patches of trees and understory vegetation that are located in a Cutblock or contiguous to a Cutblock.

Sufficiently Established - means, a Red-Listed Plant Community or Blue-Listed Plant Community most commonly associated with late mature or Old Forest stand characteristics, with the exception of floodplains, or a Red-Listed Plant Community or Blue-Listed Plant Community found in a stand not defined as Old Forest but with a complex, open stand structure, along with a quantity and distribution of indicator plants for the listed community, that constitutes an element occurrence with a good or better viability rank.

Temporary Old Forest Reserve - means a temporary spatially defined Old Forest reserve outside of Landscape Reserve Designs where timber harvesting will not take place during the period of time that the Temporary Old Forest Reserve, or portion thereof, is in effect.

Tree Length - means a distance equal to the height of the dominant trees at time of harvest in the forest stands within or adjacent to a feature.

Type 1 Restoration Landscape Unit - means a Landscape Unit listed as a Type 1 Restoration Landscape Unit in Schedule H of the GBRO.

Type 2 Restoration Landscape Unit - means a Landscape Unit listed as a Type 2 Restoration Landscape Unit in Schedule H of the GBRO.



Upland Stream - means a stream with a slope greater than 5% and that is classified as an S4, an S5 or an S6 stream.

UWR – Ungulate Winter Range.

VILUP – Vancouver Island Land Use Plan.

WHA – Wildlife Habitat Area.



2.0 INTERPRETATION

2.1 Tenses

In this FSP, the singular includes the plural and the plural the singular, unless the context indicates otherwise.

2.2 Objectives Cancelled

If an objective, for which a result or strategy is included within this FSP, is cancelled by approval by government, then the result or strategy within this FSP concerning the cancelled objective is no longer applicable effective the date of the cancellation of the objective.

3.0 SUBMISSION DATE, TERM AND COMMENCEMENT

3.1 Submission Date

The submission date of this FSP is September 1, 2021.

3.2 Term (FRPA Section 6(1))

The term of this FSP is five years beginning on the commencement date.

3.3 Commencement Date

The commencement date for this FSP is the date on which the FSP is approved by the Minister of Forests, Lands and Natural Resource Operations or their delegate.

The FSP may be terminated earlier if the licensee elects to replace it with another approved FSP; or may be extended pursuant to the [FRPA](#) and regulations.

4.0 HOLDER, APPLICATION AND EXTENSION OR TERMINATION IN EFFECT

4.1 Holder

The Holder of this FSP is CRIBCO Forest Products Ltd. which is a forest company wholly owned by the Wei Wai Kum First Nation.

4.2 Application of this FSP

This FSP applies to the lands defined by the following First Nation Woodland Licence held by CRIBCO Forest Products Ltd.:

First Nation Woodland Licence: **N2D**

4.3 FSP Extension or Term

This FSP may be extended after the commencement date according to applicable legislation. Alternatively, this FSP may be terminated by the Holder if it is replaced with another approved FSP.



5.0 FSP MAP (FRPA SEC. 5 (1)(a) & FPPR SEC. 14): FDUS & DESIGNATIONS EFFECT

The FSP maps illustrates the FDUs and the applicable land use designations that are in effect on the date of submission and that intersect with FDUs defined for the FSP area. Figure 1 provides an overview of the FSP plan area.

Refer to Appendix 2 for detailed FSP maps.

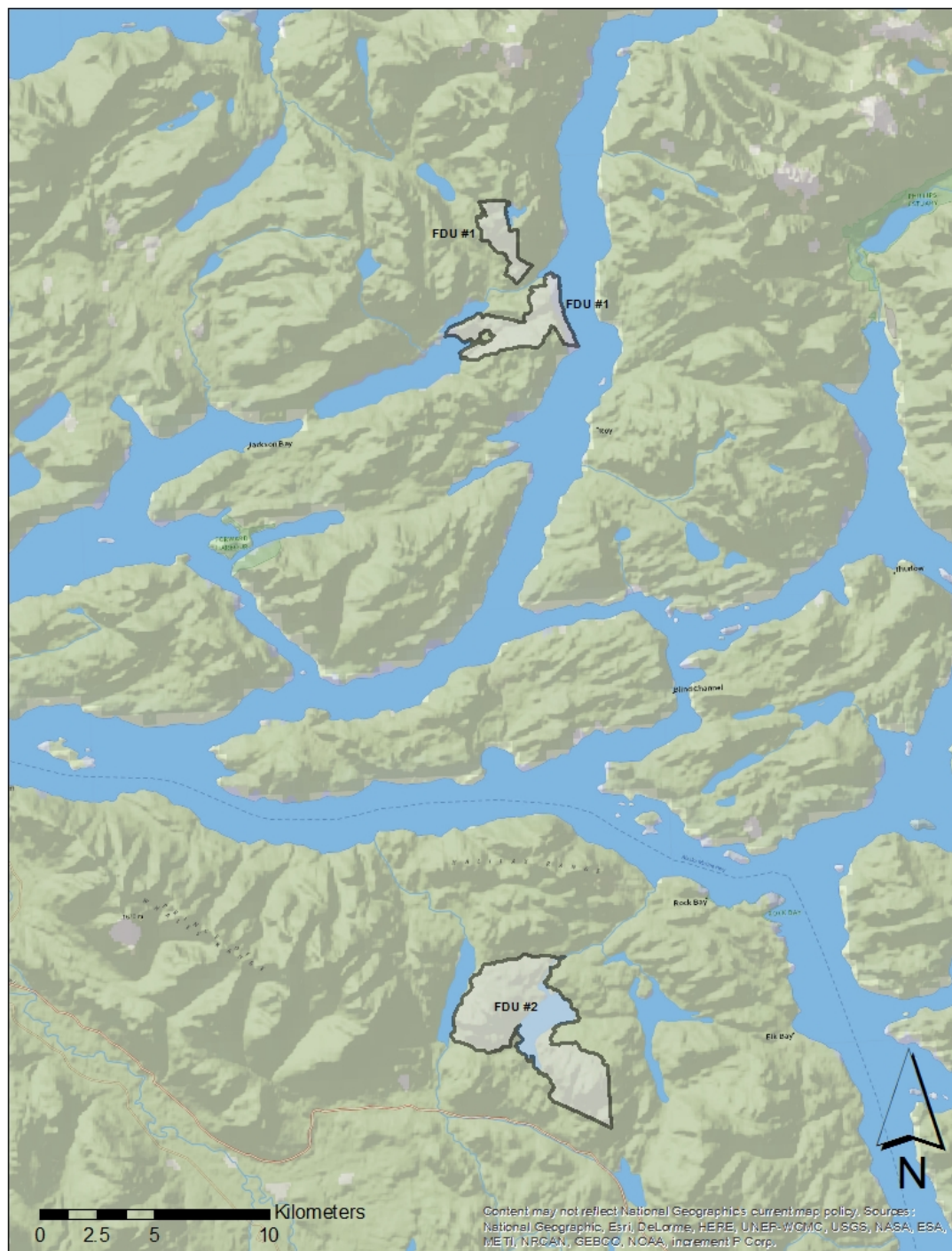


Figure 1. CRIBCO FSP FDU Overview



5.1 Details Concerning FDUs Identified (FPPR section 14(1)(b))

This FSP applies to all cutblocks and roads subject to cutting permits issued to the licensee under the licence referred to in Section 4.2, on or after the date approval of this FSP.

The plan area is divided into 2 FDUs:

FDU 1 – HEYDON BAY

FDU 2 – PYE LAKE

FDUs have been established to be consistent with existing land use order boundaries.

FDU 1 is located in the vicinity of Heydon Bay on Loughborough Inlet and is subject to the GBRO and is managed under EBM.

FDU 2 is located in the vicinity of Pye Lake/Stella Lake in the Sayward Landscape Unit and is subject to the VILUP and the SLUP which defines OGMA's, stand level retention and visual quality management objectives.

5.2 Designations in Effect (FPPR section 14(3))

The FSP maps show the designations and requirements described in [FPPR section 14\(3\)](#) that were in effect on the Date of Submission, including, for ease of reference:

- (1) UWR U-1-005
- (2) WHA 1-091
- (3) Reserve Zones established by the District Manager for Lakes within the Sayward LU
- (4) Scenic areas as established by the District Manager
- (5) Established OGMAs as per the Sayward Landscape Unit Plan
- (6) Great Bear Rainforest Order
- (7) The Holder's active cutting permits and road permits



6.0 RESULTS AND STRATEGIES

6.1 Ministerial Order - Great Bear Rainforest dated January 28, 2016 – FDU 1.

Section 1 of FRPA defines objectives set by government to include objectives set under *section 93.4 of the Land Act*. In March of 2009, the Minister of Agriculture and Lands amended government land use objectives for ecosystem-based management (EBM) within the South Central Coast area. On June 13, 2013, the Order was amended again to improve clarity and understanding to aspects of the earlier orders; to capture substantial corrections to the Grizzly Bear habitat datasets (objective 17 in the Order); and, to correct grammatical, punctuation and spelling errors from the original documents.

The Great Bear Rainforest Order was legally established on January 28, 2016 and Parts 1 and 3 of the Order impact objectives in FDU 1.

For clarity, the particular objective addressed is included under each relevant subsection as it appears in the GBRO. The Divisions for Parts 1 and 3 of the GBRO are amalgamated to allow the Division objectives to be discussed together.

6.1.1 Division 2 – First Nations

6.1.1.1 Objective for first nation information sharing and engagement

- (1) *For the purpose of implementing and achieving the intent of the objectives in this land use order conduct First Nations Engagement with Applicable First Nations.*

6.1.1.2 Objectives for identification of Aboriginal Forest Resources and Aboriginal Heritage Features

- (1) *In Development Areas, through field reconnaissance or field assessments and First Nation Engagement as appropriate in areas proposed for road building or harvesting, identify Aboriginal Forest Resources, Aboriginal Heritage Features, Historical Culturally Modified Trees, Contemporary Culturally Modified Trees, Monumental Cedar and Cultural Cedar Stands.*

6.1.1.3 Objectives for Aboriginal Forest Resources

- (1) *Maintain or enhance Aboriginal Forest Resources in sufficient quantity and manner to support Applicable First Nations' present and future stewardship and use of those resources.*
- (2) *Despite subsection (1), Aboriginal Forest Resources may be harvested or altered in order to meet silvicultural obligations, provided there has been First Nation Engagement with Applicable First Nations.*

6.1.1.4 Objectives for Aboriginal Heritage Resources

- (1) *In Development Areas, protect Type 1 Aboriginal Heritage Features, as defined in Schedule I of the GBRO.*
- (2) *Adjacent to Type 1 Aboriginal Heritage Features, maintain a Reserve Zone with a minimum width of 200 metres, measured from the edge of the Type 1 Aboriginal Heritage Feature, to protect the Type 1 Aboriginal Heritage Feature.*
- (3) *Despite subsections (1) and (2), the Type 1 Aboriginal Heritage Feature and the Reserve Zone may be modified with the support of, or lack of objection from, the Applicable First Nation.*
- (4) *Despite subsections (2) and (3), the Reserve Zone may be modified when:*
 - (a) *alternative measures are implemented to avoid, mitigate or otherwise address impacts on the Type 1 Aboriginal Heritage Feature;*



- (b) *there has been First Nation Engagement with Applicable First Nations regarding the alternative measures; and*
 - (c) *the modification is required for road access, other infrastructure, or to address a safety concern and there is no practicable alternative.*
- (5) *In Development Areas, protect Type 2 Aboriginal Heritage Features, as defined in Schedule I of the GBRO.*
- (6) *Adjacent to Type 2 Aboriginal Heritage Features, maintain a Reserve Zone with a minimum width of 1 Tree Length measured from the edge of the feature, and a Management Zone with an average minimum width of 0.5 Tree Lengths measured from the outer edge of the Reserve Zone to protect the Type 2 Aboriginal Heritage Feature from the site-specific local hazards and windthrow.*
- (7) *Despite subsections (5) and (6), the Type 2 Aboriginal Heritage Feature and its Reserve Zone and Management Zone may be modified with the support of, or lack of objection from, the Applicable First Nation.*
- (8) *Despite subsections (5), (6) and (7), the Type 2 Aboriginal Heritage Feature may be altered or removed, and the Reserve Zone and Management Zone may be modified when:*
 - (a) *alternative measures are implemented to avoid, mitigate or otherwise address impacts on the Type 2 Aboriginal Heritage Feature;*
 - (b) *there has been First Nation Engagement with Applicable First Nations regarding the alternative measures; and*
 - (c) *the alteration or removal is required for road access, other infrastructure, or to address a safety concern and there is no practicable alternative.*

6.1.1.5 Objectives for Historical Culturally Modified Trees

- (1) *In Development Areas, protect Historical Culturally Modified Trees.*
- (2) *Adjacent to Historical Culturally Modified Trees, maintain a Management Zone of sufficient width and design to protect the Historical Culturally Modified Trees from site specific local hazards and windthrow.*
- (3) *Despite subsections (1) and (2), the Historical Culturally Modified Tree and the Management Zone may be modified with the support of, or lack of objection from, the Applicable First Nation.*
- (4) *Despite subsections (1), (2) and (3), a Historical Culturally Modified Tree and the Management Zone may be altered or harvested if there has been First Nation Engagement with Applicable First Nations; and*
 - (a) *alteration or harvesting is required for road access, other infrastructure, or to address a safety concern and there is no practicable alternative; or*
 - (b) *protection of all of the Historical Culturally Modified Trees in the cutting permit area or timber sale licence area would make harvesting economically unviable.*



6.1.1.6 Objectives for Aboriginal Tree Use

- (1) *Maintain a sufficient volume and quality of western redcedar, yellow cedar and other tree species to support the Applicable First Nations' present and future Aboriginal Tree Use.*
- (2) *In Cedar Stewardship Areas, maintain, and recruit as necessary, Monumental Cedar, western redcedar and yellow cedar in a quantity sufficient to support the Applicable First Nations' present and future Aboriginal Tree Use.*
- (3) *Within Development Areas, retain Monumental Cedar with windfirm buffers and Cultural Cedar Stands in a quantity sufficient to support the Applicable First Nations' Aboriginal Tree Use.*
- (4) *For the purposes of subsection (3), a Monumental Cedar and its windfirm buffer, or a Cultural Cedar Stand, may be altered or harvested provided that there has been First Nation Engagement with Applicable First Nations; and*
 - (a) *it has been determined that the Monumental Cedar or Cultural Cedar Stand is not suitable or is not required for a cultural cedar use;*
 - (b) *the Monumental Cedar or Cultural Cedar Stand will be provided to the Applicable First Nation;*
 - (c) *the harvesting is required for road access, other infrastructure, or to address a safety concern and there is no practicable alternative; or*
 - (d) *retention of all of the Monumental Cedar and Cultural Cedar Stands in the Cutblock area would make harvesting economically unviable.*
- (5) *Within a Cutblock, for the first 15% of the pre-harvest stand retained in Stand Retention as specified in section 17(1) of the GBRO, design Stand Retention to maintain mature and old western redcedar and yellow cedar representative of the pre-harvest stand.*

6.1.1.7 Objectives for retention of western yew

- (1) *In Development Areas, retain western yew trees¹.*
- (2) *Despite subsection (1), western yew trees may be altered or harvested if:*
 - (a) *alteration or harvesting is required to accommodate operational requirements for road and bridge construction and there is no practicable alternative; or*
 - (b) *the retention of all western yew trees in a Cutblock would make harvesting economically unviable and measures are implemented to provide for use of the altered or harvested western yew trees by Applicable First Nations.*
- (3) *Where practicable, include western yew trees in Stand Retention.*
- (4) *All areas retained or managed in accordance with subsections (1), (2) and (3) must be documented and submitted as digital spatial data at the end of each calendar year to the Applicable First Nation and the Province of British Columbia.*

¹ to be considered a tree, Western Yew must have a height of at least 2 metres, or a height determined through engagement with an applicable First Nation.



Strategy for 6.1.1.1, 6.1.1.2, 6.1.1.3, 6.1.1.4, 6.1.1.5, 6.1.1.6 and 6.1.1.7

- (1) If the Holder conducts Primary Forest Activities the Holder will carry out those activities consistent with the objectives in 6.1.1 Division 2 - First Nations Objectives.
- (2) If the Holder conducts Primary Forest Activities the Holder will make all reasonable efforts to meet with applicable First Nations, whose asserted traditional territories are included within the FDUs of this FSP, to understand how each First Nation wishes to be engaged regarding development under this FSP. Guidance, processes, protocols or agreements between the Holder and a First Nation, developed as a result of such meetings or communication, will define how information sharing/engagement is conducted by the Holder under this FSP with the respective First Nation.

During these engagement meetings, the Holder will request information regarding the location of any known individual or groups of AFRs or AHFs.

The Holder will seek to define desirable attributes for field identification of Monumental Cedar through Engagement with Applicable First Nations.

The FSP Holder will, through First Nation Engagement with the Applicable First Nations, request information on their stewardship, use of AFRs and preferred management options and will assist Applicable First Nation's to access those resources should they request it throughout timber harvesting, road building, and post-harvest activities.

- (3) Where there is no existing bilateral guidance, process, protocol or agreement between the Holder and an applicable First Nation, and the First Nation does not wish to engage to develop such bilateral guidance/process/protocol or agreement, before undertaking development, the Holder will make all reasonable efforts to:
 - a) Annually:
 - i) Meet with the designated representatives of applicable First Nations,
 - ii) Share an overview of planned and proposed activities across the entire territory,
 - iii) Provide 1:20,000 scale maps of specific areas where activities are proposed,
 - iv) Work with the applicable First Nations to identify, understand and discuss respective interests and concerns,
 - v) Ask the First Nations whether they wish to see detailed follow-up as described in Section (b),
 - vi) Submit the location of Yew trees found during development and report those locations by way of maps, digital files or whatever method is agreed upon as a result of engagement meetings. Digital files will be sent to the MoFLNRORD via a template in the EBM Data Centre in the "Bear Den & Yew Tree Reporting Template" box under "EBM REFERENCE INFORMATION". This method will be used until a web mapping application, that is currently under development, is finalized.
 - b) If requested by the First Nation as per section 3(a)(v), before submitting applications for operational Crown authorizations, the Holder will make all reasonable efforts to:
 - i) Provide overview and site level maps to the applicable First Nation showing the proposed development that the Holder plans to submit for Crown authorization;
 - ii) Meet with designated representatives of applicable First Nations to review and discuss further details on planned and proposed activities including strategies adopted to address concerns identified during the initial (annual) meeting or correspondence;
 - iii) Share more detailed information that has been collected during the assessment and development of the planned and proposed activities in context of the interests or



concerns that the applicable First Nation has regarding the proposed and planned activities;

- iv) Modify or adjust proposed and planned forest development activities to address the identified new information, interests, and concerns;
- v) Prepare a summary of the engagement process, including:
 - (1) Date, participation, and method of any applicable communication, and
 - (2) A description of identified issues and how they were resolved.

If the meetings have not occurred, the Holder will prepare a summary of the efforts made to meet and/or review the information.

- vi) Provide the summary described in section (3)(b)(v) along with the application to:
 - (1) The District Manager; and
 - (2) The designated representatives of the Applicable First Nation.

- (4) Where Aboriginal Heritage Features are identified, the Holder will make all reasonable efforts to engage with the Applicable First Nation and will implement a minimum 200m Reserve Zone on Type 1 features and a minimum 1 Tree Length Reserve Zone plus 0.5 Tree Length Management Zone on Type 2 Features. If the Holder wishes to consider a modified Reserve Zone or Management Zone for either a Type 1 or Type 2 Feature, the Holder will:
 - a) Request to meet with the designated representatives of the Applicable First Nation; and
 - b) Provide site level information, including 1:5000 maps of the Reserve Zone in question; and
 - c) Complete any required field surveys or site visits.

If there are no objections raised by the Applicable First Nation regarding the modification, and the Holder can address any concerns raised by the Applicable First Nation regarding the modification, the Holder will produce a final summary package of the proposed modification to the First Nation and request a response from the First Nation indicating their support or lack of objection.

- (5) Where Historical Culturally Modified Trees are identified, the Holder will make all reasonable efforts to engage with the Applicable First Nation and will implement a Management Zone of sufficient width and design to protect the HCMTs from local hazards and windthrow. If the Holder wishes to consider a modified Management Zone or alteration of a HCMT, the Holder will:
 - a) Request to meet with the designated representatives of the Applicable First Nation;
 - b) Provide site level information, including 1:5000 maps of the HCMTs in question;
 - c) Complete any required field surveys or site visits as required; and
 - d) Seek an authorization permit from the appropriate authority for HCMTs that are under the Heritage Conservation Act.

If there are no objections raised by the Applicable First Nation, and the Holder is able to address any concerns raised by the Applicable First Nation regarding the modification or alteration, the Holder will produce a final summary package of the proposed modification to the First Nation and request a response from the First Nation indicating their support or lack of objection.

- (6) In any instance that a HCMT or Aboriginal Heritage Feature is discovered during Primary Forest Activities the Holder will immediately stop work in the area and contact the applicable First Nation. The Holder will work directly and promptly with the applicable First Nation to determine a resolution at that time.



- (7) Where western yew trees are identified, the Holder will make all reasonable efforts to engage with the Applicable First Nations to determine their needs.
- (8) All Reasonable efforts will include the timeframe as follows:
 - a) For Section 3(a) efforts, a period of 60 days commencing on the first date at which attempts to meet or share information have been made; and
 - b) For Section 3(b) efforts, a period of 30 days commencing on the first date at which attempts to meet or share the requested follow-up information have been made.
 - c) For Sections 4, 5 and 6 efforts, a period of 30 calendar days commencing on the first date at which attempts to meet or share information have been made, and then a period of 15 calendar day after the final summary package has been sent.

6.1.2 Division 3 – Aquatic Habitats

6.1.2.1 Objectives for Important Fisheries Watersheds

- (1) *Maintain hydrological and fluvial processes in watersheds within the range of natural variation by maintaining an Equivalent Clearcut Area of less than 20% in each of the Important Fisheries Watersheds shown in Schedule E of the GBRO.*
- (2) *Despite subsection (1), an Equivalent Clearcut Area of more than 20% may be maintained provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *a coastal watershed assessment or similar assessment of watershed sensitivity to forest development disturbance is completed by a Qualified Professional;*
 - (c) *an amount, type and distribution of forest cover sufficient to sustain natural hydrological and fluvial processes within the watershed is maintained; and*
 - (d) *the effectiveness of the management strategies implemented pursuant to subsection (2)(c) are monitored.*

Strategy

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for important fisheries watersheds.
- (2) Where there are other licence holders operating in a watershed, the FSP Holder will communicate and share information as necessary in order to ensure that the ECA limits are not exceeded by the FSP Holder based on the information available at time of analysis.
- (3) If a Qualified Professional determines it is not necessary to maintain an ECA less than 20%, the steps in (2) of the Objectives will be undertaken.



6.1.2.2 Objectives for High Value Fish Habitat

- (1) *Protect and maintain High Value Fish Habitat by, in a Development Area, maintaining an adjacent Reserve Zone with a minimum width of 1.5 Tree Lengths and do not alter or harvest the forest in the Reserve Zone unless there is no practicable alternative.*
- (2) *Despite subsection (1), the width of the Reserve Zone may be decreased at specific locations to address site characteristics and values, provided that:*
 - (a) *a decrease is no more than 0.5 Tree Lengths; and*
 - (b) *there is no net loss of the total minimum Reserve Zone area in the Development Area.*
- (3) *Despite subsections (1) and (2), the width of the Reserve Zone may be decreased by more than 0.5 Tree Lengths provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *there is no net loss of Reserve Zone area required in subsection (1) in the Development Area;*
 - (c) *an aquatic habitat assessment has been prepared by a Qualified Professional that specifies measures:*
 - (i) *to maintain the geomorphic and hydroriparian characteristics of the stream channel;*
 - (ii) *to maintain the life cycle needs of fish in affected stream reaches;*
 - (iii) *to maintain local terrestrial habitat needs and linkages to other reserves; and*
 - (iv) *to minimize loss of trees in the Reserve Zone from windthrow; and*
 - (d) *the measures in subsection (3)(c) are implemented.*
- (4) *Despite subsections (1), (2) and (3), for the lower portion of the Klinaklini River and its tributaries identified in Schedule P of the GBRO, and for the lower portion of Viner Creek identified in Schedule P of the GBRO, maintain a Reserve Zone width of 100m on each side of the Natural Boundary, unless there is no practicable alternative for future road access, other infrastructure, or to address a safety concern. Existing road access and infrastructure is exempt from this reserve provision.*
- (5) *Where some or all of the forest required under subsections (2) and (3) has been previously altered or harvested, to the extent practicable, recruit or create Functional Riparian Forest in the Reserve Zone in the shortest time possible.*

Result

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for High Value Fish Habitat.
- (2) The Klinaklini River and Viner Creek, as identified in Schedule P of the GBRO, are not within the plan area; therefore, no result or strategy is defined.



6.1.2.3 Objectives for aquatic habitat that is not High Value Fish Habitat

- (1) *Maintain the natural ecological function of aquatic habitat that is not High Value Fish Habitat by, adjacent to the following aquatic habitat in a Development Area:*
 - (a) *S1 to S3 streams that are not High Value Fish Habitat;*
 - (b) *lakes greater than 0.25 hectares; and*
 - (c) *marsh and fen wetlands greater than 0.25 hectares;*

retain 90% of the forest in a Management Zone with a minimum width of 1.5 Tree Lengths.
- (2) *Despite subsection (1), the width of the Management Zone in any Development Area may be decreased by up to 0.5 Tree Lengths to address site characteristics, provided there is no net loss of Management Zone area within the Development Area.*
- (3) *Despite subsections (1) and (2), the width of the Management Zone may be increased or decreased by more than 0.5 Tree Lengths and alteration or harvesting within the Management Zone may occur provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *there is no net loss of Management Zone area required in (1) in the Development Area;*
 - (c) *a fish habitat assessment has been prepared by a Qualified Professional that specifies measures:*
 - (i) *to maintain the geomorphic and hydriparian characteristics of the stream channel;*
 - (ii) *to maintain the life cycle needs of fish in affected stream reaches;*
 - (iii) *to maintain local terrestrial habitat needs and linkages to other reserves; and*
 - (iv) *to minimize loss of trees in the Reserve Zone from windthrow; and*
 - (d) *measures in subsection (3)(c) are implemented.*
- (4) *Despite subsections (1), (2) and (3), a forest stewardship plan may comply with the provisions for the management of riparian management areas in accordance with the Forest and Range Practices Act and the regulations made thereunder, including Part 4, Division 3 of the Forest Planning and Practices Regulation, as of December 31, 2014, for S1 to S3 streams and for lakes, and marsh and fen wetlands greater than 0.25 hectares.*
- (5) *Alteration or harvest within the riparian management area described in subsection (4) may occur, provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *Functional Riparian Forest sufficient to maintain stream bank stability and stream channel integrity is retained;*
 - (c) *indicators to be tracked have been identified to evaluate the effectiveness of the recommended riparian strategies; and.*
 - (d) *the effectiveness of representative riparian strategies using identified indicators is evaluated.*
- (6) *Where some or all of the forest required in subsections (1) or (4) has been previously altered or harvested, to the extent practicable, recruit or create Functional Riparian Forest in the Management Zone or riparian management area in the shortest time practicable.*

Result

When conducting primary forest activities, the Holder will comply with the Objectives for aquatic habitat that is not high value fish habitat.



6.1.2.4 Objectives for Forested Swamps

- (1) Maintain the ecological characteristics and function of Forested Swamps.*
- (2) Within Development Areas, adjacent to Forested Swamps greater than 0.25 hectares, retain 70% of the Functional Riparian Forest in a Management Zone with a minimum width of 1.5 Tree Lengths.*
- (3) Despite subsection (2), the width of the Management Zone adjacent to a Forested Swamp may be decreased by up to 0.5 Tree Lengths to address site specific values.*
- (4) Despite subsections (2) and (3), the width of the Management Zone may be decreased by more than 0.5 Tree Lengths and additional harvesting within the Management Zone may occur provided that:*
 - (a) there has been First Nation Engagement with Applicable First Nations;*
 - (b) A Forested Swamp assessment has been prepared by a Qualified Professional that specifies measures:*
 - (i) to maintain local terrestrial habitat needs and linkages to other reserves; and*
 - (ii) to minimize loss of trees in the Management Zone from windthrow; and*
 - (c) measures in subsection (4)(b) are implemented.*
- (5) Where some or all of the forest in the Management Zone required in subsections (2), (3) and (4) has been previously altered or harvested, to the extent practicable, recruit or create Functional Riparian Forest in the Management Zone in the shortest time practicable.*

Result

When conducting primary forest activities, the Holder will comply with the Objectives for forested swamps.



6.1.2.5 Objectives for Upland Stream areas

- (1) *Maintain the hydrological and fluvial processes in the portion of Important Fisheries Watersheds shown in Schedule E of the GBRO that is occupied by Upland Streams.*
- (2) *For the purposes of subsection (1), within the Important Fisheries Watersheds shown in Schedule E of the GBRO, in the portion of the watershed where Upland Streams occur, maintain a minimum of 70% of the forest as Functional Riparian Forest.*
- (3) *For the purposes of subsection (2), preferentially allocate the Functional Riparian Forest to encompass:*
 - (a) *Upland Streams that flow into High Value Fish Habitat and fish habitat that is not High Value Fish Habitat and that pose a moderate to high risk of sediment transport;*
 - (b) *Upland Stream reaches with unique microclimate or other rare ecological or sensitive geomorphological characteristics;*
 - (c) *Upland Stream reaches with known tailed frog habitat; and*
 - (d) *other Upland Streams that flow into High Value Fish Habitat and fish habitat that is not High Value Fish Habitat;*
- (4) *Despite subsection (2), in the portion of the Important Fisheries Watershed where Upland Streams occur, less than 70% of the forest may be maintained as Functional Riparian Forest provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *a coastal watershed assessment or similar assessment of watershed sensitivity to forest development disturbance is completed by a Qualified Professional;*
 - (c) *an amount, type and distribution of forest cover sufficient to sustain natural hydrological and fluvial processes within the portion of the watershed where Upland Streams occur is maintained; and*
 - (d) *the effectiveness of the management strategies implemented pursuant to subsection (4)(c) are monitored.*

Strategy

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for upland stream areas.
- (2) Where there are other licence holders in the Watershed Planning Unit, the FSP Holder will communicate and share information as necessary in order to ensure that enough Functional Riparian Forest area is retained by the FSP Holder based on the information available at time of analysis.
- (3) If a Qualified Professional determines it is not necessary to maintain 70% of the forest as Functional Riparian Forest, the steps in (4) of the Objectives will be undertaken.



6.1.2.6 Objectives for Active Fluvial Units

- (1) Retain a minimum of 90% of the Functional Riparian Forest on Active Fluvial Units.*
- (3) Despite subsections (1), less than 90% of the forest on an Active Fluvial Unit may be retained to allow for road access or to address a safety concern, provided that:*
 - (a) there has been First Nation Engagement with Applicable First Nations;*
 - (b) no practicable alternative to access a Development Area is available;*
 - (c) an Active Fluvial Unit assessment has been prepared by a Qualified Professional that:*
 - (i) specifies measures to maintain stream flow patterns and flow capacity and geomorphic stability of the Active Fluvial Unit for roads or other infrastructure; or*
 - (ii) where the removal of 4 or more live trees is proposed for safety reasons, provides an assessment of the potential impact on geomorphic stability; and*
 - (d) the measures in subsection (2)(c) are implemented in a manner that will maintain the flow patterns and flow capacity and geomorphic stability of the Active Fluvial Unit.*
- (4) Where some or all of the forest required to be retained in subsection (1) has been previously altered or harvested, to the extent practicable, recruit or create Functional Riparian Forest on the Active Fluvial Unit in the shortest time practicable.*

Result

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for active fluvial units. There are no known active fluvial units in the licence area.



6.1.3 Division 4 – Biodiversity

6.1.3.1 Objectives for ecological representation

- (1) *Maintain landscape level biodiversity as follows:*
 - (a) *For each Site Series Group in the order area, maintain a distribution of forest stand ages that will achieve the Old Forest Representation Targets listed in Column “A” in Schedule G of the GBRO by no later than 2264;*
 - (b) *For each Site Series Group in the order area, retain an amount of Old Forest equal to or greater than the order area Minimum Old Forest Retention Levels listed in Column “B” in Schedule G of the GBRO and.*
 - (c) *For the purposes of subsections (1)(a) and (1)(b), for each Site Series Group in a Landscape Unit, retain a minimum of 30% of the total forest area of the Site Series Group as Old Forest.*
- (2) *Despite subsection (1)(c), harvesting of Old Forest in a Site Series Group in a Landscape Unit may occur where less than 30% of the total forest area of the Site Series Group in the Landscape Unit is Old Forest, provided that:*
 - (a) *within the Landscape Unit area:*
 - (i) *alteration or harvesting is required for road access, other infrastructure, or to address a safety concern, where there is no practicable alternative; or*
 - (ii) *the lesser of 20% of the total forest area or the Minimum Old Forest Retention Level specified in Schedule F of the GBRO is maintained as Old Forest; and*
 - (b) *The aggregate area of Old Forest in the order area harvested under subsection (2)(a) following the date of establishment of the GBRO does not exceed 18,650 hectares.*
- (3) *For each Site Series Group listed in Schedule L of the GBRO, in the Landscape Units listed in Schedule K of the GBRO, up to 5% of the area required to meet the minimum Old Forest requirements specified in subsection (1)(c) or (2)(a)(ii) can be met in forest that is not Old Forest where this results in an improved ecological outcome.*
- (4) *Where there is not enough Old Forest available to meet the targets in subsections (1)(b) and (1)(c), or as a result of subsection (2), recruit forest to meet the Old Forest requirements by no later than 2264.*
- (5) *Despite subsections (1)(c) and (2)(a)(ii), for each Site Series Group listed in Schedule L of the GBRO, up to 5% of the area required to meet the minimum Old Forest requirements specified in subsections (1)(c) or (2)(a)(ii) may be met in Old Forest in a higher level Site Series Group in the same variant.*
- (6) *Despite subsections (1)(c), (2)(a)(ii), and (5), for each Site Series Group listed in Schedule M of the GBRO, and despite subsection (1)(a) for each Site Series Group in the CWHxm2, CWHdm and CWHmm1 biogeoclimatic variants, up to 5% of the combined area of each Site Series Group in the Thurlow, Fulmore, Gray and Estero Landscape Units required under subsections (1)(c) and (2) to meet the target for that Site Series Group may be met in an equal or higher level Site Series Group listed in Schedule M of the GBRO in any of the four Landscape Units.*



6.1.3.2 Objectives for Landscape Reserve Designs

- (1) For each Landscape Unit in the order area, prepare a Landscape Reserve Design that:
 - (a) addresses the Minimum Old Forest Retention Levels specified in sections 6.2.3.1(1)(c) and 6.2.3.1(2), the Old Forest Representation Targets specified in sections 6.2.3.1(1)(a) and 6.2.3.1(1)(b) and the Managed Forest area specified in section 6.2.3.3(1)(a); and
 - (b) to the extent practicable simultaneously contributes to the protection and stewardship of:
 - (i) Aboriginal Heritage Features, Aboriginal Forest Resources, and Aboriginal Tree Use; and
 - (ii) Red-Listed Plant Communities, Blue-Listed Plant Communities, habitat important for species at risk, ungulate winter range, and habitat for regionally important wildlife including, but not limited to, mountain goats, grizzly bears, northern goshawks, tailed frogs, and marbled murrelets.
- (2) For the purposes of subsection (1)(a), when preparing a Landscape Reserve Design, the provisions in sections 6.2.3.1(3), 6.2.3.1(5) and 6.2.3.1(6) shall apply.
- (3) No commercial timber harvesting is permitted in a Landscape Reserve Design.
- (4) For the purposes of subsection (1):
 - (a) complete Landscape Reserve Designs within five years of the date of establishment of this order in those Landscape Units where harvesting is occurring or planned to commence within 5 years; or
 - (b) complete Landscape Reserve Designs prior to declaring areas or prior to the application for a road permit or cutting permit in those Landscape Units where harvesting is currently not occurring or is not planned to commence within 5 years
- (5) Despite subsection (1)(a), for each Site Series Group in a Landscape Unit, a percentage of the Old Forest Representation Targets specified in section 6.2.3.1(1)(a) equivalent to 75% of the Average Operational Landbase Netdown for that Site Series Group is not required to be spatially defined until 2264.
- (6) Holders of licenses or tenures with an allowable annual cut of less than 20,000 cubic metres per year are exempt from subsections (1) and (4).
- (7) For the purposes of subsection (1), where because of harvest history or landscape characteristics or where not practicable to meet Minimum Old Forest Retention Levels in a Landscape Reserve Design:
 - (a) forest that is not Old Forest may be included in the Landscape Reserve Design; and
 - (b) establish Temporary Old Forest Reserves outside of the Landscape Reserve Design, with an area sufficient to meet the Landscape Unit Minimum Old Forest Retention Level.
- (8) Despite subsection (3), thinning and silvicultural treatments are permitted in Landscape Reserve Designs to expedite restoration to Old Forest structural characteristics.
- (9) Old Forest in a Site Series Group within a Temporary Old Forest Reserve established under subsection (7)(b) may be harvested when:
 - (a) in the Type 1 Restoration Landscape Units referenced in section 6.2.3.4(1)(a), there has been sufficient in the Type 1 Restoration Landscape Units referenced in section 6.2.3.4(1)(a), there has been sufficient within a Landscape Reserve Design; or
 - (b) in any Landscape Unit not referenced in section 6.2.3.4(1)(a), an equivalent area of younger forest in that Site Series Group in a Landscape Reserve Design in that Landscape Unit becomes Old Forest.
- (10) A Landscape Reserve Design may be altered or modified to address new information provided that:



- (a) *a Qualified Professional develops an alternative Landscape Reserve Design;*
- (b) *the alternative Landscape Reserve Design meets the requirements of subsections (1) and (5); and*
- (c) *any area removed from the altered Landscape Reserve:*
 - (i) *where none of the flexibility provisions in sections 6.2.3.1(3), 6.2.3.1(5) and 6.2.3.1(6) apply, is replaced with an equivalent area of forest in the same Site Series Group, and that is in the same seral stage or has similar stand structural characteristics; or*
 - (ii) *where a flexibility provision in section 6.2.3.1(3), 6.2.3.1(5) or 6.2.3.1(6) applies, is replaced with an equivalent area of forest, consistent with that flexibility provision.*

6.1.3.3 Objectives for Managed Forest and Natural Forest

- (1) *Identify and maintain in the order area:*
 - (a) *an area of Managed Forest of 550,032 hectares that is or will be available for timber harvest; and*
 - (b) *a Natural Forest area that continues to grow older over time subject to natural disturbance and non - forest tenure activity and has an area of 3,108,876 hectares.*



6.1.3.4 Objectives for Restoration Zones and Restoration Landscape Units

- (1) *Restore landscape level biodiversity in Landscape Units with extensive past forest development activity by:*
 - (a) *Within Landscape Reserve Designs in each Type 1 Restoration Landscape Unit listed in Schedule H of the GBRO, designating a minimum of 30% of each Site Series Group as a Restoration Zone within two years of the date of establishment of this order, or as soon as practicable thereafter; and*
 - (b) *Within Landscape Reserve Designs in each Type 2 Restoration Landscape Unit listed in Schedule H of the GBRO, designating a minimum of 30% of each Site Series Group as a Restoration Zone prior to any development activity that will result in more than 30% of the Landscape Unit area being within Site Series Groups containing less than 30% total Old Forest.*
- (2) *For the purposes of subsections (1)(a) and (1)(b), when designating a Restoration Zone within a Landscape Reserve Design, the provisions in sections 6.2.3.1(3), 6.2.3.1(5) and 6.2.3.1(6) shall apply.*
- (3) *The boundaries of a Restoration Zone may be altered or modified to address new information, provided that:*
 - (a) *a Qualified Professional develops an alternative Landscape Reserve Design;*
 - (b) *the alteration or modification is required to address an operational access, infrastructure or safety issue and there is no practicable alternative;*
 - (c) *the alteration or modification maintains or improves ecological outcomes;*
 - (d) *any area removed from the Restoration Zone:*
 - (i) *where none of the flexibility provisions in sections 6.2.3.1(3), 6.2.3.1(5) and 6.2.3.1(6) apply, is replaced with an equivalent area of forest in the same Site Series Group, and that is in the same seral stage or has similar stand structural characteristics; or*
 - (ii) *where a flexibility provision in section 6.2.3.1(3), 6.2.3.1(5) or 6.2.3.1(6) applies, is replaced with an equivalent area of forest, consistent with that flexibility provision;*
 - (e) *any area removed from the Restoration Zone for safety reasons that does not also maintain or improve ecological outcomes must be replaced with an equivalent area of forest, consistent with the flexibility provisions in sections 4(3), 4(5) and 4(6); and*
 - (f) *the boundary alteration for an individual Restoration Zone in a Landscape Unit does not exceed 10 hectares in a calendar year.*
- (4) *Despite subsection (3)(f), a boundary alteration for an individual Restoration Zone in a Landscape Unit may exceed 10 hectares per year provided that a documented rationale for the alteration is prepared by a Qualified Professional.*



Strategy for 6.1.3.1, 6.1.3.2, 6.1.3.3 and 6.1.3.4

- (1) The Holder will coordinate with other Holders of FSPs and a G2G Operational Implementation Committee (OPIC), to the extent practicable, to obtain results consistent with the GBRO area objectives, in Landscape Units and between and among Holders of FSPs.
- (2) For the GBRO Area, the Holder will:
 - (a) Use the non-binding table "Implementation Guidance Table – Old Forest Targets by Landscape Unit" as an aid or starting point in the achievement of the legally specified site series group old forest requirements for the GBRO area.
 - (b) Reach agreement on specifying targets or specifying proportions of the GBRO area ecological representation and managed forest objectives, using the flexibility in Part 1, Division 3, ss 4(2)-4(6) of the GBRO, and allocate to the Landscape Units and update targets on an agreed period, or as required.
 - (c) If fair and effective agreement cannot be reached: will apply the implementation Guidance Table until agreement is reached and notify the other Holders; or will request the Minister to act under [FPPR s 19](#).
- (3) For the lands to which the GBRO applies, in each Landscape Unit in which the Holder holds tenures with active planning or operations, the Holder will:
 - (a) Apply strategy (1) and (2).
 - (b) Reach agreement on targets or proportions of ecological representation and managed forest, using the flexibility in Part 1, Division 3, ss 4(2)-4(6) of the GBRO, identify drawdowns and small surpluses, and procedures for managing Landscape Reserves, between and amongst Holders of FSPs.
 - (c) If fair and effective agreement cannot be reached: in the interim, the Holder may proportion the LU representation targets by total forest area, and proportion the minimum old, between Holders of FSPs, identifying small surpluses, and inform the other Holders, and may not develop Landscape Reserves established by other Holders; or the Holder of the FSP may request the Minister to act under [FPPR s 19](#).
- (4) The holder of the FSP will participate in designing LRDs and Restoration Zones that are consistent with Order objectives, and will:
 - (a) Design a single LRD with all Holders of FSPs in the Landscape Unit (including those that are exempt from leading an LRD) within the Order's timelines.
 - (b) Designate Restoration Zones within the Order's timelines.
 - (c) Agree as necessary on methods for altering or modifying LRDs (e.g., GBRO Part 1 ss 5(3), 5(10) and related LRD guidance), that will be consistent with meeting proportional targets and avoiding undue constraints between Holders of FSPs.
- (5) In applying above strategies (1) – (4) in relation to operational planning, site plans or development areas, the Holder of the FSP will use strategic TEM/PEM and VRI age inventories for SSG old forest requirements.
- (6) The operations of the Holder of this FSP will be consistent with meeting the agreed upon target allocations or specified proportions of the ecological representation targets and the managed forest targets, in:
 - (a) The Landscape Units in which the Holder of the FSP operates and in the LRD when completed;
 - (b) The areas of the timber harvesting rights granted by the government to the Holder of the FSP; and
 - (c) Areas to which the GBRO applies.



6.1.3.5 Objectives for Red-listed Plant Communities and Blue listed Plant Communities

- (1) *Protect each occurrence² of a Red-Listed Plant Community during a primary forest activity as per Schedule N of the GBRO.*
- (2) *Despite subsection (1), up to 5% of each occurrence of a Red-listed Plant Community may be disturbed if there is no practicable alternative for road access, other infrastructure or to address a safety concern.*
- (3) *Protect a minimum of 70% of each occurrence of a Blue-listed Plant Community during a primary forest activity or reserve a minimum of 70% of the total areas of each Blue-listed Plant Community within a Landscape Unit as per Schedule O of the GBRO.*

Strategy

The FSP Holder will:

- (1) Protect each occurrence of a Red-Listed Plant Community during a primary forest activity as per Schedule N of the GBRO.
- (2) Despite (1), up to 5% of each occurrence of a Red-Listed Plant Community may be disturbed if there is no practicable alternative for road access, other infrastructure or to address a safety concern.
- (3) Reserve a minimum of 70% of each occurrence of a Blue-Listed Plant Community during a primary forest activity or reserve a minimum of 70% of the total area of each Blue-Listed Plant Community, within a Landscape Unit as per Schedule O of the GBRO.
- (4) Where there are other license holders operating in the Landscape Unit, the FSP Holder will communicate and share information as necessary for the FSP Holder to meet (3) when managing for 70% of the total area of each Blue-listed Plant Community.
- (5) The identification of Red-listed and Blue-listed plant communities, and the term “sufficiently established” will be guided by Land Management Handbook #72³.

² for the definition of “occurrence” see Schedules N and O of the GBRO

³ Guidelines to Support Implementation of the Great Bear Rainforest Order with Respect to Old Forest and Listed Plant Communities



6.1.3.6 Objectives for Stand Retention

- (1) *Maintain forest structure and diversity at the stand level:*
 - (a) *by maintaining a minimum of 15% of a Cutblock area as Stand Retention; and*
 - (b) *in Cutblocks 20 hectares or greater in size, by distributing 50% of the Stand Retention within the Cutblock, except in:*
 - (i) *second growth stands where a windthrow hazard assessment indicates a moderate or higher biophysical hazard for windthrow; and*
 - (ii) *Old Forest stands where local knowledge has identified the potential for catastrophic inflow or outflow winds.*
- (2) *To the extent practicable, include the following within stand retention:*
 - (a) *Aboriginal Forest Resources that are maintained or enhanced by retention in a mature or older forest;*
 - (b) *habitat elements important for species at risk, ungulate winter range, and regionally important wildlife;*
 - (c) *representation of ecosystems and plant communities listed in Schedule N and Schedule O of the GBRO;*
 - (d) *Functional Riparian Forest adjacent to Active Fluvial Units, Forested Swamps, fen and marsh wetlands and Upland Streams with unique features or moderate or higher risk of sediment transport;*
 - (e) *western red cedar and yellow cedar for future Aboriginal Tree use;*
 - (f) *western yew;*
 - (g) *within restoration landscape units, remnant patches of Old Forest in Site Series Groups where less than 30% of the total forest area is Old Forest; and*
 - (h) *wildlife trees and coarse woody debris.*

Result

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for stand retention.
- (2) When calculating Stand Retention, the formula shall be:

$$\text{Stand Retention \%} = \text{Retention Area} / (\text{NAR} + \text{Permanent Access Structures}).$$



6.1.4 Division 5 – Wildlife

6.1.4.1 Objectives for grizzly bear habitat

- (1) *Maintain 100% of class 1 grizzly bear habitat shown in Schedule D of the GBRO.*
- (2) *Despite subsection (1), class 1 grizzly bear habitat polygons may be altered or harvested, provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *a Qualified Professional:*
 - (i) *completes an assessment that identifies the characteristics of the habitat and linkages, where appropriate, to other grizzly bear habitat; and*
 - (ii) *confirms that the alteration or harvesting will result in no net loss of class 1 grizzly habitat and connectivity and no functional loss of habitat connectivity; and*
 - (c) *measures are implemented that will ensure the alteration or harvesting will not cause a material adverse impact to the suitability of the class 1 grizzly bear habitat.*
- (3) *Despite subsection (1), class 1 grizzly bear habitat polygons may be altered or harvested for road access or to address a safety concern, provided that:*
 - (a) *there has been First Nation Engagement with Applicable First Nations;*
 - (b) *there is no other practicable alternative for road access or other infrastructure, or the alteration or harvesting is required to address a safety concern;*
 - (c) *that the road right-of-way clearing width is the minimum safe width necessary to accommodate the road; and*
 - (d) *measures are implemented that, to the extent practicable, will ensure the alteration or harvesting will not cause a material adverse impact to the suitability of the class 1 grizzly bear habitat.*

Result

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for grizzly bear habitat.



6.1.4.2 Objectives for grizzly and black Bear Dens

- (1) *Protect grizzly Bear Dens and black Bear Dens.*
- (2) *Adjacent to grizzly Bear Dens, maintain a Reserve Zone with a minimum width of 50 metres.*
- (3) *Despite subsections (1) and (2), alteration or removal of:*
 - (a) *a black Bear Den; or*
 - (b) *a grizzly Bear Den or its Reserve Zone, or both,*
may occur, provided that:
 - (c) *there has been First Nation Engagement with Applicable First Nations;*
 - (d) *the alteration or removal is required for road access or to address a safety concern and there is no practicable alternative; and*
 - (e) *the alteration or removal does not occur during the winter hibernation season if the den is occupied.*
- (4) *In addition to subsections (1) and (2), adjacent to any Reserve Zone required in subsection (2), maintain a Management Zone with an average width equal to 1.0 Tree Length, measured from the outer edge of the Reserve Zone, to protect the integrity of the Reserve Zone.*
- (5) *Within the Management Zone required under subsection (4), alteration or removal of trees may occur outside of the winter hibernation season to:*
 - (a) *accommodate operational requirements for road and bridge construction, where no practicable alternative exists;*
 - (b) *accommodate road maintenance and deactivation, the removal of danger trees, and brushing and clearing within the right-of-way, for safety purposes, on any existing road under active tenure; or*
 - (c) *mitigate the impact of windthrow.*
- (6) *All found Bear Dens must be documented and this documentation must be submitted to the Applicable First Nations and the Province of British Columbia at the end of each calendar year.*

Result

- (1) When conducting primary forest activities, the Holder will comply with the Objectives for grizzly and black bear dens and will conduct First Nations Engagement when required using the Strategy proposed for 6.1.1.1 to 6.1.1.7.
- (2) All found Bear Dens will be reported to the Applicable First Nations and the Province of British Columbia at the end of each calendar year via the “Bear Den & Yew Tree Reporting Template” in the EBM Data Centre⁴ in the box under “EBM REFERENCE INFORMATION”. This method will be used until a web mapping application, that is currently under development, is finalized.

⁴ <https://ebmdata.ca/?token=9a07beb5cb7be1a7e828f1228baf23ab>



6.2 Land Use Objectives (FPPR s.1 definition) – FDU 2

A Landscape Unit Plan was established on July 1, 2003 under Forest Practice Code section 4 for the Sayward Landscape Unit and applies to the Pye Lake FDU #2.

6.2.1 Order Establishing Landscape Unit Objectives

Objectives Set by Government for the Sayward Landscape Unit

6.2.1.1 Objectives for Biodiversity (Landscape Level)

- (1) *Maintain or recruit old growth forest attributes in designated old growth management areas (OGMA, OGMA/UWR for Deer, and OGMA/UWR for Elk), as shown on the Sayward Landscape Unit map, titled Biodiversity and Wildlife. Timber harvesting, including salvage, single-tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, will not be permitted within OGMA's except as specified in sections 2 and 3 below.*
- (2) *The Designated Decision Maker (DDM) may allow operations to occur within OGMA's that are not to be established as UWR for Deer or Elk for reasons such as, but not limited to, the following:*
 - (a) *To prevent the spread of insect infestations or diseases that pose a significant threat to forested areas outside of OGMA's. This will be done in a manner that retains as many old growth forest attributes as possible.*
 - (b) *Construction of roads if no other practicable option exists.*
 - (c) *Partial-cut timber harvesting within immature (<100 years old) portions of OGMA's, where it can be demonstrated that harvesting will accelerate development of old growth forest attributes and improve the stand for biodiversity purposes, without compromising other resource values.*
- (3) *The following do not require the approval of the Designated Decision Maker before proceeding:*
 - (a) *Maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes.*
 - (b) *Felling of guyline clearance, tailhold anchor trees, or danger trees (except high value live wildlife trees⁵) along cutblock boundaries or within the right of way on new road/bridge alignments to meet safety requirements. These trees are to be retained on site for coarse woody debris.*
 - (c) *Intrusions⁶, less than 0.5 hectare in size for OGMA's that are not established as UWR for Deer or Elk.*
 - (d) *OGMA's that are not to be established as UWR for Deer or Elk that are >10ha in size may be modified for operational reasons provided that replacement OGMA of like or better quality and quantity is identified in order of priority, 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA such that OGMA ecological attributes and spatial distribution are maintained or improved in one of the following categories:*
 - (i) *OGMA's ≥10ha to <50ha in size where the proposed development affects the OGMA by <5ha,*
 - (ii) *OGMA's ≥50ha to <100ha in size where the proposed development affects the OGMA by <10ha,*
 - (iii) *OGMA's ≥100ha in size where the proposed development affects the OGMA by <10%,*

⁵ High value live wildlife trees are characterized as having the presence of black bear dens or visible, large stick nests.

⁶ Intrusions will occur where field engineering more precisely locates OGMA boundaries.



- (iv) *Construction of $\leq 500\text{m}$ of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may deactivate or rehabilitate a temporary road or bridge site within four years after construction,*
- (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 $<0.5\text{ ha}$.*

Strategy

The holder(s) of the FSP will not carry out or authorize road construction or timber harvesting, including salvage, single-tree selection, topping for cone harvesting, and commercial gathering of botanical forest products, within OGMA's delineated as part of the Sayward Landscape Unit Plan, established July 1, 2003, except:

- (1) as agreed upon in writing by the DDM for activities within an OGMA not established as UWR for Deer or Elk, including but not limited to, the following;
 - (a) timber harvesting may occur to prevent the spread of insect infestations or disease that pose a significant threat to forested areas outside of OGMA's,
 - (b) road construction may occur if no other practicable option exists,
 - (c) partial-cut timber harvesting within immature portions of OGMA's, where it can be demonstrated that harvesting will accelerate development of old growth forest attributes and improve the stand for biodiversity purposes, without compromising other resource values.
- (2) the following permissible activities do not require approval of the DDM;
 - (a) maintenance, deactivation, removal of danger trees, or brushing and clearing on existing roads under active tenure within the right-of-way for safety purposes,
 - (b) 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,
 - (c) intrusions less than 0.5 ha in size for OGMA's that are not established as UWR for Deer or Elk,
 - (d) OGMA's that are not established as UWR for Deer or Elk that are $>10\text{ha}$ in size may be modified for operational reasons provided that replacement OGMA of like or better quality and quantity, as determined by a qualified professional, is identified in order of priority; 1) immediately adjacent to the existing OGMA, or 2) in the same variant and landscape unit as the existing OGMA such that overall OGMA ecological attributes and spatial distribution are maintained or improved in one of the following categories:
 - (i) OGMA's $\geq 10\text{ ha}$ to $<50\text{ ha}$ in size where the proposed development affects the OGMA by $<5\text{ha}$,
 - (ii) OGMA's $\geq 50\text{ ha}$ to $<100\text{ ha}$ in size where the proposed development affects the OGMA by $<10\text{ ha}$,
 - (iii) OGMA's $\geq 100\text{ ha}$ in size where the proposed development affects the OGMA by $<10\%$,
 - (iv) Construction of $\leq 500\text{ m}$ of road or a bridge within an OGMA where there is no other practicable option. As an alternative to finding replacement area, the licensee may deactivate or rehabilitate a temporary road or bridge site within four years after construction,



- (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 <0.5 ha.

This strategy applies to subsequent amendments to OGMA's delineated within the SLUP.

6.2.1.2 Objectives for Biodiversity (Stand Level)

- (1) *Maintain stand level structural diversity by retaining wildlife tree patches (WTP). Cutblocks for which harvesting has been completed by each licensee by tenure will maintain adequate amounts of wildlife tree patches to ensure that over any 5 year period, commencing on the date the objectives are established, the target percentage as noted in Table 1 is achieved. In addition:*
 - (a) *WTPs must be well distributed across the Biogeoclimatic Ecosystem Classification (BEC) subzone or variant.*
 - (b) *No timber harvesting, including salvage or single tree selection, is to occur within Wildlife Tree Patches.*
 - (c) *WTPs must include, if present, live and dead veteran trees (excluding danger trees), or remnant old growth patches.*
 - (d) *WTPs must include larger trees for the stand and existing moderate to high value wildlife trees (excluding danger trees).*
 - (e) *BEC subzones and/or variants will be determined by site plan information.*

Table 1 Wildlife Tree Retention by BEC subzone in FDU 2	
<i>BEC Subzone</i>	<i>% Wildlife Tree Retention</i>
CWHmm1 (Coastal Western Hemlock, Submontane Moist Maritime)	13
CWHmm2 (Coastal Western Hemlock, Montane Moist Maritime)	10
CWHxm (Coastal Western Hemlock, Very Dry Maritime)	14
MHmm1 (Mountain Hemlock, Windward Moist maritime)	2

Strategy

- (1) The holder of the FSP will identify WTRAs for cutblocks for which harvesting has been completed to ensure that over any 5 year period the target will match those set out in Table 1 (above).
- (2) WTRAs will:
 - (a) be well distributed across the BEC subzone or variant.
 - (b) not be subject to timber harvesting, including salvage or single tree selection.
 - (c) include, if present, live and dead veteran trees (excluding danger trees), or remnant old growth patches, and
 - (d) include larger trees for the stand and existing moderate to high value wildlife trees (excluding danger trees).



6.2.1.3 Objectives for Wildlife (UWR)

- (1) *Provide for spring forage adjacent to Ungulate Winter Ranges/Deer, as indicated on the Sayward Landscape Unit map titled Biodiversity and Wildlife, by managing seral stages as follows:*
 - (a) *Identifying Ungulate Winter Ranges/Deer within the Strathcona⁷ Timber Supply Area and determining all areas within 2 km that are on slopes 40 to 100% and with an aspect of exposure from 90 through 270 degrees and, ensuring that no more than 25% of this area be younger than 20 years old at any point in time.*

Result

The holder(s) of the FSP will not carry out or authorize the harvest of timber or construction of new roads within areas identified as spring forage areas⁸ adjacent to UWR for Deer, as identified on the Sayward Landscape Unit map titled Biodiversity and Wildlife, if such harvesting will result in >25% of each forage area to be younger than 20 years old at any point in time.

6.2.1.4 Objectives for Wildlife (Elk Hiding Cover)

- (1) *Manage stand structure and provide hiding cover for elk in the Elk Visual Cover Areas as identified on the Sayward Landscape Unit map, titled Biodiversity and Wildlife, by:*
 - (a) *Maintaining at least 50% of the forested area of each Elk Visual Cover Area at greater than 5 metres in height; and,*
 - (b) *Prohibiting further harvesting adjacent to the major riparian feature (swamp, lake or stream) within the Elk Visual Cover Areas identified on the Sayward Landscape Unit map, titled Biodiversity and Wildlife, until the forest on the opposite side of the riparian feature exceeds the 5 metre height requirement for a lateral distance of 100m from the riparian feature.*

Result

- (1) The holder(s) of the FSP will not carry out or authorize the harvest of timber or construction of new roads, within areas identified as Elk Visual Cover areas on the Sayward Landscape Unit map titled Biodiversity and Wildlife if such harvesting will result in >50% of the forested area in each Elk Visual Cover area to be <5 meters in height.
- (2) The holder(s) of the FSP will not carry out or authorize the harvest of timber or construction of new roads adjacent to the major riparian feature (swamp, lake, or stream) within an area identified as an Elk Visual Cover Area, on the Sayward Landscape Unit map titled Biodiversity and Wildlife, until the forest on the opposite side of the riparian feature exceeds the 5 meter height requirement for a lateral distance of 100m from the riparian feature.

⁷ This part of the Strathcona TSA is now part of the North Island TSA.

⁸ Spring forage areas are aggregations of stands located within 2 km of each Ungulate Winter Range/deer. These stands are characterized by slopes ranging from 40 to 100% and having an aspect of exposure from 90 through 270 degrees. This definition is consistent with Objective 3 of the Sayward Landscape Unit Plan. Spring forage areas that meet the criteria outlined in the Sayward Landscape Unit Plan have been delineated and mapped on the Sayward Landscape Unit Spring Forage Map.



6.2.1.5 Objectives for Critical Stream Reaches

- (1) *To manage stand structure and protect Critical Stream Reaches, as shown on the Sayward Landscape Unit map, titled Lakes Classification, and Small Spawning and Rearing Streams (S4) by:*
 - (b) *Retaining all windfirm trees with roots embedded in the streambank; and*
 - (c) *For S4 streams, retaining 50% of the stems, representative of species, age and size, within 10m of the channel.*

Strategy

- (1) The holder(s) of the FSP will not carry out or authorize the harvest of windfirm trees with roots embedded in the streambank of small spawning and rearing streams (S4) and critical stream reaches as identified on the Sayward Landscape Unit map titled Lakes Classification.
- (2) The holder(s) of the FSP will retain, for S4 streams, 50% of the stems, representative of species, age, and size, within 10 m of the channel.

6.2.1.6 Patch Size Objective

- (1) *To establish a patch size objective and pursue enhanced timber harvesting opportunities, within areas not subject to integrated resource management (i.e., ungulate winter ranges, elk hiding cover areas, old growth management areas, recreation resource units, visually sensitive landscapes⁹, recreation constraint areas, lakeshore management zones, and designated community watersheds) and as shown as Non-constraint Areas on the Sayward Landscape Unit map titled, Non-constraint Areas, by allowing cutblocks up to, but not exceeding 80 ha in size¹⁰.*

Practice Requirement

The Holder of this FSP adopts the practice requirements as specified in [FPPR S. 64](#), with the exception noted below, and [S. 65](#), as those sections were on the date this FSP was submitted for approval.

Exceptions are given to the areas that are not subject to integrated resource management¹¹. The holder(s) of the FSP may carry out or authorize the harvest of cutblocks with a net area to be reforested up to 80 ha, provided they follow [FPPR S. 64\(4\)](#).

⁹ Visually sensitive landscapes refer to areas with an established VQO of Preservation, Retention, or Partial Retention. Where a proposed cutblock is not entirely within the Non-constraint Areas the portion of the cutblock within the area subject to integrated resource management is restricted to an upper limit of 40ha within the cutblock size limit of 80ha

¹⁰ Size refers to the net area to be reforested.

¹¹ areas defined as subject to integrated resource management are constrained areas as shown on the Sayward Landscape Unit map titled "non-constraint Areas" and include ungulate winter ranges, elk hiding cover areas, old growth management areas, recreation resource units, visually sensitive landscapes, recreation constraint areas, lakeshore management zones and designated community watersheds.



6.3 Objectives Prescribed Under Legislation (FRPA section 149; FPPR sections 5-10)

6.3.1 Objectives set by government for soils (FPPR section 5)

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

FDUs	Result
FDU 1 Heydon Bay and FDU 2 Pye Lake	<p>The Holder will undertake to comply with soil disturbance and permanent access structure limits prescribed in sections 35 and 36 of the FPPR.</p> <p>In accordance with FPPR s 12.1(1) the FSP Holder is exempt from the requirement to specify intended results and strategies set out in FPPR s. 5.</p>

6.3.2 Objectives set by government for wildlife (FPPR section 7)

- (1) *The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for*
 - (a) *the survival of species at risk,*
 - (b) *the survival of regionally important wildlife, and*
 - (c) *the winter survival of specified ungulate species.*
- (2) *A person required to prepare a forest stewardship plan must specify a result or strategy in respect of the objective stated under subsection (1) only if the Minister of Water, Land and Air Protection, or a designated official, notifies the person of the applicable*
 - (a) *species referred to in subsection (1), and*
 - (b) *indicators of the amount, distribution and attributes of wildlife habitat described in subsection (1).*
- (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.*

Pursuant to [s. 7\(3\) of the FPPR](#), persons required to prepare an FSP are exempt from the obligation of preparing a result or strategy in relation to the objective set out in [FPPR s. 7\(1\)](#) for the Queen Charlotte Goshawk within the CRNRD as noted in the Order establishing WHAs 1-085 to 1-088 and 1-090 to 1-096 dated December 1, 2004.

Pursuant to [s. 7\(3\) of the FPPR](#), persons required to prepare an FSP are exempt from the obligation of preparing a result or strategy in relation to the objective set out in [FPPR s. 7\(1\)](#) for the Red-Legged Frog within the CRNRD as noted in the Order establishing WHAs 1-481 to 1-486 dated April 1, 2014.

Pursuant to [s. 7\(3\) of the FPPR](#), persons required to prepare an FSP are exempt from the obligation of preparing a result or strategy in relation to the objective set out in [FPPR s. 7\(1\)](#) for the Keen's



Long-eared Myotis within the CRNRD as noted in the Order establishing WHAs 1-391, 1-392 and 1-395 dated April 1, 2014.

Ungulate Winter Range #U1-005 and associated general wildlife measures were established on June 20, 2006 and replaced on May 16, 2007 under [GAR s. 9\(2\) and 12\(1\)](#). The Order establishing UWR #U1-005 provides an exemption from the obligation to prepare result or strategies in relation to the objective for the winter survival of ungulates in the Strathcona (now the North Island) TSA as per [FPPR s. 7\(3\)](#).

The Holder will comply with the legal requirements of the Orders establishing any existing or future WHA or UWR that intersect with the FDUs defined by this FSP, including the applicable General Wildlife Measures.

The Holder will manage, for the requirements under [FPPR section 69](#), for the following species:

- *Marbled Murrelet (*Brachyramphus marmoratus*)*
- *Great Blue Heron (*Ardea herodias fannini*)*
- *Coastal Tailed Frog (*Ascaphus truei*)*

Marbled Murrelet (MaMu)

Definitions for the purposes of this section of this FSP

“OGMA” means Old Growth Management Area, as defined in **FPPR s.1**.

“Order” means the “Order for the Recovery of Marbled Murrelet (*Brachyramphus marmoratus*)”, effective December 2, 2021.

“MAMU” means the species Marbled Murrelet (*Brachyramphus marmoratus*).

“Notice” means the “Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet (*Brachyramphus marmoratus*)”, effective December 2, 2021.

“Planning Tables” means areas of **Suitable Habitat** distributed across forest tenures in a given forest district, within each landscape unit aggregate and landscape unit portion, which may be varied consistent with Objective 3(4) of the **Order**.

“Suitable Habitat” means Marbled Murrelet nesting habitat, that has the attributes of wildlife habitat listed in in Schedule 1 of the **Notice**.

“WHA” means Wildlife Habitat Area, as defined in **FPPR s.1**.

“Working Group” means Forest Stewardship Plan and Woodlot License Plan holders that:

- operate in areas with shared **Planning Tables**;
- wish to enable flexibility provisions in the **Order** and **Notice**; and
- have agreed to terms of assembly, regarding coordination and cooperation.

FDU Strategies			
FDU	Authority	Category/Source	Effective Date of Objective
FDU 2 Pye Lake	BC Reg. 14/2004 s.7(2)	Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet (<i>Brachyramphus marmoratus</i>)	December 2, 2021



	<p><i>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.</i></p> <p><i>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.</i></p> <p>SCHEDULE 1</p> <p>1) Marbled Murrelet (<i>Brachyramphus marmoratus</i>)</p> <p>Amount:</p> <p><i>1. 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.</i></p> <p>Distribution:</p> <p><i>1. 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.</i></p> <p><i>2. Table 3 provides the target and 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 portions.</i></p> <p><u>Strategy – “Notice – Indicators of the Amount, Distribution and Attributes of Wildlife Habitat Required for the Survival of Marbled Murrelet (<i>Brachyramphus marmoratus</i>)”</u></p> <p>1. To meet the requirements of the Notice, each Holder will coordinate with other holders in a Working Group, as follows:</p> <p>a. As a Strategy, to comply with the Notice, each Holder will:</p> <p>i. Retain timber to maintain at least:</p> <p>I. For each landscape unit portion, the MAMU WHA Suitable Habitat Minimum listed in the Notice, Schedule 1, Table 3; and</p> <p>II. For each landscape unit aggregate, the MAMU WHA Suitable Habitat Minimum listed in the Notice, Schedule 1, Table 2;</p> <p>ii. Retain timber to maintain at least:</p> <p>I. For each landscape unit portion, the MAMU WHA and OGMA Suitable Habitat Minimum listed in the Notice, Schedule 1, Table 3; and</p> <p>II. For each landscape unit aggregate, the MAMU WHA and OGMA Suitable Habitat Minimum listed in the Notice, Schedule 1, Table 2;</p> <p>iii. Reach agreement on specific amounts, for each landscape unit portion:</p> <p>I. Of an amount greater than or equal to the MAMU WHA Suitable Habitat Minimum, to be established as MAMU WHAs; and</p> <p>II. Of an amount greater than or equal to the MAMU WHA and OGMA Suitable Habitat Minimum, to be established as MAMU WHAs and OGMAs;</p>
--	---



</



	<p><i>(ii) Confirms the alteration will result in no net loss or functional loss of Suitable Habitat.</i></p> <p><i>(b) A Regional Ministry of Forests, Lands, Natural Resource Operations and Rural Development biologist approves the alteration of the Suitable Habitat polygons.</i></p>
	<p><u>Strategy – “Order for the Recovery of Marbled Murrelet (<i>Brachyramphus marmoratus</i>)”</u></p> <p>2. To meet the requirements of the Order, each Holder will coordinate with other holders in a Working Group, as follows:</p> <p>a. As a Strategy, to comply with the Order, each Holder will:</p> <p>i. Reach agreement on specific amounts of Suitable Habitat to maintain, equal to or greater than:</p> <p>I. The amount listed in Order, Schedule 7, Table 2, Column “A”, for each landscape unit portion; or</p> <p>II. The amount listed in the Order, Schedule 7, Table 1, Column “A”, for each landscape unit aggregate, and the amount listed in the Order, Schedule 7, Table 2, Column “B” for each landscape unit portion;</p> <p>and</p> <p>ii. Use the Planning Tables as a basis to identify Suitable Habitat distribution to maintain, equal to or greater than:</p> <p>I. The amount listed in Order, Schedule 7, Table 2, Column “B”, for each landscape unit portion; and</p> <p>II. The amount listed in the Order, Schedule 7, Table 1, Column “A”, for each landscape unit aggregate;</p> <p>and</p> <p>iii. If agreement cannot be reached:</p> <p>I. Each Holder will apply the Planning Tables and notify other Forest Stewardship Plan and Woodlot License Plan holders until agreement is reached in the Working Group assembly; or</p> <p>II. The Working Group may request that the Minister establish proportional Suitable Habitat targets pursuant to FPPR s.19.</p>

Blue Heron

FDUs	Result
FDU 1 Heydon Bay and FDU 2 Pye Lake	<p>1) The Holder will not carry out or authorize primary forest activities within an area that would result in the amount or distribution of habitat for Blue Heron to be reduced below that specified in the relevant Section 7 notice (July 27, 2004).</p> <p>2) The Holder will identify interim management areas that can contribute to future WHAs consistent with the applicable Section 7 notice (July 27, 2004).</p> <p>3) Where new WHA are established, any primary forest activities carried out or authorized by the Holder will be consistent with the Order and general wildlife measures in place for those WHA.</p> <p>4) Section 1 and 2 of this result/strategy no longer apply to any area where WHA are legally established that meet the intent of the notice and an exemption is given under FPPR s. 7(3).</p>



Coastal Tailed Frog

FDUs	Result
FDU 1 Heydon Bay	<ol style="list-style-type: none"> 1) The Holder will not carry out or authorize primary forest activities within an area that would result in the amount or distribution of habitat for Coastal Tailed Frog to be reduced below that specified in the relevant Section 7 notice (July 27, 2004). 2) The Holder will identify interim management areas that can contribute to future WHAs consistent with the applicable Section 7 notice (July 27, 2004). 3) Where new WHA are established, any primary forest activities carried out or authorized by the Holder will be consistent with the Order and general wildlife measures in place for those WHA. 4) Section 1 and 2 of this result/strategy no longer apply to any area where WHA are legally established that meet the intent of the notice and an exemption is given under FPPR s. 7(3).

6.3.3 Objectives set by government for water, fish, wildlife and biodiversity in riparian areas (FPPR section 8)

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

FDUs	Strategy
FDU 1 Heydon Bay and FDU 2 Pye Lake	<ol style="list-style-type: none"> 1) When conducting primary forest activities, the Holder of this FSP adopts S 47, 48 and 49 of the FPPR, to address the riparian class, riparian reserve zone, riparian management zone and riparian management area. 2. For all primary forest activities carried out or authorized by the Holder of this FSP, the restrictions in a Riparian Management Area, Riparian Reserve Zone and Riparian Management Zone will be as specified in S. 50, 51 and 52 of the FPPR.

6.3.4 Objectives set by government for fish habitat in fisheries sensitive watersheds (FPPR section 8.1)

There are no fisheries sensitive watersheds described in Schedule 2 of the [FPPR section 8.1](#) within the FSP area. Therefore, no result or strategy is required.

6.3.5 Objectives set by government for water in community watersheds (FPPR section 8.2)

There are no community watersheds prescribed by legislation and within the FSP area. Therefore, no result or strategy is required.



6.3.6 Objectives set by government for wildlife and biodiversity (FPPR sections 9 and 9.1)

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

FDUs	Strategy
FDU 1 Heydon Bay	(1) In respect of the objective set by government for wildlife and biodiversity, the FSP Holder will comply with Part 1, Division 3 and Part 3, Divisions 4 and 5 of the GBRO as described in section 6.1.3 and 6.1.4 of this FSP.
FDU 2 Pye Lake	<ol style="list-style-type: none"> (1) The Holder adopts the default practice requirements described in FPPR sections 64 and 65 concerning wildlife and biodiversity at the landscape level, subject to subsection (2) of this result or strategy. (2) Cutblock size may exceed 40 ha if timber harvesting operations are carried out in accordance with the result/strategy for Objective 6 of the Sayward Landscape Unit Plan (FSP section 6.2.1.6). (3) The Holder adopts the default practice requirements described in FPPR sections 66 and 67 concerning wildlife and biodiversity at the stand level, <ol style="list-style-type: none"> (a) except, with respect to FPPR s. 12.5(2), where a tree must be felled to safely establish one or more tail-holds or guy-line tiebacks in a wildlife tree retention area to facilitate adjacent cable logging operations, or (b) a tree, or trees, within a wildlife tree retention area is modified (pruned or topped) to maintain the integrity of that wildlife tree retention area. (4) Where timber harvesting is planned or authorized within a WTRA, replacement forest of equivalent age, structure and area must be identified that is: <ol style="list-style-type: none"> (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, and that the process to replace the WTRA: <ol style="list-style-type: none"> (d) includes a rationale prepared by a Qualified Registered Professional outlining what was replaced and what was chosen as a replacement area prior to harvest of the applicable cutblock, (e) in blocks prior to Free Growing Declaration a Site Plan Amendment will be prepared, (f) where Free Growing is declared a rationale will be prepared and filed on the opening file. (g) includes data required to be submitted to the most current Province of BC database prior to Cutting Permit/Road Permit submission, consistent with FPPR S. 86(3).



6.3.7 Objectives set by government for cultural heritage resources (FPPR section 10)

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

FDUs	Strategy
FDU 1 Heydon Bay	(1) In respect of the objective set by government for cultural heritage resources, the FSP Holder will comply with Parts 1 and 3, Division 2 of the GBRO as described in section 6.1.1 of this FSP.
FDU 2 Pye Lake	<p>(1) The Holder(s) will annually refer to applicable First Nations, areas identified for potential timber harvesting and road construction, if any, and request information respecting cultural heritage resources within the identified areas. All timber harvesting, road construction, or log dump construction activities will be referred to applicable First Nations prior to commencement of activities.</p> <p>(2) The Holder(s) will evaluate the nature and extent of a possible site-specific cultural heritage resource identified by First Nations under section 1 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.</p> <p>(3) The Holder(s), when designing a cutblock or road, will identify:</p> <ul style="list-style-type: none"> a. the portion of the area occupied by a cultural heritage resource, b. the nature of the cultural heritage resource, c. whether the cultural heritage resource is to be protected or conserved, and d. 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. <p>(4) For each cultural heritage resource that has been identified under subsection 3 for protection, the Holder(s) will carry out or authorize a person to carry out a forest practice only to the extent that the forest practice does not damage or render ineffective the cultural heritage resource.</p> <p>(5) For each cultural heritage resource that has been identified under subsection 3 for being conserved, the Holder(s) will carry out or authorize a person to carry out a forest practice only to the extent that the forest practice is consistent with the constraints, if any, specified in the design for the cutblock or road.</p> <p>(6) If, within a cutblock or road where the Holder(s) is carrying out or has authorized timber harvesting or road construction, a previously unidentified cultural heritage resource is encountered, the Holder(s) will:</p> <ul style="list-style-type: none"> a. require operations within the cutblock or road to cease or be modified to the extent necessary to protect the cultural heritage resource, b. determine, <ul style="list-style-type: none"> i. the nature of the cultural heritage resource, ii. whether the cultural heritage resources are to be protected or conserved, and iii. if the cultural heritage resource is to be protected or conserved, what constraints, if any, are to apply to the forest practices carried out in the area. c. modify the design of the cutblock or road to conform with subsection 3, and



	<p>d. authorize operations to resume within the cutblock or road to the extent that the operations are consistent with the modified design.</p> <p>(7) The Holder(s) recognizes that mature western redcedar and cypress located within the identified FDU may be cultural heritage resources to the applicable First Nations and will ensure that:</p> <p>a. western redcedar and cypress for traditional and cultural use will be conserved in an amount consistent with the amount of historic use. Amount of historic use is based upon FN requests or use over a representative time period as determined by MoFLNRORD and each First Nation. Western redcedar and cypress for traditional and cultural use will, wherever possible, be identified or located in otherwise constrained areas including riparian management zones, wildlife tree retention areas, ungulate winter ranges, wildlife habitat areas, riparian reserve zones and any other areas constrained for non-timber values.</p> <p>b. where current FN requests for western red cedar and cypress for traditional and cultural use are confirmed by MoFLNRORD, the Holder(s) will assist each FN to identify suitable trees.</p> <p>c. if requested by FN, the Holder(s) will help identify suitable areas for bark gathering in cutblocks prior to harvesting.</p> <p>d. western redcedar and cypress will be planted on areas referred to in section 29(1) of the Act in accordance with the approved stocking standards where determined to be appropriate by the prescribing forester.</p> <p>e. the Holder(s) will assist MoFLNRORD where they are actively developing a strategy for and in the identification of western redcedar or cypress for traditional and cultural use.</p>
--	---



6.4 Orders Established Under Government Action Regulation (GAR)

6.4.1 Visual Resources

Scenic Areas for the Campbell River Forest District were established by the District Manager on December 14, 2005 under [GAR section 7\(1\)](#). Visual Quality Objectives (VQO) for the Campbell River Forest District were established by the District Manager on December 14, 2005 under [GAR s. 7\(2\)](#).

FDUs	Result
FDU 1 Heydon Bay and FDU 2 Pye Lake	<p>(1) Where the Holder conducts primary forest activities within known scenic areas, the Holder will meet the VQO set out in the equivalent categories of visually altered forest landscape described in FPPR section 1.1.</p> <p>(2) All primary forest activities carried out or authorized by the Holder will be consistent with the VQOs as established by the District Manager for the Campbell River Forest District on December 14, 2005, and any subsequent amendments made to the VQOs.</p> <p>(3) Prior to authorizing primary forest activities, where VQOs apply, the Holder will ensure a detailed Visual Impact Assessment (VIA) is completed by a qualified professional to ensure the activities are consistent with the VQO, taking into account the current state of the VQO and the effects of surrounding development. Where portions of an assessed landform contain existing non-forested alterations, such as private land, gravel pits, or natural rock bluffs, the VIA will not assess these areas as contributing to the current state of the VQO.</p>

6.4.2 Recreation Resource Feature

Recreation resource features within the Campbell River Forest District were identified, as depicted on maps titled *Campbell River Forest District Identified Recreation Resource Features Locator maps 1 through 8*, by the District Manager on April 12, 2006, under [GAR section 5](#).

FDUs	Result
FDU 1 Heydon Bay and FDU 2 Pye Lake	Although Recreation Sites and Trails have been legally established, no formal objectives (as required by FRPA Sec 181) were established and therefore no Result or Strategy is required in this FSP.



6.4.3 Karst

The karst system elements noted below have been identified as resource features, wherever they are found, within the Campbell River Forest District, by an Order dated May 20, 2007.

This identified resource feature is subject to practice requirements, as objectives have not been established for the management of the resource feature.

FDUs	Practice Requirement
FDU 1 Heydon Bay and FDU 2 Pye Lake	Where applicable within the Plan area, the Holder will adhere to the requirements of FPPR S. 70(1) , to not damage or render ineffective a resource feature, with respect to the following karst system elements that have been identified as resource features: <ul style="list-style-type: none">a) karst caves,b) significant surface karst features, andc) important features and elements within very high or high vulnerability karst.



7.0 MEASURES SET BY GOVERNMENT

7.1 Measure set by Government to Prevent the Introduction and Spread of Invasive Plants (FRPA section 47 and FPPR section 17)

For the purpose of section 47 (Invasive plants) of [FRPA](#), 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.

FDUs	Measures
FDU 1 Heydon Bay and FDU 2 Pye Lake	<ol style="list-style-type: none"> (1) Prior to undertaking any forest practice that will result in soil disturbance, the Holder will review the FLNRORD Invasive Alien Plant Program (IAPP) database, to determine the presence of invasive plants near the prescribed forest practice. A field review will be completed to determine if new invasive plants exist or if existing invasive plants have spread beyond the location identified in the IAPP database. When new invasive plant locations are identified or are seen to have spread beyond the reported location, the Holder will report this information to the IAPP database within 48 hours. (2) Additional measures to be implemented to prevent the introduction and/or spread of invasive plants will be specified in a plan developed by a qualified professional. This plan may include: <ol style="list-style-type: none"> a) the timing of grass seed application, b) washing of equipment capable of disturbing soils in the harvesting or road building phase to ensure that invasive plant reproductive material is removed. c) no storage of equipment in areas of infestation, d) no use of material from infested soils, and e) maintain records of the location and timing of grass seeding. (3) Preferred grass seed will be used and must have the following attributes: <ol style="list-style-type: none"> a) high sod-forming content, except in areas that are planted with tree seedlings, b) certified by the Canadian Seed Growers Association that the seed meets Common #1 Forage Grade or better standards for varietal purity established by the Association for seed of that kind of species (Seeds Act, Seeds Regulation S. 2(1)), and c) is of native origin. (4) Timing of grass seeding is based on the following: <ol style="list-style-type: none"> a) Within the calendar year of harvest completion, or 12 months, apply grass seed when germination has the best probability of success, b) where germination levels cover less than 80% of the treatment area, one additional application of grass seeding will be done. (5) Newly disturbed soils in the following areas will not be grass seeded: <ol style="list-style-type: none"> a) soils that will be occupied by seedlings as part of the Net Area to be Reforested, b) soils where there are no known invasive plants within 500m of disturbed soils. (6) Grass seed will be applied where:



	<ul style="list-style-type: none"> a) disturbed soils exceed 0.01ha of contiguous area created as a result of forest harvesting or road construction activities, b) disturbed soil has been created within 20m of the high water mark of any stream, and sediment may flow from that disturbed area into the stream, c) forest harvesting or road construction activities are within an RMA of adjacent water bodies that are capable of transporting reproductive invasive plant material.
--	--

7.2 Measures Set by Government Related to Range Barriers (FPPR section 18)

For the purpose of *FRPA* section 48 [*Natural range barriers*], a person who prepares a forest stewardship plan must specify measures to mitigate the effect of removing or rendering ineffective natural range barriers

FDUs	Measures
FDU 1 Heydon Bay and FDU 2 Pye Lake	<ul style="list-style-type: none"> (1) The Holder will: <ul style="list-style-type: none"> a) make “reasonable efforts” (referral letter, map, phone calls, meetings) to annually review information on tenure boundaries, pasture boundaries and range improvements in FDUs that are within or adjacent to range tenures, with those who hold agreements under the Range Act, and b) share information on areas being considered for the construction or roads or harvesting of cutblocks, and c) utilize the best available information to determine if a natural range barrier exists and will be removed or made ineffective (a breach) by primary forest activities proposed by the Holder. (2) Where no input is received from the range tenure holder or an agreement cannot be reached, prepare a strategy to mitigate the breach, in consultation with District Range Staff. (3) The Holder will implement the strategy to mitigate the breach within a mutually agreed-to timeframe. (4) Upon agreement with the Range Holder, one of the measures will be applied to the breach as follows: <ul style="list-style-type: none"> a) cattle guards, b) remedial fencing, c) wing-fencing, or d) logging debris fences.



8.0 STOCKING STANDARDS

The stocking standards outlined in Appendix 1 apply to the Net Area to be Reforested (NAR) of areas harvested identified by standards units, subject to this FSP and within FDU 1 or 2. The stocking standards, regeneration dates and free growing heights are to be interpreted in conjunction with professionally designed, signed and sealed site plans required by the [FPPR s. 34](#) prior to the commencement of harvesting activities.

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 Stocking Standards specify the regeneration date, free growing height and stocking standards for the situations or circumstances where [FPPR S. 44\(1\)](#) applies.

In accordance with [FPPR S. 16](#), the following tables are the stocking standards that are to be applied to the blocks harvested under this FSP. These tables are to be used along with the block specific site plans as required by [FRPA S. 10](#). The following stocking standard tables are meant to be interpreted based on the opinion of a qualified professional concerning the site, its potential, unique circumstances, climate change, and limitations, as well as the various characteristics of applicable tree species.

The minimum stocking level for the stocking standards referred to in [FPPR S. 16\(3\)\(a\)](#) and [\(b\)](#) and [44\(1\)\(a\)](#) and [\(b\)](#), is 50% of the minimum amount specified in Table 2 in a standards unit where:

- 1) 50% or more of Crop Trees are damaged by Roosevelt Elk; and
- 2) all practicable options have been taken to meet the amount specified in Table 2, including but not limited to;
 - a) fill planting browse resistant Crop Trees; or
 - b) seedling protection

Ecologically suitable tree species are species that have been found to occur based on available soil water and nutrients. The soil moisture regime and soil nutrient regime are combined into an edatope. The edatopic grid for each species determines infrequent, and frequent to very frequent occurrences. Ecologically suitable species in the context of this stocking standard are found in the frequent to very frequent ranges due to moderate to good vigour performance unless limited by a footnote. The prescribing Forester must determine suitability based on site specific criteria such as soil moisture and nutrient regimes, aspect and elevational transition zones determined in the field. As per [FPPR S. 26 \(3\)\(a\)](#) the species listed in Table 2 are derived from *Land Management Handbook No. 28, A Field Guide for Site Identification and Interpretation for the Vancouver Forest Region*¹², *Reference Guide for Forest Development Stocking Standards (November 2021)*¹³, and *The*

12 Green, R.N. and Klinka, K 1994. Land Management Handbook No. 28, A Field Guide for Site Identification and Interpretation for the Vancouver Forest Region

13 British Columbia Ministry of Forests and Range, 2021. Reference Guide Standards in Excel format. Forest Practices Branch, Victoria, BC



Distribution and Synopsis of Ecological and Silvical characteristics of tree species in British Columbia's forests¹⁴.

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, the stocking standards in Appendix 1 of the FSP will be maintained on the area for twelve months following the completion of the harvesting.

8.4 FRPA Section 197 Election of Stocking Standards

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

¹⁴ Klinka, K., Worrall, J., Skoda L. and P. Varga. 2000. The distribution and synopsis of ecological and silvical characteristics of tree species in British Columbia's forests. Canadian Cartographics. Coquitlam, BC



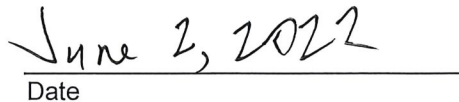
Signature of Person Required to Prepare Plan

CERTIFICATION OF SIGNING PROFESSIONAL

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



Signing Forester



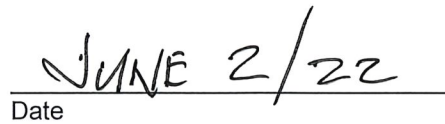
Date

SIGNATURE OF PERSON REQUIRED TO PREPARE PLAN ([FRPA section 5\(3\)](#))

Licensee



Per:
Authorized Signatory



Date

APPENDIX 1.0 - CRIBCO FSP STOCKING STANDARDS

ADMINISTRATION

As per section 16 of the Forest Planning and Practices Regulations, the following tables are the stocking standards that are to be applied to the blocks harvested under this Forest Stewardship Plan within the noted licenses. These tables are to be used along with the block specific site plans as required by Section 10 of the Forest and Range Practices Act.

Table 1. Stocking Standards: Administration				
Region Coast Forest Region	District Campbell River Natural Resource District	Management Unit(s) FDU 1 & 2	Licensees and Licences CRIBCO Forest Products Ltd. FNWL N2D	Date September 1, 2021

STOCKING STANDARDS

Table 2. Stocking Standards for Ecologically Suitable Species																						
MoF ID#	BEC			Ecologically Suitable																Stocking		Regen Delay (yrs)
	Zone	Subzone/ Variant	Site Series	1	Min Ht	2	Min Ht	3	Min Ht	4	Min Ht	5	Min Ht	6	Min Ht	7	Min Ht			Target (sph)	Minimum (sph)	
1048048	CWH	xm ⁴⁷	01	Fd	3.0	Hw ²⁴	2.0	Cw	1.5	Pw ³¹	2.5									900	500	3
1048049			02*	Fd	2.0	Pl	1.25													400	200	3
1048050			03	Fd	2.0	Pl ⁶	1.25	Cw	1.0	Hw	1.3	Pw ³¹	2.5							800	400	3
1048051			04	Fd	3.0	Cw	1.5	Pw ³¹	2.5											900	500	3
1048052			05	Cw	2.0	Fd	4.0	Bg ⁵³	3.5	Hw	1.8	Pw ³¹	2.5							900	500	3
1048053			06	Cw	1.5	Hw	2.0	Fd ¹⁸	3.0	Bg ⁷	3.0									900	500	6
1048054			07	Cw	2.0	Fd	4.0	Bg ⁴⁷	3.5	Hw	1.8									900	500	3
1048055			08	Cw	2.0	Ss ³⁵	4.0	Bg ⁴⁷	3.5											900	500	3
1048056			09	Cw ¹	2.0	Bg ^{1,47}	3.5													900	500	3
1048057			11*	Pl ¹	1.25	Cw ¹	1.0													400	200	3
1048058			12	Cw ¹	1.0	Hw ¹	1.25	Pw ³¹	2.5	Ss ³⁵	1.5									800	400	3
1048059			13	Cw	2.0	Bg ⁴⁷	3.5	Fd	4.0											900	500	3
1048060			14	Bg ^{1,47}	3.5	Cw ¹	2.0													900	500	3
1048061			15	Cw ¹	2.0															800	400	3
1069432	CWH	xm ⁴⁷	IC OG	Fd		Cw		Pw		Hw										>40m ² basal area		
1069433	CWH	xm ⁴⁷	IC 2G	Fd		Cw		Pw		Hw										400	300	
1048062	CWH	mm ^{1,47}	01	Fd	3.0	Cw	1.5	Hw ¹⁰	2.0											900	500	6
1048063			02*	Pl	1.3	Fd	2.0	Cw	1.0											800	400	6
1048064			03	Fd	2.0	Cw	1.0	Hw	1.8											800	400	3

Table 2. Stocking Standards for Ecologically Suitable Species

MoF ID#	BEC			Ecologically Suitable																Stocking		Regen Delay (yrs)
	Zone	Subzone/Variant	Site Series	1	Min Ht	2	Min Ht	3	Min Ht	4	Min Ht	5	Min Ht	6	Min Ht	7	Min Ht			Target (sph)	Minimum (sph)	
1048065	CW	mm1 ⁴⁷	04	Fd	2.0	Cw	1.0	Pw ³¹	2.5	Hw	1.8									900	500	3
1048066			05	Fd	3.0	Cw	1.5	Pw ³¹	2.5	Ba ⁴⁷	0.8	Hw	2.0							900	500	3
1048067			06	Cw	1.5	Hw	2.0	Fd ⁷	3.0	Ba ⁴⁷	0.8									900	500	6
1048068			07	Cw	2.0	Fd	4.0	Ba ⁴⁷	1.0	Hw	2.5									900	500	3
1048069			08	Ba ⁴⁷	1.0	Cw	2.0	Ss ³⁵	4.0											900	500	3
1048070			09	Cw ¹	2.0	Ba ^{1,47}	1.0													900	500	3
1048071			11*	Pl ¹	1.3	Cw ¹	1.0													400	200	3
1048072			12	Cw ¹	1.0	Hw ¹	1.8	Ss ¹	2.0											800	400	3
1069360	CWH	mm1	IC OG	Fd		Cw		Pw		Hw										>40m ² basal area		
1069361	CWH	mm1	IC 2G	Fd		Cw		Pw		Hw										400	300	
1047623	CWH	vm1 ⁴⁷	01	Cw	1.5	Hw	3.0	Ba ^{26,47}	1.8	Fd ^{9,16}	3.0	Ss ^{7,35}	3.0							900	500	6
1047624			02*	Pl	1.3	Cw	1.0	Fd ^{9,16}	2.0	Hw	2.0									400	200	3
1047625			03	Cw	1.0	Hw	2.0	Fd ^{9,16}	2.0	Pl ⁵³	1.3									800	400	6
1047626			04	Cw	1.5	Hw	3.0	Fd ^{9,16}	3.0	Ba ⁴⁷	1.8	Ss ^{15,35}	3.0							900	500	3
1047627			05	Ba ⁴⁷	1.8	Cw	1.5	Hw	3.0	Fd ^{1,9,16}	3.0	Ss ³⁵	3.0							900	500	3
1047628			06	Ba ^{26,47}	1.8	Cw	1.5	Hw	3.0	Ss ^{7,35}	3.0									900	500	6
1047629			07	Ba ⁴⁷	2.3	Cw	2.0	Hw ²	4.0	Fd ^{1,9,23}	4.0	Ss ³⁵	4.0							900	500	3
1047630			08	Ba ⁴⁷	2.3	Cw	2.0	Hw ²	4.0	Ss ³⁵	4.0									900	500	3
1047631			09	Ba ⁴⁷	2.3	Cw	2.0	Hw	4.0	Ss ³⁵	4.0									900	500	3
1047632			10	Cw ¹	2.0	Ss ^{1,35}	4.0	Ba ^{1,47}	2.3											900	500	3
1047633			12	Cw ¹	1.0	Hw ¹	2.0	Yc ¹	1.0	Pl ¹	1.3	Hm ¹	2.0							800	400	3
1047634			13*	Pl ¹	1.3	Cw ¹	1.0													400	200	3
1047635			14	Cw ¹	1.5	Hw ¹	3.0	Ss ^{1,35}	3.0	Pl ⁵³	2.0									800	400	3
1069429	CWH	vm1	IC OG	Fd		Hw		Cw		Yc		Ba		Ss		Pw				>40m ² basal area		
1069430	CWH	vm1	IC 2G	Fd		Hw		Cw		Yc		Ba		Ss		Pw				400	300	
1047640	CWH	vm2 ⁴⁷	01	Hw	2.5	Cw ¹⁴	1.5	Yc ⁶⁹	1.5	Ba ⁴⁷	1.8	Fd ^{1,9,23}	2.3	Ss ^{7,15,35}	3.0	Hm ¹³	1.0			900	500	6
1047641			02*	Pl	1.3	Cw	1.0	Yc ⁶⁹	1.0	Fd ^{9,16}	1.5	Hw	1.8	Hm ¹³	1.8					400	200	3
1047642			03	Cw	1.0	Hw	1.8	Yc ⁶⁹	1.0	Fd ^{9,16}	1.5	Pw ^{16,31}	2.5	Hm ¹³	1.8	Pl ⁵³	1.3			800	400	6
1047643			04	Cw	1.0	Hw	1.8	Yc ⁶⁹	1.0	Fd ^{9,16}	1.5	Pw ¹⁶	2.5	Ba ⁴⁷	1.5	Ss ³⁵	2.0	Hm ¹³	1.8	900	500	6
1047644			05	Cw	1.5	Hw	2.5	Yc ⁶⁹	1.5	Ba ⁴⁷	1.8	Ss ^{15,35}	3.0	Fd ^{1,8,9,23}	2.3	Hm ¹³	1.0			900	500	3
1047645			06	Cw	1.5	Hw	2.5	Yc ⁶⁹	1.5	Ba ⁴⁷	1.8	Hm ¹³	1.0	Ss ⁷	3.0					900	500	6
1047646			07	Cw	2.0	Hw ²	3.5	Yc ⁶⁹	2.0	Ba ⁴⁷	2.3	Ss ^{15,35}	4.0	Hm ¹³	1.0					900	500	3
1047647			08	Cw ¹⁴	2.0	Hw ²	3.5	Yc ⁶⁹	2.0	Ba ⁴⁷	2.3	Ss ³⁵	4.0	Hm ¹³	1.0					900	500	3
1047648			09	Cw ¹	1.0	Hw ¹	1.8	Yc ^{1,69}	1.0	Hm ¹³	0.8	Ba ⁴⁷	1.5							800	400	3
1047649			10*	Pl ¹	1.3	Yc ^{1,69}	1.0	Hm	0.8											400	200	3
1047650			11	Cw ¹	1.0	Yc ^{1,69}	1.0	Hw ¹	1.8	Hm ¹³	0.8	Ss ^{1,15,35}	2.0							800	400	3
1069431	CWH	vm2	IC OG	Fd		Hw		Cw		Yc		Ba		Ss		Pw				>40m ² basal area		

Even Aged Management

Table 2 applies to sites and Standards Units with even-aged management. Each site proposed for harvesting and subject to a standards unit stocking standard will have been assessed by a qualified professional to meet the pre-harvest site planning requirements prescribed by the [FRPA](#) and [FPPR](#). The stocking standard tables are meant to be interpreted based on the opinion of a qualified professional concerning the site, its potential, unique circumstances, and limitations, as well as the various characteristics of applicable tree species.

As defined by [FPPR Schedule 1, s. 6\(a\)](#): “**even-aged stand**” means a stand of trees consisting of one or two age classes.

Site Series Mosaics/Complexes

Where more than one site series is located within a logical standards unit area the standard that applies will be that of the dominant site series. This standard can be modified with the inclusion of additional species selected from the standard of the subdominant site series for those specific areas of the mosaic or complex. These additional components to the standard will be supported by a documented rationale.

Transitional Sites

On transitional sites occurring between two BEC units, the standard that applies will be that of the dominant BEC unit. This standard can be modified with the inclusion of components associated with the sub-dominant BEC unit. These additional components to the standard will be supported by a documented rationale.

Minimum Intertree Distance

The general minimum intertree distance (MITD) of 2.0 metres can be reduced to 1.0 metre for any given site where productive and plantable spots are limited by site characteristics. These can include, but are not limited to, colluvial sites, wet sites, disturbed roadsides, heli-logging blocks, or other sites where site conditions preclude the attainment of the target stocking standards. The target inter-tree spacing will remain the same but a reduced MITD will allow for the selection of the most productive growing sites.

Colluvial sites are those with large surface rocks or boulders or sub-surface rocks. On these sites soil is either shallow or limited to gaps between rocks. These sites can be very localized or extensive in nature such as large deposition zones from historic slides, talus slopes, avalanche tracks or boulder veneers.

Wet sites are those with high or fluctuating water tables and growing season water surpluses. Productive growing sites are generally less frequent and found mainly on elevated mounds. Under the BEC system the soil moisture rating (SMR) for these sites ranges from very moist (6) to wet (7).

Disturbed roadside areas are those within the road prism where productive growing sites are less frequent because of broken rock, talus, heavy slash or other unfavorable soil materials caused by road building and harvesting operations.

Height of crop trees above competing vegetation

% of height of crop trees compared to competing vegetation:

Alder	150%
Bracken	125%
Willow	100%
Brush*	100%
Other species	150%

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

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

Slide Area Management

For slide areas caused as a result of a primary forest activity, the holder(s) of this FSP will ensure that the slide is assessed by a qualified professional to determine if [FRPA S. 108](#) and [FPPR S. 96](#) apply. The immediate strategy will be to control silt and sediment production and stabilize the site, where safety permits. The qualified professional will assess the slide initiation, transport, and deposition zones and will determine an appropriate management/regeneration strategy.

No general stocking standard has been listed for the regeneration of slide areas. A wide range of species choices may be required to match site conditions (elevation, aspect, soils, etc.). Regeneration objectives and strategies within slides that occur in the FSP area may vary depending on the characteristics of the slide. Any reforestation efforts will be directed at the most productive and stable areas. In some cases, the control of silt and sediment production and site stabilization will take priority over future timber production.

For slide areas that remain productive and suitable for conifer or deciduous establishment, the prescribing forester will prescribe the most appropriate site specific reforestation plan. Slide revegetation plans may include non-tree species, conifers, deciduous or a mix of suitable species. The site-specific rationale will be documented and incorporated in the Site Plan files or in the Road Permit files depending on the situation.

Leave Trees

Leave trees retained through various silviculture systems may contribute to the stocking of the future stand and/or provide biodiversity value.

For mature (layer 1), pole size (layer 2), and sapling (layer 3) trees to contribute to stocking in the future stand, and be considered free growing, they must have the following minimum characteristics:

- good form, health, and vigour and otherwise meet the stocking requirements for the site;
- there should be no stem infection caused by dwarf mistletoe;
- no other externally visible pathological indicators should be present including broken tops, frost cracks, conk, or extreme basal sweep;
- Continuous live crown must be greater than 20% for layer 1 trees >17.5cm dbh, otherwise >30% for layer 1 trees <17.5cm, layer 2, and layer 3 trees;

- Scars

Species	Tree Layer	Unacceptable Damage
Ba, Hw, Ss, Yc, Fd, Pw and Cw	1 & 2	<ul style="list-style-type: none"> Wound girdles >33% of the stem One wound >400cm² Wound on major root < 1m from stem Gouge
Ba, Hw, Yc, Cw	3	<ul style="list-style-type: none"> No open (unhealed) injuries no closed (healed) injuries >25% of the circumference of the stem no closed injuries >10% of the total stem length

- Forks or Crooks

Tree Layer	Unacceptable Damage
1 & 2¹⁵	<ul style="list-style-type: none"> A crook displaces the portion of the stem above the defect by >50% from the line of growth formed by the stem below the point of defect in the bottom 2/3rds of the stem only. A fork occurs above stump height in the bottom 2/3rds of the stem only.
3¹⁶	<ul style="list-style-type: none"> a fork that has not differentiated in height between competing leaders by more than 5 cm after five years of growth since the leader damage occurred.

In situations where leave trees will not contribute to the free growing stand, the leave trees will have characteristics appropriate to meet forest management objectives for the site. Trees left for biodiversity may include very old dominant trees (veteran trees), trees with broken tops, candelabras, mistletoe infestations, heart rot, as well as understory trees and advanced regeneration, if deemed safe to do so. These trees will add structural value, potential wildlife habitat, and coarse woody debris inputs to the next stand.

When significant levels of western hemlock are expected to contribute to the future crop, a sanitation treatment at the time of harvest in uneven-aged stands or in leave areas within a block will occur in stands with moderate or high incidence of hemlock dwarf mistletoe. Alternately, non-host species (Fd, Cw, Yc) or less susceptible species (Hm, Ba, Ss) will be planted and/or targeted to mitigate the effects of DMH on the regenerating stand.

¹⁵ Ebata, T. February 9, 2007. FREE GROWING DAMAGE CRITERIA FOR MULTI-LAYERED STANDS IN BRITISH COLUMBIA. Pg. 3

¹⁶ May 2000. Establishment to Free Growing Guidebook – Vancouver Forest Region. Appendix 5

Forest Health Factors

Laminated Root Rot (*Phellinus sulphurascens*) and Armillaria Root Rot (*Armillaria ostoyae*) – *P. sulphurascens* can be a significant forest health factor affecting Douglas-fir management in the CWH xm subzone. *A. ostoyae* can be a significant forest health factor affecting western hemlock and amabilis fir in the CWH vm1 subzone.

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

- Post-harvest stumping on slopes less than 35% on the most severely infected sites.
- Planting alder and/or cedar and/or white pine on sites suitable to these species. Alder will be considered for sites indicated in Table 4.
- Bg, Fd and Hw are limited to a combined total of 20% of target stocking in areas infected with *P. sulphurascens* that cannot have stumps removed.
- Hw and Ba are limited to a combined total of 20% of target stocking in areas infected with *A. ostoyae* that cannot have stumps removed.

White Pine Blister Rust (*Cronartium ribicola*) – Western White Pine (Pw) occurs naturally within the area covered by this FSP. The species can be productive across a range of sites. In root rot infected areas, where an alternate species management strategy is prescribed, Pw may be managed as a pure stand if grown from resistant stock.

Spruce Weevil (*Pissodes strobi*) – Risk of spruce weevil is high for both Forest Development Units, within the CWH xm, mm1 and vm1 subzones. Risk of spruce weevil is moderate in the CWH vm2 subzone in FDU 1¹⁷. All planted trees will be from resistant stock.

Hemlock Dwarf Mistletoe (*Arceuthobium tsugense*) – The risk of infection in western hemlock (Hw) stands from hemlock dwarf mistletoe is present throughout the area covered by this FSP. Hemlock dwarf mistletoe is a significant forest health concern because it can reduce growth rates and timber quality within the regenerating stand. The primary objective is to control the spread of hemlock dwarf mistletoe from the overstory canopy into openings created by harvesting. Specific management strategies for hemlock dwarf mistletoe will be defined at the Site Plan level. The following techniques will be utilized to limit the spread and / or reduce the incidence in the regenerating stand:

- Locate falling boundaries to include heavily infected trees within the cutblock and avoid the retention of heavily infected trees in retention patches.
- Where stand structure permits, selectively harvest edges to remove infected trees.
- Cut all advanced Hw regeneration over two metres tall that are visibly infected with hemlock dwarf mistletoe.
- Utilize resistant (Hm, Ba, Ss) and immune (Fdc, Cw, Yc, Dr, Pw) species within 20m of infected edges with a moderate to high incidence of hemlock dwarf mistletoe (>3 according to the Hawksworth¹⁸ scale).

Balsam Woolly Adelgid (*Adelges piceae*) – All the true fir species within the CWH xm, mm, and vm subzones are at risk of infestation from balsam woolly adelgid. As a result of the future risk of infestation, grand fir (Bg) and amabilis fir (Ba) will not be managed as pure plantations. Bg and Ba will not contribute more than 30% towards the target stocking standards.

¹⁷ Heppner, D. and J. Turner. 2006. British Columbia's Coastal Forests: Spruce weevil and western spruce budworm forest health Stand Establishment Decision Aids. BC Journal of Ecosystems and Management 7(3): 45–49.

¹⁸ Hawksworth six-class dwarf mistletoe rating system as identified at the following link:

https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/forest-health/managed-stand-pests/figure_5_the_hawksworth_six-class_dwarf_mistletoe_rating_system.pdf

Riparian Management and Wildlife Habitat

The *FPPR* allows for flexibility within riparian management areas (RMA). Timber production objectives may be secondary to the protection or enhancement of riparian, biodiversity, wildlife and fisheries values. Accordingly, stocking standards may be modified to meet forest management objectives. Changes to the stocking standards may include the acceptance of broadleaf species, and adjustments to target and minimum densities and minimum inter-tree distance. The forest management objectives and the associated changes to the stocking standards will be supported by a documented rationale.

Uneven Aged Standards

Intermediate Cutting (IC)

Intermediate cutting is proposed under this plan for both old growth and second growth stands, with each having their own stocking standard. These prescriptions would provide for an opportunity for future harvesting. Where IC occurs, stocking standards will be maintained for 12 months following the completion of harvesting. Standards for acceptable leave trees will be as defined in the most recent version of the Single Entry Dispersed Retention System discussion paper, Appendix 1 and 2.¹⁹

Intermediate Cutting - Old Growth

For old growth, intermediate cutting is proposed in stands that are constrained by other resource values, typically terrain stability or visuals. Where possible, IC will be in combination with small patch cuts or larger openings. Helicopter harvesting, either faller select or snap and crack, will typically be used. If it occurs, the application of IC will be limited to no more than 5% of the AAC measured over a 5 year period. The IC will involve the removal of up to 20% of the merchantable stand volume and no more than 35% of the merchantable volume of any one species. Basal area retained will be >40 m²/ha. Openings <0.2 hectares will not be planted.

Intermediate Cutting – Second Growth

For second growth, the intermediate cutting will be in the form of a cross sectional thinning of all species and diameter classes where up to 25% of the merchantable stems will be removed. The harvest system will typically be ground based and will most often occur within the RMZ on streams. IC in second growth would potentially be more broadly applied than in old growth.²⁰ IC is not necessarily limited to constrained areas but will be limited to 2% of the AAC measured over a 5 year period.

¹⁹ [https://www.for.gov.bc.ca/HFP/SILVICULTURE/FINAL - SEDRSS IMPLEMENTATION GUIDE VER 2 0 \(FEB 14 2014\).PDF](https://www.for.gov.bc.ca/HFP/SILVICULTURE/FINAL_-_SEDRSS_IMPLEMENTATION_GUIDE_VER_2_0_(FEB_14_2014).PDF)

²⁰ [https://www.for.gov.bc.ca/RCO/STEWARDSHIP/CRIT/DOCS/FINAL SEDRSS APPENDIX 3 FDC RETENTION STOCKING STANDARD AUGUST 3 2016 VER 8.PDF](https://www.for.gov.bc.ca/RCO/STEWARDSHIP/CRIT/DOCS/FINAL_SEDRSS_APPENDIX_3_FDC_RETENTION_STOCKING_STANDARD_AUGUST_3_2016_VER_8.PDF)

Hardwood Management Standards

Table 3: Stocking Standards for Hardwood Management (extensive/mixedwood management, deciduous portion)

MoF ID #	BEC			Ecologically Suitable Species								Stocking		Regen Delay
	Zone	SZ	Series	1	Min Ht	2	Min Ht	3	Min Ht	4	Min Ht	Target (sph)	Min (sph)	
1071037	CWH	vm1	01	Dr ⁷	4.0							1400	1000	6
1071039	CWH	vm1	05	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071040	CWH	vm1	06	Dr ⁷	4.0							1400	1000	6
1071041	CWH	vm1	07	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071042	CWH	vm1	08	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071043	CWH	vm1	09	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071044	CWH	vm1	10	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071045	CWH	xm	01	Dr ⁷	4.0							1400	1000	3
1071046	CWH	xm	05	Dr	4.0	Mb	4.0					1400	1000	3
1071047	CWH	xm	06	Dr ⁷	4.0							1400	1000	6
1071048	CWH	xm	07	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071049	CWH	xm	08	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071050	CWH	xm	09	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071051	CWH	xm	13	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3
1071052	CWH	xm	14	Dr	4.0	Act	4.0	Mb	4.0			1400	1000	3

Application

The following information is in consideration of stocking standards for hardwood management as per the Coast Hardwood Management Strategy.

Management Principles and Strategy Options

The hardwood Management Stocking Standards in Table 3 are consistent with the management principles and strategies outlined in the *Hardwood Management Strategy in the Coast Forest Region* and the *Establishment to Free Growing Guidebook – Vancouver Forest Region, Version 2.3*. The target area for hardwood management in the Campbell River Natural Resource District is 200 ha per year. The purpose of including hardwood stocking standards within this FSP is to enable CRIBCO to contribute towards this target.

The hardwood management strategy should be considered to:

- Produce products to support a hardwood timber supply,
- Diversity timber yields to address changing market conditions,
- Maximize land base utilization,
- Manage for root disease centers as a short rotation stand.

Hardwoods, primarily alder, will be managed under two management options:

1. Mixedwood Management
 - a. Initial Establishment
 - b. Stand Conversion
2. Extensive Hardwood Management

Mixedwood Management Strategy

Initial Establishment

This strategy can be used where patches of conifer-leading and deciduous-leading stands are mixed across a cutblock or portion of a cutblock. Under a mixedwood management regime, with either natural or artificial regeneration, the target rotation age to produce hardwood and conifer sawlogs with minimum size characteristics is 40-60 years.

Stand Conversion

Deciduous trees, primarily alder, may seed in to established plantations within 5 years of harvest. During stand development, a decision to convert from conifer management to hardwood management is possible by re-stratifying and choosing stocking standards for each Standards Unit (SU). Where stands are converted to hardwood management the following criteria will be considered:

- Average well-spaced density of alder should be greater than 1,000 stems per hectare.
- Hardwood areas should be adjacent to established roads for early rotation harvesting.
- Harvest systems should be ground-based.
- Mixedwood management is restricted to the site series in Table 3.
- Stocking standards will be a combination of Table 2 – Even-aged Conifer Stands and Table 3 – Even-aged Hardwood Stands.

Extensive Hardwood Management Strategy

Ideally, rotation lengths will be 30 – 50 years. It is important for deciduous species, such as Red Alder, to achieve quick site occupancy with high initial stocking and uniform tree distribution. Successful establishment can occur through natural or artificial regeneration.

The extensive hardwood management strategy will be subject to the following conditions:

- While alder, cottonwood, and big leaf maple are considered ecologically acceptable species, it is alder that will primarily be managed. The remaining deciduous species are limited to 30% of the free growing stems.
- Hardwood management will be limited to elevations below 500 metres, unless a qualified professional, documents in a site plan, a decision to reforest at a higher elevation.
- Stands will be harvested using low cost methods - generally ground-based.
- Areas will be a minimum of 0.5 hectares in size.

At free growing an acceptable deciduous crop tree must:

- not originate from a cut stump, except for Mb,
- have one dominant leader,
- not have a wound greater than 10% of the stem circumference, nor greater than 10% of the total stem length,
- not have visible fungal infections or insect infestations affecting tissues below the bark surface,
- not be browsed to limit its ability to become a crop tree.

Reference Guide for FSP Stocking Standards

	Footnote #	Footnote	Footnote #	Footnote
Conifer Tree Species				
"Ba" means amabilis fir;	1	elevated microsites are preferred	46	restricted to area north of the Dean Channel
"Bg" means grand fir;	2	suitable on thick forest floors	47	risk of balsam wooly adelgid
"Bl" means subalpine fir;	3	restricted to coarse-textured soils	48	risk of heavy browsing by deer
"Bp" means noble fir;	4	restricted to medium-textured soils	49	retired November 2010
"Cw" means western red cedar;	5	footnote retired	50	restricted to sites where the species occurs as a major species in a pre-harvest, natural stand
"Fd" means Douglas-fir;	6	restricted to nutrient-very-poor sites	51	restricted to areas with proven PI performance
"Hm" means mountain hemlock;	7	restricted to nutrient-medium sites	52	restricted to sheltered microsites with deep soil
"Hw" means western hemlock;	8	restricted to steep slopes	53	minor component
"Lt" means tamarack;	9	restricted to southerly aspects	54	risk of unsuccessful release of advance regeneration
"Lw" means western larch;	10	restricted to northerly aspects	55	acceptable in sx-sm portion of site series
"Pa" means whitebark pine;	11	restricted to crest slope positions		
"Pl" means lodgepole pine;	12	suitable on cold air drainage sites		
"Pw" means white pine;	13	restricted to upper elevations of biogeoclimatic unit	69	Species is restricted to upper elevations when used in the southern portion of the biogeoclimatic unit.
"Py" means ponderosa pine;	14	restricted to lower elevations of biogeoclimatic unit		
"Sb" means black spruce;	15	restricted to northern portion of biogeoclimatic unit in region		
"Se" means Engelmann spruce;	16	restricted to southern portion of biogeoclimatic unit in region		
"Ss" means Sitka spruce;	17	restricted to western portion of biogeoclimatic unit in region		
"Sw" means white spruce;	18	restricted to eastern portion of biogeoclimatic unit in region		
"Sx" means hybrid spruce or interior spruce;	19	restricted, not in Queen Charlotte Islands		
"Sxs" means hybrid Sitka spruce;	20	restricted, not near outer coast		
"Sxw" means hybrid white spruce;	21	restricted to mainland		
"Yc" means yellow cedar.	22	restricted to southern Gardner Canal-Kitlope area		
	23	restricted to trial use		
	24	suitable (as a major species) in wetter portion of biogeoclimatic unit		
Broadleaf Tree Species				
"Ac" means balsam poplar;	25	suitable on sites lacking salal		
"Act" means black cottonwood;	26	suitable minor species on salal-dominated sites		
"At" means trembling aspen;	27	partial canopy cover required for successful establishment		
"Dr" means red alder;	28	limited by moisture deficit		
"Ep" means common paper birch;	29	risk of heavy browsing by moose		
"Mb" means bigleaf maple;	30	retired November 2010		
"Qg" means garry oak;	31	risk of white pine blister rust		
"Ra" means arbutus;	32	limited by growing-season frosts		
	33	footnote retired and replaced with footnote 'a'		
"Biogeoclimatic unit" or "BGC classification" means the zone, subzone, variant and site series	34	risk of snow damage		
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.	35	risk of weevil damage		
	36	suitable major species on salal-dominated sites		
	37	footnote retired		
	38	footnote retired		
	39	avoid exposed and windy sites		
"MIN" or "Min" means minimum.	40	risk of redheart		
	41	limited by poorly drained soils		
*Recommend not Harvesting.	42	restricted to fresh soil moisture regimes		
	43	suitable on mainland coast only (QCI only)		
	44	suitable in areas with stronger maritime influence		
	45	suitable in areas with stronger continental influence		

APPENDIX 2.0 - CRIBCO FSP MAPS