

Husby Group Haida Gwaii

Forest Stewardship Plan 2023 – 2028

September 2023



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1.0 Clarifications

In this Forest Stewardship Plan (FSP, “the Plan”, “this Plan”), where terms are used which are defined in the Haida Gwaii Land Use Objectives Order (HGLUOO), the Forest and Range Practices Act, or the Forest Planning and Practices Regulation, the definition of the term is as per the Order, Act or Regulation (e.g., “tree-length” and “intergovernmental process” are as defined in the HGLUOO). Where there is confusion or conflict between the HGLUOO, the FRPA or the FPPR, the order of precedence is as follows: HGLUOO, then the FRPA, then the FPPR.

“Plan Area” means the tenure areas indicated in Table 1, covered by FDU A (refer to FSP map in Appendix A).

“Plan Holder” means the signatory to the FSP, as indicated in Table 1, below.

“Active Bear Den” means a Bear Den identified by a qualified professional that either has a bear actively using it or illustrates signs that a bear is or will be using that den for over winter use in that year.

“Average Width” as it relates to reserve and management zones. The application of average width may allow for operational flexibility, but the primary purpose is to maintain the integrity of the feature. Utilizing average width may allow to manage for different variables including but not limited to wind direction, fetch, soil, stand characteristics, other wildlife features, and other variables including operational feasibility. There is flexibility to reduce the size of a reserve or management zone on some portion for the perimeter, but it is intended to be balanced by a similar expansion in other portions. The total area of the reserve or management zone should equate to the average width area.

“Adaptive Management Plan” means a monitoring or research initiative that is developed and implemented during operational planning, timber harvesting, silviculture treatment, or road construction, including maintenance and deactivation phases, to examine the outcomes of management strategies and practices that vary from default requirements, the results of which will inform the development of future management strategies and practices.

“Cedar” means, unless specified otherwise, western red cedar (*Thuja plicata*) or yellow cedar (*Cupressus nootkatensis*).

“Culturally Modified Tree” or “CMT” means, for the purposes of this Order, a tree that was modified prior to 1920 by Haida people as part of their cultural use.

“Development Area” means a specific location associated with an individual cutblock or road and defined by boundaries shown on a site plan where timber harvesting is planned or carried out, and includes any stand level retention, management zones, reserve zones, mapped reserves, or other areas where timber harvesting is restricted or managed pursuant to this Order or the Forest and Range Practices Act and the regulations made thereunder.

“Diameter at Breast Height” or “dbh” means the outer bark diameter of a tree, measured at 1.3m from the forest floor, on the high side, or from point of germination if the tree roots are elevated above ground or tree is lying on ground (consistent with the Provincial Cruising Manual).

“Direct Tributary” means a portion of a tributary stream that: is a minimum of 100m in length and has the same stream order as the most downstream reach of the tributary.

“Operational Feasibility” means that a Qualified Professional rationalizes that a goal can be completed without unreasonable difficulty, without employing unnecessary means, and without incurring extreme costs to achieve the same outcome by removing the factor that will require said difficulty, unnecessary means and incurring extreme costs.

“Practicable” is as intended in FRPA General Bulletin Number 3, dated June 9, 2005.

“Qualified Professional” means a person who:

- is registered and in good standing in British Columbia with an appropriate professional organization constituted under a British Columbia statute, who is acting under that association’s code of ethics and is subject to disciplinary action by that association; and
- is acting within his or her area of expertise and scope of practice.

“Significant Public Viewpoint” is a place or location on water or land that is accessible to the public, provides a viewing opportunity and has relevance to the landscape being assessed, e.g., a stretch of highway or waterway leading toward a harvest unit where the harvest unit is within the drivers’ field of view while watching road (not adjacent), a highway rest stop, recreation site park, marine anchorage, group of homes, settlement or community or a tourist-related commercial enterprise.

“Site Specific Values” means an item or feature that has significance and that the Plan Holder intends to manage for. A site-specific value may include but is not limited to steep slopes, wind direction, fetch, soil, stand characteristics, other wildlife features, and practicable road locations.

“Stand Level Retention” means small intact patches of trees and understory vegetation that are in a development area to assist in meeting the land use objectives in this plan. With respect to Stand Level Retention as it pertains to Western Yew they will include “the yew patch(es)” and individual yew trees creating shade and managing those trees for wind firmness while harvesting potential merchantable trees within the retention area without damaging the yew or eliminating shade.

“Tree-length” is used throughout the Plan regarding the widths of reserve and management zones. Tree-length is as defined in the HGLUOO, and the associated HGLUOO Schedule 5. The site-specific tree-length that will be used for the cutblock (i.e., height assigned) will be documented in the Site Plan. Only one method will be used for each individual cutblock. The HGLUOO definition provides two methods for determining the tree-length, depending on whether the stand is old-growth or young/ immature, as follows:

- Using the site-series that the feature is in and then referencing HGLUOO Schedule 5. As site-series information is required to reference Schedule 5, the Plan Holder will need to determine the predominant site-series adjacent to the feature by field-verifying the site-series. “Adjacent area” must include an area at least equal to the distance of the final tree length buffer assigned.
- By measuring the tallest trees in the area adjacent to the feature. It should be noted that this method would be inappropriate for areas that have been previously harvested (i.e., there are no mature trees to measure).

Method 2 will be used exclusively, except for areas that have been previously harvested where the stand has yet to become mature; in only this case, Method 1 will be used. The method used will be documented in the Site Plan.

“High priority invasive plants” are those listed in Table 11 of this Plan.

“Western Yew Patch” means five or more western yew trees where each yew tree is within 5 meters of another yew tree.

“Individual Western Yew Tree” is a western yew tree that is not included in a Western Yew Patch.

The capitalized word “Objective” is used in the singular or plural to refer to or cross-reference a numbered clause within this FSP.

Where the HGLUOO or Schedules contained therein are referenced in this Plan, the areas are as they were on the date of approval of this FSP.

2.0 Abbreviations

“AFU” means active fluvial unit

“AIA” means an Archaeological Impact Assessment completed by a Professional Archeologist

“BEC” means Biogeoclimatic Ecosystem Classification

“CFI” means Cultural Feature Identification

“CMT” means a Culturally Modified Tree

“CSA” or “CS Area” means Cedar Stewardship Area

“CP” means Cutting Permit

“DDM” means Delegated Decision Makers

“ECA” means Equivalent Clearcut Area

“FDU” means Forest Development Unit

“FRPA” means the Forest and Range Practices Act

“FPPR” means the Forest Planning and Practices Regulation

“FSP” means Forest Stewardship Plan

“GAR” means the Government Actions Regulation

“GWM” means General Wildlife Measure

“HTFF” means Haida Traditional Forest Feature

“HTHF” means Haida Traditional Heritage Feature

“IAPP” means the Provincial Invasive Alien Plant Program

“IPMA” means Invasive Plant Management Area

“LU” means “Landscape Unit” which are as established in the HGLUOO, Schedule 1

“HGLUOO” or “LUO” means the Land Use Objectives Order for Haida Gwaii (dated December 16, 2010)

“MOF” or “MFLNRO” means Ministry of Forests, Lands & Natural Resource Operations & Rural Development

“NAR” means Net Area to be Reforested

“NWIPC” means the Northwest Invasive Plants Council

“PAS” mean Permanent Access Structure

“QP” means a Qualified Professional

“RBA” means Residual Basal Area

“RMA” means Riparian Management Area

“RMZ” means Riparian Management Zone

“RP” means Road Permit

“RRZ” means Riparian Reserve Zone

“TEM” mean Terrestrial Ecosystem Mapping

“TFL” means Tree Farm License

“TL” means Timber License

“TSL” means Timber Sale License

“WHA” means Wildlife Habitat Area

3.0 Application

Regulation: FRPA s. 3(4).

Plan Signatories and Tenures

This FSP applies to the Plan Holder and the tenures indicated in Table 1, below:

Table 1: Plan Signatories and Associated Tenures Subject to this FSP, by FDU.

Plan Signatory		Tenure	FDU
Husby Group			
1)	Husby Forest Products Ltd.	FL A16869	A
2)	Dawson Harbour Logging Co. Ltd.	FL A75084	A

Designations in Effect prior to Submission

Regulation: FPPR s. 14(2).

The FSP map shows the designations and other areas listed in FPPR s. 14(3) that were in effect on the date the FSP was submitted for approval.

Designations in effect at the time of submission are summarized in **Table 2**, below.

Table 2: Designations in Effect in the Plan Area at Time of Plan Submission.

Designation Category	Designation Details		FDU	Date Designated
Ungulate Winter Ranges	N/A		N/A	N/A
Wildlife Habitat Areas	Northern Gos-hawk:	WHA #6-001 WHA #6-002	A	September 13, 2001 May 14, 2003
	Marbled Murrelet:	WHA #6-041 WHA #6-046	A	April 7, 2003
Fisheries Sensitive Watersheds	N/A		N/A	N/A
Scenic Areas	VQOs established for the TSA VQOs for TSA and TFLs consolidated and mapped		A	December 22, 2005

Community Watersheds	Honna River, Slarkedus Creek, Tarundl Creek	A	June 15, 1995
	Queen Charlotte Community Watershed		Sept. 11, 1997
Old-Growth Management Areas	N/A	N/A	N/A
Areas in which commercial timber harvesting is prohibited	As shown on the FSP Map (Protected Areas, Reserves, Private Land/ areas outside of FDU A)	A	N/A
Recreation Sites	Rennell Sound, Kagan Bay, Clapp Basin, Small Lake, Moresby	A	Objectives Effective December 31, 1997
Recreation Trails	Riley Beach, Five "5" Mile Beach, Slatechuck Mountain, Sleeping Beauty	A	Objectives Effective December 31, 1997

Areas within FDUs Subject to Cutting Permit or Road Permit

Regulation: FPPR s. 14 (2)(b) and 14(3)(j)&(k).

Tables 3, 4 and 5 below, show the areas within the Plan Area that are subject to a CP, RP or TSL held by (or entered) by The Plan Holder and in effect on the Date of Submission.

The FSP Supporting Information Map also illustrates the information presented in Tables 3, 4, and 5.

Table 3: Active Cutting Permits & Timber Sale Licenses.

Plan Signatory		Tenure	Approved CPs (TSLs for BCTS)
Husby Group			
1)	Husby Forest Products Ltd.	FL A16869	225, 226, 227, 228, 228, 230, 231, 232, 233, 234
2)	Dawson Harbour Logging Co. Ltd.	FL A75084	811, 812

Table 4: Active Road Permits.

Plan Signatory		Tenure	Approved RPs
Husby Group			
1)	Husby Forest Products Ltd.	FL A16869	R06269, R06268, R07497, R07084

2) Dawson Harbour Logging Co. Ltd.	FL A75084	R11023
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Table 5: Active Salvage Permits.

Plan Signatory	Tenure	Salvage Permits (CP)
Husby Group		
1) Husby Forest Products Ltd.	FL A16869	489
2) Dawson Harbour Logging Co. Ltd.	FL A75084	N/A

Table 6, below, shows the areas within the Plan Area that are Declared Areas held by The Plan Holder. The FSP Supporting Information Map also illustrates the information presented in Table 6.

Table 6: Declared Areas (FPPR s. 14(4)).

Plan Signatory	Tenure	Declared Areas	
		Cutblocks	Roads
Husby Group		N/A	N/A

4.0 Term

Regulation: FRPA s. 6(1)(a)(b); 6(2).

The term of this FSP commences on the date of the FSP approval by the DDM and expires 5 years after the date of approval, or another date specified in writing by the Minister or DDM.

The approval date is September, 2023, result in an expiry date of September, 2028.

5.0 Map

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

The FSP map appended to this document (Appendix A) shows the forest development units (FDUs), tenures and other features of the Plan Area. The map also provides an overview of the Plan Area, including major topographic features and related information that will take effect with the approval of this FSP.

6.0 Forest Development Units

Regulation: FPPR s. 14(1)(b).

The overview map in Appendix A identifies the area included in FDU A that will be included under this FSP.

7.0 Results & Strategies

Haida Gwaii Land Use Objective Order

On December 16, 2010, the Minister of Forests, Lands and Natural Resource Operations signed the Haida Gwaii Land Use Objectives Order, which established objectives for the purposes of the Forest and Range Practices Act. Results and Strategies have been created to meet all these objectives, the Forest Range and Practices Act (FRPA) and Objectives Established Under Government Regulation (GAR), as provided below. The Results and Strategies apply to FDU A of this FSP.

Cultural Objectives

Objective 1	Cedar Stewardship Area
Regulation	HGLUOO s. 3.
Results & Strategy	<p>1.1. The Plan Holder will not harvest within CS Areas (as identified in the HGLUOO, Schedule 3).</p> <p>1.2. Despite Objective 1.1. above, circumstances may arise where harvesting within Cedar Stewardship Areas (CS Areas) for commercial purposes is desired. Where harvesting is proposed within a CS Area, the Plan Holder will ensure all of the following:</p> <ul style="list-style-type: none"> 1.2.1. any proposed harvest activities within CS Areas are consistent with the outcome of an intergovernmental process, completed by the Plan Holder; and 1.2.2. ensure the total area of the CS Area harvested is $\leq 10\%$ of the total of all CS Areas 2,536.3ha, as indicated in Table 7 (below), and that no more than 250ha is harvested in a 10-year period; and 1.2.3. the CS Area harvest within a given Landscape Unit, for each 10-year period, will be proportional to the occurrence of CS Areas within the LU (see Table 7, below); and 1.2.4. the Plan Holder will maintain a ledger, updated, and submitted annually at a minimum to the CHN and the MoFLNRO District, which tracks any CS Area harvest activities; and 1.2.5. where CS Areas overlap tenures outside of the Plan Area, the Plan Holder will make reasonable efforts to consult with the relevant tenure holder(s) to ensure that CS Area harvest levels do not exceed the limits described in 1.2.1. and 1.2.2., above.

Table 7: Maximum CS Area Harvest by Landscape Unit.

Landscape Unit	CS Area (ha)	Maximum 10 Year CS Area Harvest Potential (ha)	Maximum Total CS Area Harvest Potential (ha) (10 % threshold)
Eden Lake	3,150.8	31.5	315.1
Honna	1,362.7	13.6	136.3
Ian	5,857.2	57.5	585.7
Jalun	210.8	2.1	21.1
Louise Island	228.1	2.3	22.8
Lower Yakoun	6,933.9	67.3	693.4
Masset Inlet	3,310.7	33.1	331.1
Naikoon	284.7	2.8	28.5
Otun	473.0	4.7	47.3
Rennell	304.7	3.0	30.5
Sewell	69.1	0.6	6.9
Skidegate Lake	1,335.9	13.3	133.6
Tlell	933.2	9.3	93.3
Yakoun Lake	897.7	8.9	89.8
Total	25,352.5	253.5	2,536.4

* The Maximum 10 Year Cedar Stewardship Area Harvest Potential can not exceed 250.00ha

Objective 2	Culture Feature Identification
Regulation	HGLUOO s. 4.
Results & Strategy	2.1. Prior to commencing harvesting or road construction activities in a development area, the Plan Holder will ensure that a Cultural Features Identification Survey has been completed and submitted to the District and CHN for the proposed area by a surveyor certified by the Council of the Haida Nation. The survey results will be electronically submitted to the Council of the Haida Nation greater than or equal to 30 days prior to Cutting Permit and or Road Permit submission.
Objective 3	Haida Traditional Heritage Features
Regulation	HGLUOO s. 5.
Results & Strategy	<p>3.1. “Haida Traditional Heritage Features” (HTHFs) are defined as being those features listed in Schedule 2 of the HGLUOO. To identify and protect Class 1 and Class 2 HTHFs the following strategies are employed:</p> <p>3.1.1. Potential HTHFs will be identified and assessed through the Cultural Features Identification Survey, completed by certified surveyors.</p> <p>Where potential Class 1 or 2 features could be present, based on the CFI standards for requirement of an AIA, the CFI survey area will extend a minimum of the reserve zone width required to buffer a Class 1 HTHF beyond the proposed harvest boundary.</p> <p>3.1.2. Where potential HTHFs are identified, AIAs will be completed by a professional archaeologist who holds a valid permit for archaeological work on Haida Gwaii, including subsurface work and tidal zones. A person designated by Council of the Haida Nation, preferably those who have completed the CFI work, will be in attendance with the archaeologists to confirm the finding and search for other features.</p> <p>3.1.3. Where a development area is below 25m in elevation, AIAs will be completed by a professional archaeologist and a person designated by Council of the Haida Nation.</p> <p>3.1.4. Where any HTHF or Culturally Modified Tree(s) are found, AIAs will be completed by a professional archaeologist and a person designated by Council of the Haida Nation will be in attendance.</p> <p>3.1.5. Where the CFI surveyor expects a likelihood of subsurface features, AIAs will be completed by a professional archaeologist and a person designated by Council of the Haida Nation.</p> <p>3.1.6. Where archaeological evidence is documented in an adjacent area, AIAs will be completed by a professional archaeologist and a person designated by Council of the Haida Nation.</p>

For all AIA work where potential Class 1 or 2 features may be present, the survey area will extend a minimum of the reserve zone width required to buffer a Class 1 or 2 HTHF beyond the proposed harvest boundary.

All confirmed findings by the archaeologists will be recorded and submitted to the Provincial Archaeological Site Registry through the BC Archaeology Branch. This will ensure Site registration, recording and location of the feature, and protection of the archaeological feature under the Heritage Act.

3.2. Where Class 1 HTHFs are located, they will be retained and a 500m (minimum width) reserve, measured from the edge of the HTHF, will be maintained to protect the HTHF, subject to 3.2.1. and 3.2.2., below.

3.2.1. Where a reduction in the reserve is required for road access, other infrastructure, or to address a safety concern and no practicable alternative exists, the Plan Holder may reduce the size of the reserve consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the BC Archaeological Branch.

3.2.2. Where necessary to address site-specific values, the reserve may be decreased by up to 0.5 tree-lengths from the outer edge of the zone, provided that there is no net loss of reserve area within the development area. Site-specific values will be determined by the signing Forester and documented within the Site Plan.

3.3. Where Class 2 HTHFs are located, they will be retained and a 100m (average width) reserve, measured from the edge of the HTHF, will be maintained to protect the HTHF, subject to 3.3.1. and 3.3.2., below.

3.3.1. Where alteration, removal, or reduction of the Class 2 HTHF or reserve is required for road access, other infrastructure, or to address a safety concern and no practicable alternative exists, the Plan Holder may alter, remove, or reduce the HTHF and/ or the size of the reserve consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the BC Archaeological Branch.

3.3.2. Where necessary to address site-specific values, the reserve may be decreased by up to 0.5 tree-lengths from the outer edge of the zone, provided that there is no net loss of reserve area within the development area. Site-specific values will be determined by the signing Forester and documented within the Site Plan.

3.4. The Plan Holder will, prior to commencing timber harvesting and road construction activities within the FDU to which this FSP applies, engage a Qualified Professional to conduct an assessment related to karst caves, significant surface karst features, and very high- or high-vulnerability karst terrain.

3.5. The Plan Holder will manage any area known or found to contain karst resource features as recommended in the assessment completed by a Qualified Professional consistent with FPPR 70(1).

3.6. The Plan Holder will provide information related to karst resource features encountered at the request of the applicable government agency.

Objective 4	Haida Traditional Forest Feature
Regulation	HGLUOO s. 6.
Results & Strategy	<p>4.1. Where Class 1 HTFFs are located, they will be retained and a 1.0 tree-length (average width) reserve, measured from the edge of the HTFF, will be maintained to protect the HTFF. Adjacent to the reserve a 1.0 tree-length (average width) management zone, measured from the edge of the reserve, will be maintained to protect the integrity of the reserve, subject to 4.1.1. and 4.1.2., below.</p> <p>4.1.1. Where necessary to address site-specific values, the Class 1 HTFF management zone maintained under Objective 4.1. above may be decreased by up to 0.5 tree-lengths from the outer edge of the management zone, provided that there is no net loss of management zone area within the development area.</p> <p>4.1.2. The area of the reserve and/or management zone may be modified in shape or size, if necessary for road access, other infrastructure, or to address safety concerns or to protect the feature from windfall, provided that:</p> <p>4.1.2.1. an adaptive management plan is developed and implemented, and</p> <p>4.1.2.2. the size of the management zone is consistent with the outcome of a completed intergovernmental process.</p> <p>4.2. Despite Objective 4.1. above, the Class 1 HTFF may be altered or removed provided that:</p> <p>4.2.1. alteration or removal is required for road access and there is no practicable alternative for road location or infrastructure, and</p> <p>4.2.2. an intergovernmental process is completed.</p> <p>4.3. Where Class 2 HTFFs are located within a development area, $\geq 50\%$ of the identified occurrences will be retained in stand level retention and documented in the Site Plan.</p> <p>4.4. Despite 4.3. above, less than 50% of Class 2 HTFFs can be retained provided the retention of less than 50% is:</p> <p>4.4.1. consistent with the outcome of an intergovernmental process, and</p> <p>4.4.2. removal is required for road access or other infrastructure and no practicable alternative exists.</p> <p>4.5. Where Indian Hellebore Class 2 HTFF is located in a Development Area and 50% of Indian Hellebore is not in stand level retention or outside the harvest area, the Plan Holder will maintain a minimum of 50% of the Indian Hellebore by:</p> <p>4.5.1. Prescribing directional falling away from the feature,</p> <p>4.5.2. Retain non-merchantable trees around the feature to protect it from logging damage,</p> <p>4.5.3. Establishing a machine free zone around the feature.</p>
Objective 5	Cedar Retention
Regulation	HGLUOO s. 7.

Results & Strategy	<p>5.1. Where development areas are either:</p> <ul style="list-style-type: none"> 5.1.1. > 10ha and the pre-harvest cedar (western red cedar and yellow cedar) content is >30%; or 5.1.2. ≤ 10ha and the pre-harvest cedar (western red cedar and yellow cedar) content is >60%, 5.1.3. then the Plan Holder will retain a minimum of 15% of the combined pre-harvest cedar composition of the development area, measured in hectares. <p>5.2. The Plan Holder will meet the 15% cedar retention requirement using all the following strategies:</p> <ul style="list-style-type: none"> 5.2.1. Areas designated to contribute to the cedar retention requirements will first be located within reserves, management zones, and stand level retention areas already designated for other objectives, excluding areas already designated for other development areas. 5.2.2. Where existing cedar reserves are insufficient to meet the cedar retention requirements, then additional cedar retention areas will be established. 5.2.3. Cedar retention areas will be located such that the retention areas are large and contiguous to the extent practicable. Cedar retention areas that contribute to meeting the 15% retention requirement will be ≥ 1.0ha in size and contain a range of diameters of western redcedar and yellow-cedar representative of the pre-harvest stands. <p>5.3. The areas that contribute to the cedar retention requirements will be calculated by adding up the weighted cedar content for the contributing areas, in hectares, based on the most current inventory mapping for the applicable polygons.</p> <p>5.4. Where development areas have pre-harvest cedar (western red cedar and yellow cedar) composition greater than 20% in the harvested area, as indicated in the cruise compilation (measured in percent of cedar sph, not including dead potential or dead useless), then the Plan Holder will regenerate the area according to the minimum post-harvest cedar composition and strategies listed below, subject to Objective 5.1.</p> <p>5.5. The cedar regeneration requirement will be met on an individual development area basis. The cedar regeneration requirement for a cutblock will be calculated by multiplying the NAR times the applicable Minimum Post-Harvest Cedar Composition, as indicated in Table 8, below. The location of planted cedar within the cutblock will be at the discretion of the Qualified Professional, and consistent with approved stocking standards.</p> <p>5.6. The Plan Holder will use the following strategies to meet this objective:</p> <ul style="list-style-type: none"> 5.6.1. The Plan Holder will meet the cedar regeneration requirement through planting and/or natural regeneration. 5.6.2. Plant a representative percentage of Yellow Cedar and Western Red Cedar that were present on site prior to harvest, if seed for Yellow Cedar is not readily available then Red Cedar can be substituted for Yellow Cedar. 5.6.3. For areas that have been planted with cedar, where the cedar content falls below 80% of the Minimum Post-Harvest Cedar regeneration requirement, a
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	<p>prescription will be developed by a Qualified Professional and will be submitted for an Intergovernmental process for approval.</p> <p>5.7. The Plan Holder will refer to the Silviculture Survey Procedures Manual regarding Cedar acceptability criteria will be as follows:</p> <p>5.7.1. Regenerated cedar will only be accepted if they are of good form and vigour.</p> <p>5.7.2. Regenerated cedar will only be accepted if they are $\geq 1.2\text{m}$ tall.</p> <p>5.7.3. The cedar regeneration requirement due-date will be no later than 20 years, post-harvest commencement. The Plan Holder will complete a cedar requirement survey which will be made available to the Province and CHN.</p> <p>5.7.4. A Qualified Professional will determine if seedling protectors are needed and the timing of removal.</p> <p>5.8. The cedar regeneration requirement for a given cutblock may be lower than the limit set in Table 8 below, provided that the new requirement is consistent with the outcome of a completed intergovernmental process.</p>
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Table 8: Minimum Post-Harvest Cedar Composition, based on Pre-Harvest Cedar Composition.

Pre-Harvest Cedar Composition %	Minimum Post-Harvest Cedar Composition (sph)
20 - 29	100
30 - 39	150
40 - 49	175
50 - 59	200
60 - 69	250
70 - 79	300
80 - 89	350
90 - 100	400

Objective 6	Western Yew Retention
Regulation	HGLUOO s. 8.

Results & Strategy	<p>6.1. Where western yew patches are located within a development area, they will be protected by establishing stand level retention areas, commonly referred to as “yew retention areas”.</p> <p>6.2. Despite 6.1. above, western yew patches may be altered or removed to accommodate operational requirements for road and bridge construction, where no practicable alternative exists.</p> <p>6.3. Where individual western yew trees are identified within a development area and do not meet the definition of a western yew patch, the Plan Holder will target retaining 100% of individual western yew trees within the development area. The majority of individual yew will be excluded from the harvest area and will be in retention or reserve where applicable. Individual stems inside the harvest area will be placed in stand level retention where possible or retained on their own with site-specific instructions to not damage or destroy the western yew.</p> <p>6.4. Despite 6.3., where 100% of individual western yew trees cannot be retained in a Development Area because of safety, or it is not practicable, the Plan Holder will remove individual western yew to the minimum extent practicable. An Intergovernmental Process will occur if 75% or greater of the total stems of Western Yew cannot be retained in the Development Area.</p>
Objective 7	Cultural Cedar Stands
Regulation	HGLUOO s. 9.
Results & Strategy	<p>7.1. Where cultural cedar stands are located, they will be retained, and a 0.5 tree-length (minimum width) reserve will be maintained to protect the identified feature. The reserve will be protected by establishing a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve, subject to 7.2., 7.3., and 7.4., below.</p> <p>7.2. Where alteration or removal of a cultural cedar stand is required for road access, other infrastructure, to address a safety concern, or for operational feasibility, the Plan Holder may alter or remove the cultural cedar stand, consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the Archaeological Branch, when required. The harvested CMT will be managed in accordance with the direction of the Haida Nation. Monumental Cedar will be provided to the Haida Gwaii Cultural Wood Access Program.</p> <p>7.3. Where a reduction in the size of the reserve is required for road access, other infrastructure, for operational feasibility, or to address a safety concern, the Plan Holder may reduce the area of the reserve(s) consistent with the outcome of a completed intergovernmental process, and provided that the integrity of the cultural cedar stand is maintained.</p> <p>7.4. Where a reduction in the size of the management zone is necessary to address operational constraints or a safety concern, the Plan Holder may reduce the area of the management zone(s), consistent with the outcome of a completed intergovernmental process, and provided that the integrity of the reserve zone is maintained.</p>

Objective 8	CMTs (Culturally Modified Trees)
Regulation	HGLUOO s. 9.
Results & Strategy	<p>8.1. Where CMTs are located, they will be retained, and a 0.5 tree-length (minimum width) reserve will be maintained to protect the identified feature. The reserve will be protected by establishing a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve, subject to 8.2., 8.3., and 8.4., below.</p> <p>8.2. Where alteration or removal of a CMT is required for road access, other infrastructure, to address a safety concern, or for operational feasibility, the Plan Holder may alter or remove the CMT, consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the Archaeological branch, when required. The harvested CMT will be managed in accordance with the direction of the Haida Nation.</p> <p>8.3. Where a reduction in the size of the reserve is required for road access, other infrastructure, for operational feasibility, or to address a safety concern, the Plan Holder may reduce the area of the reserve(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the CMT is maintained.</p> <p>8.4. Where a reduction in the size of the management zone is necessary to address operational constraints or a safety concern, the Plan Holder may reduce the area of the management zone(s), consistent with the outcome of a completed intergovernmental process, and provided the integrity of the reserve zone is maintained.</p>
Objective 9	Monumental Cedar
Regulation	HGLUOO s. 9.
Results & Strategy	<p>9.1. Where Monumental Cedar >120cm dbh are located, they will be retained, and a 0.5 tree-length (minimum width) reserve will be maintained to protect the identified feature. The reserve will be protected by establishing a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve, subject to 9.2., 9.3., and 9.4., below.</p> <p>9.2. Where alteration or removal of a Monumental Cedar >120cm dbh is required for road access, other infrastructure, to address a safety concern, for operational feasibility, or because of a request from the Haida Gwaii Cultural Wood Access Program to harvest >120cm Monumental, the Plan Holder may alter or remove the >120cm dbh Monumental Cedar consistent with the outcome of a completed intergovernmental process. The harvested Monumental Cedar will be provided to the Haida Gwaii Cultural Wood Access Program.</p> <p>9.3. Where a reduction in the size of the reserve is required for road access, other infrastructure, for operational feasibility, or to address a safety concern, the Plan Holder may reduce the area of the reserve(s) consistent with the outcome of a completed intergovernmental process, provided the integrity of the Monumental Cedar is maintained.</p> <p>9.4. Where a reduction in the size of the management zone is necessary to address</p>

	<p>operational constraints or a safety concern, the Plan Holder may reduce the area of the management zone(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the reserve zone is maintained.</p> <p>9.5. When Monumental Cedars <120cm dbh are identified, they will be retained, and a 0.5 tree-length (minimum width) reserve will be maintained to protect the identified feature. The reserve will be protected by establishing a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve, subject to 9.6. and 9.7. below.</p> <p>9.6. Despite Objective 9.5., a <120cm dbh Monumental Cedar identified in a development area and not located within a cultural cedar stand may be harvested, subject to:</p> <p>9.6.1. the greater of 10% or one Monumental Cedar are protected within the development area, and/or</p> <p>9.6.2. the harvesting of the Monumental Cedar tree is requested in writing by the Haida Gwaii Cultural Wood Access Program.</p> <p>9.7. Where a reduction in the size of the Monumental Cedar reserve is required for road access, other infrastructure, for operational feasibility, or to address a safety concern, the Plan Holder may reduce the area of the reserve(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the Monumental Cedar is maintained.</p> <p>9.8. Where a reduction in the size of the Monumental Cedar management zone is necessary to address operational feasibility or a safety concern, the Plan Holder may reduce the area of the management zone(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the reserve zone is maintained.</p> <p>9.9. When Monumental Cedars are harvested, 100% of the Monumental Cedars will be marked and provided to the Haida Gwaii Cultural Wood Access Program.</p>
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Social Objectives

Objective 10	Forest Stewardship Plan Implementation
Results & Strategy	10.1. The Plan Holder will adhere to the 2018 Haida Gwaii FSP Implementation Agreement regarding results and strategies of this Plan.
Objective 11	Information Sharing
Regulation	FRPR s. 10.
Results & Strategy	<p>11.1. The Plan Holder will ensure that a primary forest activity will not cause damage to a cultural heritage resource that is:</p> <p>11.1.1. referred to in Section 10 of the FPPR, as it was on the Date of Submission,</p> <p>11.1.2. likely to be adversely impacted by that primary forest activity,</p> <p>11.1.3. not conserved or protected through: (i) legislation, plans or policies; or (ii)</p>

	<p>other means or arrangements, developed or accepted through information sharing with the Haida Nation; and</p> <p>11.1.4. important, valuable, and scarce in the context of a traditional use by the Haida Nation, based on input from the Haida Nation.</p> <p>11.2. The Plan Holder will share information with the Haida Nation related to primary forest activities that are proposed within the traditional territory of the Haida Nation:</p> <p>11.2.1. according to established agreements between government and the Council of the Haida Nation regarding information sharing timelines and required content of information provided; or</p> <p>11.2.2. as determined by a Qualified Professional based on the factors in FPPR Schedule 1, Section 4 where no agreements between governments (Council of the Haida Nation and the Province of BC) exist.</p> <p>11.3. The Plan Holder will, at a minimum of once annually or as requested, provide the Council of the Haida Nation with an opportunity to share information, including digital maps and spatial data, regarding Cultural Heritage Resources that are the focus of traditional use and continued importance to the Haida Nation.</p> <p>11.4. The Plan Holder will keep a record of any information provided by the Haida Nation on cultural heritage resources that are the focus of traditional use and continued importance within the Plan Area.</p> <p>11.5. The Plan Holder will adhere to FPPR s. 22 (1) and will consider any written comment received regarding the Plan that is relevant to the Plan.</p> <p>11.6. The Plan Holder will adhere to FPPR s. 22 (2) and will at time of Plan submission provide:</p> <p>11.6.1. a copy of the notice published under FPPR s. 20,</p> <p>11.6.2. a copy of each written comment received under FPPR s. 21,</p> <p>11.6.3. a description of any changes made to the plan as a result of the comments received under FPPR s. 21, and</p> <p>11.6.4. a description of the efforts made to comply with the requirements of FPPR s. 21 (1) (d).</p>
Objective 12	Development Area Referral
Results & Strategy	<p>12.1. The Plan Holder will provide maps, including digital maps and spatial data, of proposed development to the Council of the Haida Nation, a minimum of 30 days prior to cutting authority submission.</p>
Objective 13	Public Engagement
Results & Strategy	<p>13.1. The Plan Holder will, at a minimum of once annually, host, co-host or participate in a public engagement meeting on Haida Gwaii where the Plan Holder will present draft Development Areas, the Plan Holder will receive comments and will provide due consideration of all comments received regarding draft Development Areas.</p> <p>13.2. The Plan Holder will post on its website, the current FSP, Appendices, FSP</p>

	supporting documentation and a map illustrating draft Development Areas. The Draft Development Areas will be approximations of the final Development Areas. Cutblocks and Roads do not have to appear as Draft Development Areas to prior to approval of the applicable Cutting or Road Permit.
Objective 14	Annual Reporting and Data Submission
Regulation	HGLUOO s. 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, and 23.
Results & Strategy	14.1. Where applicable features prescribed under the HGLUOO are identified (refer to Table 9 below), and associated reserves (including cedar reserves), management zones, and stand level retention areas are established or managed by the Plan Holder, the feature(s) and associated reserves, management zones, and stand level retention areas will be documented and the development area digital spatial data will be submitted by the Plan Holder at the CP or RP (whichever is first) application to the Council of the Haida Nation and the Province of BC.

Table 9: Summary for HGLUOO Objectives Requiring Annual Reporting and Data Submission.

Objective Requiring Annual Reporting & Data Submission	Reporting Element	FSP Objective Reference
Class 1 HTHFs	HTHF & Reserve	3.1.2.
Class 2 HTHFs	HTHF & Reserve	3.3
Class 1 HTFFs	HTFF & Reserve	4.1.
Class 2 HTFFs	HTFF & applicable Stand Level Retention	4.2.
Cedar Retention	Cedar Retention Areas	5.1.
Western Yew Retention	Western yew Patches, individual yew tree retention, & applicable stand level retention	6.1.
Cultural Cedar Stands, CMTs & Monumental Cedar	Cultural Cedar Stands, CMTs, Monumental Cedar, Reserves, Reserves & Management Zones	9.1., 9.5.
Development Area	Digital Spatial Data	15.1.
Type I Fish Habitat	Type I Fish Habitat, Reserve & applicable Management Zone	18.1.
Type II Fish Habitat	Type II Fish Habitat, Reserve Zone & Management Zone	19.1.
Active Fluvial Units	Active Fluvial Unit & Management Zone	20.1., 20.2., 20.3.

Forested Swamps	Forested Swamp & Management Zone	31.1.
Ecological Representation	Old Forest Reserves	32.3.
Red & Blue-listed Plant Communities	Red & Blue-listed Plant Communities	33.1., 33.2., 33.3.
Black Bear Dens	Black Bear Dens (existing & newly discovered) No Work Zones	34.1.
Forest Reserves	Forest Reserves	40.2., 40.3.
Goshawk Nests	Nest and Restricted Activity Zone	36.1., 36.3.

Objective 15	Recreation Resources
Regulation	FRPA s. 180, 181.
Results & Strategy	<p>15.1. As of the date of Plan submission, there are five recreation sites and four recreation trails, and no interpretive sites, established, with designated objectives, within the Plan Area (refer to Table 2, above).</p> <p>15.2. Prior to proposing timber harvest or road construction in an area adjacent to a designated recreation site or trail with established objectives, the Plan Holder will consult with the government agency responsible for the recreation site or trail, to ensure that the proposed activity will be conducted in accordance with the established objectives applicable to the area.</p> <p>15.3. Where “non-motorized access” is the applicable established objective for the designated recreation site or trail, and proposed new road construction will provide motorized access to the recreation resource, the Plan Holder will:</p> <p>15.3.1. deactivate the road within one year following completion of primary forest activities, to a condition which re-establishes the degree of motorized access similar to that which existed prior to harvest operations; or</p> <p>15.3.2. obtain written approval from the government agency responsible for the recreation site or trail, to maintain access for further operations or activities; such access will be established as per the approval.</p>
Objective 16	Visual Quality
Regulation	FPPR s. 9.2, GAR s. 7(2), FRPA s. 180, 181.
Results & Strategy	<p>Visual Quality Objectives (VQOs) have been established for the Scenic Areas on Haida Gwaii (mapping consolidated for TSA and TFLs on December 22, 2005).</p> <p>16.1. The Plan Holder will design roads and cutblocks to conform with the Visual Quality</p>

	<p>Objectives set for identified visual polygons at a landscape level. Design of said roads and cutblocks will adhere to the “Guide to Visual Quality Objectives” guidebook and Haida Gwaii Natural Resource District Stewardship Policy for Managing Visual Resources on Haida Gwaii.</p> <p>16.2. The Plan Holder will verify that designed cutblocks in areas with Visual Quality Objectives adhere to the visual quality objectives by completing a Visual Impact Assessment.</p> <p>16.3. Where block openings along the Highway 16 corridor are not planned to be shallow, block openings will not be in direct line of sight with a visual buffer retained along the highway and the opening. Right of way corridors leading to openings from the highway will be designed such that they are angled to minimize view into the opening while still meeting Ministry of Transport highway junction requirements. Gravel pits and slash piles will not be established in the line of sight from highway along Right of Way corridors.</p> <p>16.4. The Plan Holder will compile an initial assessment that will include establishment of sight lines. If it is determined that the cutblock is visible from significant public viewpoints a Visual Impact Assessment will be completed and compiled to ensure the design of the roads and cutblocks adhere to the visual quality objective.</p> <p>16.5. The Plan Holder will conduct road construction or timber harvesting activities within Scenic Areas such that they conform to the established VQOs, unless it is for the following exceptional circumstances beyond the control of the Plan Holder:</p> <p>16.5.1. it is to recover timber damaged from natural causes and the action must be completed expeditiously; or</p> <p>16.5.2. the activities are otherwise required by applicable government.</p> <p>16.6. If harvesting and/or road building occurs and the VQO is exceeded, as per Objectives 16.5.1. or 16.5.2. above, then the Plan Holder will ensure that good design principles are followed and the VQO is exceeded to the minimum extent required.</p> <p>16.7. The Plan Holder will adopt newly approved VQOs, polygons and policy during the life of the FSP for activities not under an issued CP or RP.</p>
Objective 17	Aquatic Habitats
Results & Strategy	<p>17.1. For the purposes of this FSP, the locations of Type I and II fish habitat are as indicated in Schedule 4 of the HGLUOO, unless a field assessment indicates otherwise. Where there is a conflict between the HGLUOO and the field assessment as to where the Type I or II fish habitat is located, the field assessment shall prevail.</p> <p>For the purposes of defining stream riparian classes, the following is provided:</p> <p>17.1.1. The riparian reserve begins at the outer edge of the Type I or II fish habitat, including the active floodplain.</p> <p>17.1.2. The riparian management zone begins at the outer edge of the riparian reserve, or if there is no riparian reserve, the edge of the stream channel bank. As the HGLUOO does not specify an RMA width for Upland Streams this FSP will adopt the FPPR requirements regarding Riparian Management Areas.</p>

Objective 18	Type I Fish Habitat
Regulation	HGLUOO s. 10.
Results & Strategy	<p>18.1. With reference to individual development areas, where Type I fish habitat occurs, it will be retained and a 2.0 tree-length (minimum width) riparian reserve, measured from the outer edge of the Type I habitat, will be maintained to protect the Type I fish habitat, subject to Objectives 18.1.1. and 18.1.2. below:</p> <p>18.1.1. Where necessary to address site-specific values, the Type I reserve identified under Objective 18.1. above may be increased or decreased by up to 0.5 tree-lengths, measured from the outer edge of the reserve, provided that there is no net loss of Type I reserve area within the development area.</p> <p>18.1.2. Within an individual development area, up to 5% of the total area of the Type I habitat reserve may be altered or removed, provided that:</p> <p>18.1.2.1. the integrity of the Type I fish habitat is maintained, and</p> <p>18.1.2.2. the alteration or removal is required for road or bridge construction or to address a safety concern and no practicable alternative exists; or</p> <p>18.2. Despite Objective 18.1., the area of the reserve zone in a development area may be altered or removed, provided that:</p> <p>18.2.1. the alteration or removal is required for road and bridge construction, or to address a safety concern, and there is no practicable alternative,</p> <p>18.2.2. an assessment of risk to the fish stream from the forest development and disturbance is completed by a qualified professional,</p> <p>18.2.3. the integrity of the Type I fish habitat is maintained,</p> <p>18.2.4. an adaptive management plan is developed and implemented; and</p> <p>18.2.5. an intergovernmental process is completed.</p>
Objective 19	Type II Fish Habitat
Regulation	HGLUOO s. 11.
Results & Strategy	<p>19.1. With reference to individual development areas, where Type II fish habitat occurs, it will be retained and a 1.0 tree-length (minimum width) riparian reserve, measured from the outer edge of the Type II habitat, will be maintained to protect the Type II fish habitat. Adjacent the reserve a 0.5 tree-length (average width) management zone will be established to protect the reserve, subject to all of the following:</p> <p>19.1.1. Within an individual development area, up to 5% of the total area of the Type II habitat reserve may be altered or removed, provided that the integrity of the Type II fish habitat is maintained.</p> <p>19.1.2. Within an individual development area, the total area of the Type II habitat management zone may be reduced by up to 20%, measured in hectares or basal area.</p>

	<p>19.1.3. The retention of trees within the management zone will be based on consideration of the likelihood of damages to the reserve caused by windthrow.</p> <p>19.2. Despite Objective 19.1., the combined area of the reserve zone and management zone may be reduced further, provided that:</p> <p>19.2.1. the alteration or removal is required for road and bridge construction, or to address a safety concern, and there is no practicable alternative; and</p> <p>19.2.2. an assessment of risk to the fish stream from the forest development and disturbance is completed by a qualified professional; and</p> <p>19.2.3. the integrity of Type II fish habitat is maintained, and</p> <p>19.2.4. an adaptive management plan is developed and implemented; and</p> <p>19.2.5. an intergovernmental process is completed.</p>
Objective 20	Active Fluvial Units (AFUs)
Regulation	HGLUOO s. 12.
Results & Strategy	<p>20.1. With reference to individual development areas, where naturally occurring AFUs occur, any forest located within the AFU will be retained and a 1.5 tree-length (minimum width) management zone, measured from the outer edge of the AFU, will be established to protect the AFU.</p> <p>20.2. Despite Objective 20.1. above, within an individual development unit, the amount of mature and old forest within the AFU management zone(s) may be reduced by up to 10%, measured in hectares.</p> <p>20.3. In addition to Objective 20.2. above, within an individual development unit, the amount of mature and old forest within the AFU management zone(s) may be reduced by an additional 10%, measured in hectares, provided that:</p> <p>20.3.1. sufficient functional riparian forest is retained to protect the integrity of the AFU; and</p> <p>20.3.2. an adaptive management plan is developed, documented, and implemented prior to reducing the size of the AFU management zone(s).</p>
Objective 21	Upland Stream Areas
Regulation	HGLUOO s. 13.
Results & Strategy	<p>21.1. Within each watershed Sub-unit indicated on HGLUOO Schedule 6, and where development areas are proposed by the Plan Holder, the Plan Holder will do the following:</p> <p>21.1.1. ensure that a watershed analysis is completed by a Qualified Professional that indicates the watershed condition and the upland stream area; and</p> <p>21.1.2. ensure that rates of harvesting within a watershed Sub-unit are consistent with</p>

	<p>the watershed analysis results and that >70% of the forest, measured in hectares, in the upland stream area is hydrologically recovered; and</p> <p>21.1.3. maintain an updated ledger that tracks the development activities within watershed sub-units.</p> <p>21.2. Despite Objective 21.1., <70% of the forest, measured in hectares, in the upland stream area may be retained, provided that the Plan Holder ensure the following, subject to 21.2.1. through 21.2.4., below:</p> <p>21.2.1. the revised upland stream area retention percentage is consistent with the outcome of a completed intergovernmental process; and</p> <p>21.2.2. watershed assessment is completed by a Qualified Professional that indicates the watershed sub-unit sensitivity to forest development and disturbance; and the amount, type and distribution of forest cover that is required to sustain natural hydrological and fluvial process; and</p> <p>21.2.3. the rates of harvesting within a watershed sub-unit are consistent with the watershed assessment results provided in Objective 21.2.2.; and</p> <p>21.2.4. an adaptive management plan is documented and implemented prior to reducing the upland stream area retention percentage below 70%, measured in hectares.</p> <p>21.3. Where upland streams are direct tributaries to Type I or II fish habitat, sufficient vegetation, which may include trees, will be retained to maintain stream bank and channel stability, as determined by a Qualified Professional in consideration of the factors in FPPR Schedule 1, Section 2.</p> <p>21.4. In upland stream areas, where stream channels are incised, have steep gradients, and support riparian plant communities that are dependent on high-humidity microclimates, sufficient trees and vegetation will be retained to maintain the riparian plant communities.</p>
Objective 22	Sensitive Watersheds
Regulation	HGLUOO s. 14.
Results & Strategy	<p>22.1. Within each sensitive watershed indicated in HGLUOO Schedule 7, and where development areas are proposed by the Plan Holder, the Plan Holder will do the following:</p> <p>22.1.1. ensure that a watershed analysis is completed by a Qualified Professional that indicates the watershed ECA condition; and</p> <p>22.1.2. maintain, on an ongoing basis, a ledger which tracks the development activities within the sensitive watersheds.</p> <p>22.2. Within each sensitive watershed indicated in HGLUOO Schedule 7, and where development areas are proposed by the Plan Holder, harvest rates will be consistent with the following:</p> <p>22.2.1. For watersheds ≥ 500ha, up to 5% of the watershed area may be harvested in a 5-year period.</p>

	<p>22.2.2. For watersheds < 500ha, up to 10% of the watershed area may be harvested in a 10-year period.</p> <p>22.2.3. Despite Objectives 22.2.1. and 22.2.2 above, no harvesting will occur in sensitive watersheds with an ECA \geq 20%.</p> <p>22.2.4. Harvest rates and ECAs will be based on the watershed analysis required under Objective 22.1., above.</p> <p>22.3. Despite Objective 22.2. above, for a given sensitive watershed, the Plan Holder may maintain a rate of harvest and/ or an ECA that exceeds the indicated thresholds, provided the Plan Holder ensures the following:</p> <p>22.3.1. the revised rate of harvest and/ or ECA threshold is consistent with the outcome of a completed intergovernmental process; and</p> <p>22.3.2. a watershed sensitivity assessment is completed by a Qualified Professional that indicates the watershed sensitivity to past, current, and proposed forest development and disturbance, and the amount, type and distribution of forest cover that is required to sustain natural hydrological and fluvial process; and</p> <p>22.3.3. the rates of harvesting within a watershed sub-unit are consistent with the watershed assessment results provided in Objective 22.3.2., above; and</p> <p>22.3.4. an adaptive management plan is developed, documented, and implemented prior to increasing the rate of harvest and/ or ECA for the watershed.</p>
Objective 23	Community Watersheds
Regulation	FPPR s. 8.2.
Results & Strategy	<p>23.1. To meet the objective described in Section 8.2(2) of the FPPR within a community watershed, the Licensee will:</p> <p>In conjunction with other potentially affected forest agreement holders, and preceding the commencement of primary forest activities, engage a Qualified Professional(s) to conduct a Watershed Assessment (WA) for the community watershed in which the activities are proposed. Through the engagement of a Qualified Professional(s), the assessment will be prepared to address the objectives described in Objective 47.2. by assessing the equivalent clearcut area (ECA), road densities, terrain stability, and general stream morphology and function. Subsequent assessments will be conducted at least once every 5 years, unless no primary forest activities have occurred or are proposed to occur in the community watershed(s) during that period; and ensure that planned primary forest activities are designed and implemented to be consistent with the results and recommendations in the Watershed Assessment.</p>
Objective 24	Wetland Riparian Classes
Regulation	FPPR s. 48.

Results & Strategy	24.1. Where a wetland meets the definition of Type I or II fish habitat, as defined in the HGLUOO, then the wetland is classed as Type I or II fish habitat and managed; accordingly, otherwise the Plan Holder adopts the FPPR requirements in relation to wetland riparian classes and minimum RMA zone widths.
Objective 25	Lake Riparian Classes
Regulation	FPPR s. 49.
Results & Strategy	25.1. Where a lake meets the definition of Type I or II fish habitat, as defined in the HGLUOO, then the lake is classed as Type I or II fish habitat and managed; accordingly, otherwise the Plan Holder adopts the FPPR requirements in relation to lake riparian classes and minimum RMA zone widths.
Objective 26	Restrictions in a Stream, Wetland, or Lake Riparian Management Area
Regulation	FPPR s. 50.
Results & Strategy	<p>26.1. For Type I fish habitat, Type II fish habitat, upland streams, and wetlands and lakes that do not meet the definition of Type I or II fish habitat, as defined in the HGLUOO, the Plan Holder adopts the FPPR requirements in relation to restrictions within a riparian management area.</p> <p>26.2. For wetlands and lakes that do not meet the definition of Type I or II fish habitat, as defined in the HGLUOO, the Plan Holder adopts the FPPR requirements in relation to restrictions within a riparian reserve zone.</p>
Objective 27	Retention of Trees within the Riparian Management Zones
Regulation	FPPR s. 12(3).
Results & Strategy	<p>27.1. Retention of trees within riparian management zones (RMZs) will be as follows:</p> <p>27.1.1. For upland streams, the retention of trees within riparian management zones, measured in basal area, will be prescribed by the signing Forester, and documented within the Site Plan in consideration of the factors listed in FPPR Schedule 1, Section 2 as of the date of submission of the FSP.</p> <p>27.1.2. For wetlands and lakes that do not meet the definition of Type I or II fish habitat, as defined in the HGLUOO, with respect to FPPR s. 12(3), unless specific wildlife and/ or biodiversity values are identified in the riparian management area of a wetland or lake, retention of trees within the RMZ will be based on consideration of the likelihood of damages to the riparian feature. Basal area retention will range up to 100%, as deemed appropriate by the signing Forester and documented within the Site Plan in consideration of the factors listed in FPPR Schedule 1, Section 2 as of the date of submission of the FSP.</p>

Biodiversity

Objective 28	Soils
Regulation	FPPR s. 5 (not subject to approval).
Results & Strategy	28.1. The Plan Holder undertakes (FPPR s. 12.1(1)) to comply with the legislated requirements setting limits for soil disturbance and for permanent access structures as outlined in FPPR s. 35 and 36.
Objective 29	Maximum Cutblock Size
Regulation	FPPR s. 64
Results & Strategy	29.1. The Plan Holder undertakes (FPPR s. 12.1(3)) to comply with the legislated requirements in relation to maximum cutblock size (FPPR s. 64).
Objective 30	Adjacency
Regulation	FPPR s. 65.
Results & Strategy	<p>30.1. The Plan Holder undertakes to comply with the legislated requirements in relation to harvesting adjacent to another cutblock (FPPR s. 65).</p> <p>30.2. As per FPPR sec. 12.4(2), the Plan Holder will adhere to FPPR s. 65 for all areas within FDU A, with the following exceptions, which will only apply to the Plan Area within the Eden Lake Landscape Unit, as shown in HGLUOO Schedule 1:</p> <p>30.2.1. Section 65 (3)(a) is replaced with: at least 75% of the net area of the existing cutblock to be reforested is stocked such that the average height of the well-spaced trees is a minimum of the free growing height as specified in the approved Stocking Standards, located in Appendix C; and</p> <p>30.2.2. Section 65 (3)(b)(ii) is stocked such that the average height of the well-spaced trees is a minimum of the free growing height as specified in the approved Stocking Standards, located in Appendix C.</p>
Objective 31	Forested Swamps
Regulation	HGLUOO s. 15.
Results & Strategy	<p>For clarity, forested swamps refer to the following BEC types: CWH wh1 – 118; CWH wh2 – 112; CWH vh3 – 117 (referred to as western red cedar-sitka spruce/skunk cabbage ecological communities under the HGLUOO).</p> <p>31.1. With reference to individual development areas, where forested swamp areas ≥ 0.25ha occur, they will be retained, and a 1.5 tree-length (average width) management zone will be established to protect the forested swamp.</p>

	<p>31.2. Within management zones established under Objective 31.1. above, >70% of the forest, measured in hectares, will be retained as mature or old forest.</p> <p>31.3. Despite Objective 31.2. above, the amount of mature or old forest retained in the management zone may be reduced to 60%, measured in hectares, provided that:</p> <p>31.3.1. the amount of mature and old forest retained is sufficient to maintain the integrity of the forested swamp; and</p> <p>31.3.2. an adaptive management plan is documented and implemented prior to reducing the percentage of mature and old forest below 70%, measured in hectares.</p>
Objective 32	Ecological Representation
Regulation	HGLUOO s. 16.
Results & Strategy	<p>32.1. Within each Landscape Unit (LU) indicated in HGLUOO Schedule 10, and where development areas are proposed by the Plan Holder, prior to development activities the Plan Holder will do the following:</p> <p>32.1.1. Ensure that an ecological representation analysis is completed by a Qualified Professional that indicates the current inventory of old forest by site series and LU.</p> <p>32.1.2. Form an agreement that documents:</p> <p>32.1.2.1. who is responsible for completing the ecological representation analysis; and</p> <p>32.1.2.2. how the required old forest retention will be allocated; and</p> <p>32.1.2.3. how any required old forest recruitment, consistent with Objective 32.2. below, will be allocated; and</p> <p>32.1.2.4. who is responsible for tracking the old forest retention.</p> <p>32.2. The Plan Holder will maintain a ledger, updated annually at a minimum, which tracks the depletions and additions to the old forest inventory by site series and LU.</p> <p>32.3. Where development activities are proposed within a forest area that is classified as a rare or common site series, consistent with HGLUOO Schedule 10, the Plan Holder will retain an amount (measured in hectares) of old forest greater than or equal to the applicable target listed for said site series in Schedule 10, consistent with Objective 32.2. above.</p> <p>32.4. Where practicable, old forest areas that are retained consistent with Objective 32.3. above will include habitat for local species at risk and regionally important wildlife, including, but not limited to:</p> <p>32.4.1. Northern Goshawk nesting and foraging habitat; and</p> <p>32.4.2. Marbled Murrelet nesting habitat, Great Blue heron nesting habitat, and Northern Saw-Whet Owl core nesting areas; and</p> <p>32.4.3. Black Bear dens and denning habitat.</p>

	<p>32.5. Where there is insufficient old forest available to meet the requirements under Objective 32.4. above, the Plan Holder will identify, retain, and recruit old forest stands where necessary, through natural processes (passive), and may implement voluntary interventions (active), to meet the representation requirements in the shortest possible timeframe. To meet this objective, older stands will be chosen before younger stands when identifying recruitment areas.</p> <p>Strategies that will be used to identify, retain, and recruit old forest stands include:</p> <p>32.5.1. Identifying mature stands (of the appropriate site series) in the LU that are already constrained for other reasons and designating them as reserves set aside to meet the ecological representation requirements.</p> <p>32.5.2. Where there are not enough mature stands (of the appropriate site series) in the LU that are not already constrained for other reasons, unconstrained stands will be identified and designated as reserves set aside to meet the ecological representation requirements.</p> <p>32.6. Where mature stands have been designated as reserves set aside to meet the ecological representation requirements, voluntary management intervention strategies to be used to help recruit old forest stands in the earliest possible timeframe include:</p> <p>32.6.1. Fertilization treatments, to help accelerate rates of growth and promote old-growth characteristics; and</p> <p>32.6.2. Stand thinning or stand modification treatments to help accelerate rates of growth and promote old-growth characteristics.</p>
Objective 33	Red-and-Blue-Listed Ecological Communities
Regulation	HGLUOO s. 17.
Results & Strategy	<p>33.1. With reference to individual development areas, where red- or blue-listed ecological communities $\geq 0.25\text{ha}$ occur, they will be retained.</p> <p>33.2. Despite Objective 33.1. above, up to 5% of the area of each type of red-listed ecological community occurring in a development area may be altered or harvested if required for road access or to address a safety concern and no other practicable option exists.</p> <p>33.3. Despite Objective 33.2. above, up to 30% of the area of each blue-listed ecological community occurring in a development area may be altered or harvested if:</p> <p>33.3.1. the harvesting is required for road access or to address a safety concern and no other practicable option exists; or</p> <p>33.3.2. the harvesting is required for a reason other than the one specified in Objective 33.3.1 above, provided that the harvesting is consistent with the outcome of a completed intergovernmental process.</p>

Wildlife

Objective 34	Black Bear Dens
Regulation	HGLUOO s. 18.
Results & Strategy	<p>34.1. With reference to individual development areas, where a Black Bear den exists and its existence is confirmed by a Qualified Professional, a 20m radius (minimum width) reserve zone will be maintained around the den to protect the den. The reserve zone will be protected by maintaining a 1.0 tree-length (average width) management zone, measured from the outer edge of the reserve zone.</p> <p>34.2. Where a Black Bear den exists, and a Qualified Professional confirms the den is active, then a minimum two tree length no-work zone from the management zone will be applied during the winter hibernation season between November 15 to April 15 and extended to May 15 if a cub is present. All primary forest activities including hauling will not occur in the no-work zone between the dates listed above.</p> <p>34.3. Despite Objective 34.1 above, alteration or removal of a Black Bear den or its reserve zone, or both, may occur provided that: the alteration and/or removal is consistent with the outcome of a completed intergovernmental process; and the alteration and/or removal is required for road access or to address a safety concern; and the alteration and/or removal does not occur during the winter hibernation season.</p> <p>34.4. For the purposes of recruiting future Black Bear den sites, where practicable: suitable Western Red Cedar or Yellow Cedar will be retained within the management zone identified in Objective 34.1. above, and trees, snags, stumps, and logs >80cm in diameter will be retained within stand level retention associated with the development area.</p> <p>34.5. Despite Objective 34.1. above, alteration or removal of trees within the management zone may occur, outside of the winter hibernation season, consistent with any of the following:</p> <p>34.5.1. the alteration and/or removal is required to accommodate operational requirements for road or bridge construction and no practicable alternative exists; or</p> <p>34.5.2. for any existing road under active tenure, the alteration and/or removal is required to accommodate road maintenance, deactivation, the removal of danger trees, brushing and clearing within a right-of-way, for safety purposes; or the alteration and/or removal is required to mitigate the impact of windthrow.</p>
Objective 35	Marbled Murrelet Nesting Habitat
Regulation	HGLUOO s. 19.

Results & Strategy	<p>35.1. Within each Landscape Unit, and where development areas are proposed by the Plan Holder, prior to development activities, the Plan Holder will:</p> <p>35.1.1. retain an amount of Marbled Murrelet nesting habitat within each LU greater than or equal to the LU target area listed in HGLUOO Schedule 9; and</p> <p>35.1.2. ensure the nesting habitat referred to in Objective 35.1.1. above is within the areas shown in HGLUOO Schedule 11; or may be a different area than identified in HGLUOO Schedule 11, provided the nesting habitat is Class 1 or 2, as identified by a Qualified Professional; and</p> <p>35.1.3. maintain a ledger, updated annually at a minimum, which tracks the depletions and additions to the Marbled Murrelet nesting habitat retention inventory, by LU.</p> <p>35.2. For each LU, and where development areas are proposed by the Plan Holder, the Plan Holder will do the following, prior to development activities within the applicable LU:</p> <p>35.2.1. complete a Marbled Murrelet nesting habitat retention inventory; and</p> <p>35.2.2. The Plan Holder will be responsible to ensure the amount of nesting habitat is maintained in a landscape Unit by weighted average of tenure in that landscape</p> <p>35.2.3. in respect to the WHAs, comply with the applicable GWMs, as per FPPR s. 69.</p>
Objective 36	Northern Goshawk Habitat
Regulation	HGLUOO s. 20.
Results & Strategy	<p>36.1. The Plan Holder will retain all Northern Goshawk reserves as shown in HGLUOO Schedule 12.</p> <p>36.2. The Plan Holder will provide nest identification training to their forestry development team.</p> <p>36.3. If the Plan Holder discovers a potential Northern Goshawk nest that is outside of the HGLUOO Schedule 12 reserves, the Plan Holder will do all of the following:</p> <p>36.3.1. cease harvesting and road-building activities within 800m of the potential nest immediately and report the location of the potential nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p> <p>36.3.2. have the nest and surrounding area assessed by a Qualified Professional; and</p> <p>36.3.3. where the qualified registered professional determines the nest to be a Northern Goshawk nest, a reserve zone will be maintained around the nest site, that is a minimum of 200ha and that maximizes the best available nesting and foraging habitat available, to protect the integrity of the nest site, consistent with the assessment and recommendations of a Qualified Professional; and</p> <p>36.3.4. report the location of the confirmed nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p>

	<p>36.3.5. A restricted activity zone will be maintained during the breeding season, with a minimum radius of 800m around the nest site; and</p> <p>36.3.6. Where some or all of the reserve zone maintained under Objective 35.1.3. has been previously altered or harvested the Plan Holder will provide for the recruitment of mature forest and old forest in that reserve through natural processes and voluntary management intervention.</p> <p>36.4. Despite Objective 36.1. and 36.3. above, Northern Goshawk reserves (HGLUOO Schedule 12) and reserve zones may be reduced, provided that:</p> <p>36.4.1. the reduction is consistent with the outcome of a completed intergovernmental process; and</p> <p>36.4.2. the reduction is required for road access, where no practicable alternative exists, or to address a safety concern; and</p> <p>36.4.3. the reduction does not occur during Northern Goshawk breeding season; and</p> <p>36.4.4. there is no net loss to the Northern Goshawk reserve area.</p> <p>36.5. In respect to the WHAs, the Plan Holder will comply with the applicable GWMs, as per FPPR s. 69.</p>
Objective 37	Great Blue Heron Nesting Habitat
Regulation	HGLUOO s. 21.
Results & Strategy	<p>37.1. With reference to individual development areas, where Great Blue Heron nest sites occur, they will be retained and a 350m (minimum width) reserve, measured from the edge of the nest site, will be maintained to protect the nest site. Additionally, the reserve will be ≥ 45ha in size.</p> <p>37.2. The Plan Holder will provide nest identification training to their forestry development team.</p> <p>37.3. Where the Plan Holder discovers a new potential Great Blue Heron nest site, the Plan Holder will:</p> <p>37.3.1. cease harvesting and road-building activities within a 350m radius of the potential nest immediately and report the location of the potential nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p> <p>37.3.2. have the nest and surrounding area assessed by a Qualified Professional; and</p> <p>37.3.3. where the Qualified Professional determines the nest to be a Great Blue Heron nest, a reserve will be established consistent with Objective 37.1 above; and</p> <p>37.3.4. the location of the confirmed nest will be reported to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p> <p>37.3.5. unless confirmed by a Qualified Professional to be inactive three consecutive years during the Great Blue Heron breeding season (reconfirmed annually), a restricted activity zone will be maintained during the breeding season, with a minimum radius of 150m measured from the edge of the reserve.</p>

Objective 38	Northern Saw-Whet Owl Nesting Habitat
Regulation	HGLUOO s. 22.
Results & Strategy	<p>38.1. The Plan Holder will retain all Northern Saw-Whet Owl reserves, as shown on HGLUOO Schedule 12.</p> <p>38.2. The Plan Holder will provide nest identification training to their forestry development team.</p> <p>38.3. Where the Plan Holder discovers a new potential Northern Saw-Whet Owl nest that is outside of the HGLUOO Schedule 12 reserves, the Plan Holder will:</p> <p>38.3.1. cease harvesting and road-building activities within a 180m radius of the potential nest immediately and report the location of the potential nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and</p> <p>38.3.2. have the nest and surrounding area assessed by a Qualified Professional; and</p> <p>38.3.3. where the Qualified Professional determines the nest to be a Northern Saw-Whet Owl nest, a reserve will be established around the nest site that is a minimum of 10ha and centered on the nest; and</p> <p>38.3.4. the location of the confirmed nest will be reported to the Council of the Haida Nation and the Province of BC as soon as practicable.</p> <p>38.4. Where practicable, Northern Saw-Whet Owl core nesting areas will be identified and retained within stand level retention and other reserve or management zone areas and distributed across the landscape, with a target maximum inter-patch spacing of 1,400m.</p>

Forest Reserves

Objective 39	Wildlife Tree Retention and Harvest Restrictions
Regulation	FPPR s. 66, 67.
Results & Strategy	<p>39.1. The Plan Holder will undertake (FPPR s. 12.1(4)) to comply with the legislated requirements in relation to wildlife tree retention (FPPR. s. 66) and restriction on harvesting in a wildlife tree retention area (FPPR. s. 67).</p>
Objective 40	Forest Reserves
Regulation	HGLUOO s. 23.
Results & Strategy	<p>40.1. The Plan Holder will retain all the Forest Reserves, as shown in HGLUOO Schedule 8.</p> <p>40.2. Despite Objective 40.1. above, the area of an individual Forest Reserve may be reduced by up to 5%, provided that:</p> <p>40.2.1. applicable results and strategies within this FSP address the target</p>

	<p>requirements indicated in HGLUOO Schedules 9 and 10; and</p> <p>40.2.2. the remaining Forest Reserve is ≥ 5.0ha; and</p> <p>40.2.3. the reduction is necessary to:</p> <p>40.2.3.1. accommodate operational requirements for road or bridge construction, where no practicable alternative exists; or</p> <p>40.2.3.2. accommodate road maintenance, deactivation, removal of danger trees, brushing and clearing within a right-of way, or for safety purposes, on any existing road under active tenure; or</p> <p>40.2.3.3. to mitigate the impact of windthrow.</p> <p>40.3. Despite Objective 40.1. above, a portion of a Forest Reserve may be moved to another location within the same Landscape Unit, provided that:</p> <p>40.3.1. the alteration of the Forest Reserve is consistent with the outcome of a completed intergovernmental process; and</p> <p>40.3.2. applicable results and strategies within this FSP (e.g., Marbled Murrelet and Ecological Representation) address all of the target requirements indicated in HGLUOO Schedules 9 and 10 for the applicable LU; and</p> <p>40.3.3. the portion removed is ≤ 20ha; and</p> <p>40.3.4. the areas retained are > 200m in width; and</p> <p>40.3.5. the relocation does not result in any Forest Reserve that is < 5.0ha; and</p> <p>40.3.6. the relocation follows the recommendations of an assessment completed by a Qualified Professional which focuses on identifying candidate reserve areas consistent with meeting the HGLUOO objectives established for Marbled Murrelet nesting habitat and ecological representation.</p>
Objective 41	Recruitment in Reserves, Management Zones, & Stand Level Retention Areas
Regulation	HGLUOO s. 5, 6, 10, 11, 15, and 20.
Results & Strategy	<p>41.1. Where some or all of the reserves, management zones, or stand level retention areas established under the applicable HGLUOO objectives (refer to Table 10, below) have been previously altered or harvested, the Plan Holder will provide for recruitment of mature and old forest in the reserve, management zone, or stand level retention area, as applicable, through natural processes (passive recruitment), and may promote recruitment through voluntary interventions (active recruitment).</p> <p>For the management zones associated with Cultural Cedar Stands, CMTs, and Monumental Cedar, the Plan Holder will maintain or recruit, in the shortest possible timeframe, at least 90% of the forest as mature and old forest, through natural processes (passive), and may promote recruitment through voluntary interventions (active). Where the recruitment strategy is to use natural processes (passive), the Plan Holder will not harvest any of the existing mature or old forest in the management zone until the 90% threshold has been attained.</p>

Table 10: Recruitment Summary Table, by HGLUOO Objective.

Objective Requiring Recruitment	Recruitment Location	FSP Objective Reference
Class 1 HTHFs	Reserve	3.1.2.
Class 2 HTHFs	Reserve	3.3.
Class 1 HTFFs	Reserve	4.1.
Class 2 HTFFs	Applicable Stand Level Retention	4.2
Cultural Cedar Stands, CMTs, & Monumental Cedar	Management Zones	9.1.
Type I Fish Habitat	Type I Fish Habitat & Reserve	18.1
Type II Fish Habitat	Type II Fish Habitat & Reserve	19.1.
Active Fluvial Units	Active Fluvial Unit & Management Zone	20.1.
Forested Swamps	Management Zone	31.1
Existing Northern Goshawk Reserves	Reserve	36.1.
New Northern Goshawk Nesting Reserves	Reserve	36.3.

Invasive Plants

Table 11: List of Invasive Plants known to occur in the Plan Area.

Haida Gwaii IPMA Plant List - 2022		
<p>a) Red font indicates species has been identified within the Invasive Plant Management Area (IPMA); if marked “*”, the species needs to be confirmed.</p> <p>b) Additional details are referenced by number and added at the bottom of the applicable column.</p> <p>c) Black font indicates species to keep an eye out for.</p>		
REDRR	High Priority	Lower Priority
Bighead knapweed	Bohemian knotweed	Bull thistle
Butterfly bush	Common tansy	Canada thistle
Cutleaf blackberry	Gorse* ¹	Common burdock
Cypress spurge	Himalayan blackberry* ²	Common comfrey* ¹
Diffuse knapweed	Himalayan knotweed	Oxeye daisy
English holly* ¹	Japanese knotweed	Yellow toadflax
English ivy* ²	Scotch broom* ³	Bladder campion
Garden yellow loosestrife* ³	Tansy ragwort* ⁴	Common bugloss
Himalayan balsam	Yellow archangel	Meadow goat's-beard
Marsh plume thistle	Yellow flag iris	Mossy stone crop
Mountain bluet	Dalmatian toadflax	Scentless chamomile
Orange hawkweed	Giant knotweed	
Spotted hawkweed	Hoary Cress	
Spotted knapweed	Sulphur cinquefoil	
St. John's wort		
Wormwood		
Yellow hawkweed		
Baby's-breath		
Bishop's goutweed		
Black knapweed		
Blueweed		
Brown knapweed		
Chicory		
Field scabious		
Giant hogweed		
Hoary alyssum		
Leafy spurge		
Meadow knapweed		
Mouse-eared hawkweed		
Nodding thistle		
Plumeless thistle		
Purple loosestrife		
Russian knapweed		
Russian thistle		
Scotch thistle		
Sulphur cinquefoil		
Whiplash hawkweed		
Wild carrot		
Wild chervil		
Yellow floating heart - provincial EDRR		
^{1, 2} English holly & ivy outside of gardens	¹ Gorse outside containment polygon around Sandspit	¹ Common comfrey near agriculture
³ Garden yellow loosestrife sample to be collected 2017	² Himalayan blackberry outside of VQC	
	³ Scotch broom outside of containment	

Table 11 above is the most up to date table available. If the table is updated during the life of this plan the Plan Holder will use the most up to date table. Where the introduction or spread of invasive plants is likely the result of forest practices of the Plan Holder, the Plan Holder will do the following, unless the Plan Holder deems the area to be part of the roadway.

Objective 42	Invasive Plants Training
Results & Strategy	42.1. The Plan Holder will provide forestry workers with training in the identification and recognition of invasive plants that are, or may potentially be, within (i.e., known to occur in adjacent areas) the Plan Area.
Objective 43	Invasive Plants Management, Monitoring & Reporting
Results & Strategy	<p>43.1. A Qualified Professional will review the provincial Invasive Alien Plant Program (IAPP) application during the block development phase and the results will be documented in the SP occurrences.</p> <p>43.2. The Plan Holder will monitor for the presence of invasive plant species during forest development fieldwork, silviculture surveys, routine inspections, and general travel. Where new invasive plant incidences are identified, they will be reported within 30 days to the Northwest Invasive Plant Council (NWIPC), or by filing a report in the IAPP application directly.</p> <p>43.3. Where new occurrences or existing invasive plants are detected (either a newly introduced plant species, or a new location of a plant species known to already exist within the Plan Area), the site will be assessed by a Qualified Professional. Where practicable, an appropriate action plan will be prepared and implemented to address the invasive plant occurrence.</p>
Objective 44	Invasive Plants Sanitation & Disposal
Results & Strategy	<p>44.1. The Plan Holder will require that contractors' clean equipment prior to leaving a development area where a priority invasive plant has been identified.</p> <p>44.2. Invasive plant disposal will be done by using best practices as recommended by the NWIPC, to the extent practicable, as prescribed by a Qualified Professional.</p>
Objective 45	Invasive Plants Re-vegetation

Results & Strategy	<p>45.1. For newly (after the date of Plan commencement) developed areas (roads and cutblocks) that result in exposed mineral soils as determined by a Qualified Professional (where contiguous area is greater than 0.1ha, with a contiguous minimum width of greater than 5m, excluding the roadway, the Plan Holder will do the following:</p> <p>45.1.1. Re-vegetate the exposed area as climatic and soil conditions allow and within one year of disturbance, if:</p> <p>45.1.1.1. the disturbed area is not to be reforested and is not the running surface of a road; and</p> <p>45.1.1.2. the soil disturbance is likely to result in the introduction or spread of the established invasive plants; and</p> <p>45.1.1.3. re-vegetating the site will materially reduce the likelihood of the spread of the invasive plants.</p> <p>45.1.2. Monitor the seeded areas for one year from the date of initial seeding to determine if the seed germinates to the extent necessary to occupy the areas of exposed soil; and</p> <p>45.1.3. If within one year of the area being initially seeded, the seed does not germinate to the extent necessary to occupy the areas of exposed soil, the Plan Holder will re-seed the area as soon as practicable. Where seeding alone is not successful, fertilization and scarification treatments will be considered, where feasible.</p> <p>For re-vegetation, the Plan Holder will use Haida Gwaii Reseeding Mixture (according to Canada's Seeds Regulations), or better.</p>
Objective 46	Invasive Plants Roadside Brushing
Results & Strategy	<p>46.1. Prior to prescribing roadside machine-based brushing a Qualified Professional will determine if invasive plants are in the area of the proposed brushing.</p> <p>46.2. The Qualified Professional will, where practicable, modify roadside brushing treatment timing and methods to minimize the spread of established invasive plants.</p>

8.0 Stocking Standards

Objective 47	Stocking Standards - General
Regulation	FPPR s. 44.
Results & Strategy	<p>47.1. FPPR s. 44(1) applies in all situations or circumstances under the Plan where a free growing stand is required to be established under FRPA s. 29. FPPR s.45 is not applicable to this FSP.</p> <p>47.2. For the purposes of FPPR. s 44(1a) and (b), Appendix B specifies the regeneration date, free growing height, and stocking standards for the situations or circumstances in which FPPR s. 44(1) applies.</p> <p>Stocking standards for development areas with free growing obligations have been provided in Appendix B. Stocking standards are to be assigned and documented within Site Plans, by the prescribing Forester.</p>
Objective 48	Special Forest Products Stocking Standards
Regulation	FPPR s. 16(4).
Results & Strategy	<p>The Plan Holder may implement programs for special forest products, including shake, shingle, cant, and whole logs. The special forest products programs will involve the harvest of dead and down wood only. The Plan Holder will implement the special forest products programs under designated salvage permits or licenses.</p> <p>48.1. Where harvesting of special forest products (FPPR s. 44(3)(i)) occurs, stocking standards will be applied as follows:</p> <p>48.1.1. Where areas are subject to a Site Plan and associated stocking standards, the designated standards will be implemented or maintained.</p> <p>48.1.2. Where there is no Site Plan, the following standards will apply to the area:</p> <p>48.1.2.1. the harvest activities will not cause the total yield for the standards unit to be less than the yield had the harvesting not occurred; and</p> <p>48.1.2.2. at the conclusion of the harvesting, a species composition will be retained in the standards unit that is substantially the same as the species composition of the standards unit immediately prior to the harvesting; and</p> <p>48.1.2.3. at the conclusion of the harvesting, tree health and vigour in the standards unit will be left substantially the same as it was immediately prior to the harvesting.</p>

9.0 Signatures of Persons Required

Plan Holder & Authorized Plan Holder Signatures

Plan Holder	Authorized Signatory & Title	Signature	Date
Husby Group 6425 River Road Delta, BC V4K 5B9 Ph: (604) 940-1234 Fx: (604) 940-1236	Jonathan Fane RPF VP Forestry & Engineering		(DD/MM/YYYY)

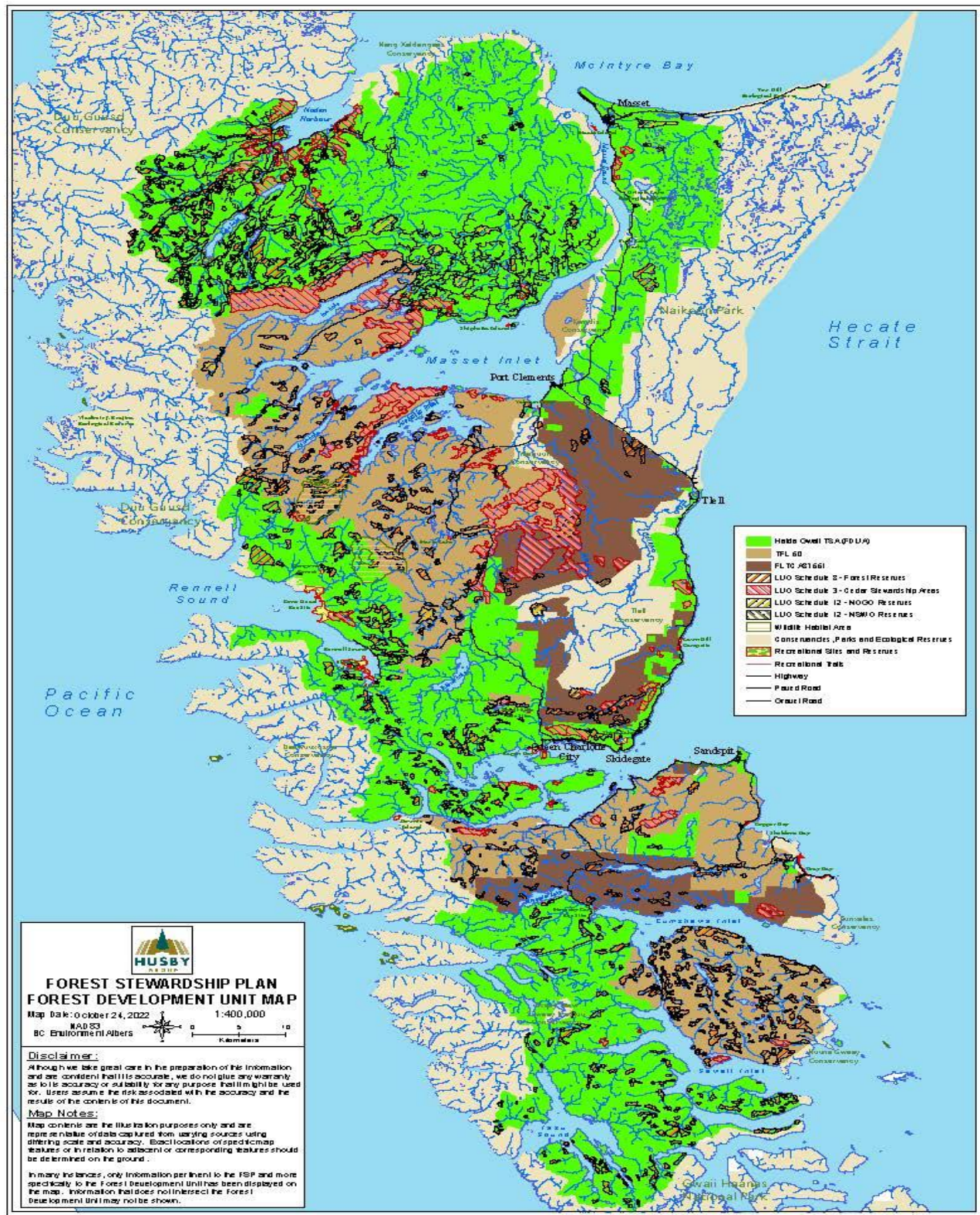
Signing Forester

Date:

Nicholas Miller, RPF

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.

Appendix A: FSP Map



Appendix B: Regeneration and Free Growing Acceptability Criteria

FIELD CODES	DESCRIPTION	FIELD CODES	DESCRIPTION	FIELD CODES	DESCRIPTION
A	ANIMAL DAMAGE	AO	PIKA	DF	FOLIAGE DISEASES
AB	BEAR	AP	PORCUPINE	DFA	Western pine aster rust <i>Coleosporium asterum</i>
AC	CATTLE	AS	SQUIRREL	DFB	Delphinella tip blight <i>Delphinella</i> spp.
AD	DEER	AV	VOLE	DFC	Large-spored spruce-labrador tea rust <i>Chrysomyxa ledicola</i>
AE	ELK	AX	BIRDS	DFD	Spruce needle cast <i>Lirula macrospora</i>
AH	HARE or RABBIT	AZ	BEAVER	DFE	Elytroderma disease <i>Elytroderma deformans</i>
AM	MOOSE			DFH	Larch needle blight <i>Hypodermella laricis</i>
AN	HORSE			DFJ	Phaeoseptoria needle cast <i>Phaeoseptoria contortae</i>
N	ABIOTIC INJURIES	NH	HAIL	DFL	Pine needle cast <i>Lophodermella concolor</i>
NAV	Avalanche or snow slide	NL	LIGHTNING	DFM	Larch needle cast <i>Rhabdocline laricis</i>
NB	FIRE	NN	ROAD SALT	DFN	Leptomelanconium needle blight <i>Leptomelanconium pinicola</i>
NBP	Post-burn mortality	NR	REDBELT	DFO	Lophodermium needle cast <i>Lophodermium seditiosum</i>
NC	DECLINE	NS	SLIDE	DFP	Fir-fireweed rust <i>Pucciniastrum epilobii</i>
NCF	Douglas-fir decline	NW	WINDTHROW	DFR	Douglas-fir needle cast <i>Rhabdocline</i> spp.
NCY	Yellow-cedar decline	NWS	Windthrow – soil failure	DFS	Dothistroma (red band) needle blight <i>Mycosphaerella pini</i>
ND	DROUGHT	NWT	Windthrow – treatment or harvest-related	DFT	Sirococcus tip blight <i>Sirococcus conigenus</i>
NDF	Drought – foliage loss or damage	NX	WIND SCARRING or RUBBING	DFU	Cedar leaf blight <i>Didymascella thujina</i>
NDM	Drought – mortality	NY	SNOW OR ICE	DFW	Swiss needle cast <i>Nothophaeocryptopus gaeumannii</i>
NE	CEDAR FLAGGING	NYB	Snow or ice breakage	DFX	Brown felt blight <i>Herpotrichia</i> spp.
NF	FLOODING	NYP	Snow press	DFY	Hendersonia needle cast <i>Hendersonia pinicola</i>
NG	FROST	NZ	SUNSCALD	DFZ	Rhizosphaera needle cast <i>Rhizosphaera kalkhoffii</i>
NGC	Frost crack			DL	LEADER OR BRANCH DIEBACKS
NGH	Frost-heaved			DLC	Lodgepole pine dieback <i>Cenangium ferruginosum</i>
NGK	Shoot or bud frost kill			DLD	Dermea canker <i>Dermea boycei</i>
D	DISEASES			DLF	Red flag disease <i>Potebniomyces balsamicola</i>
DB	BROOM RUSTS			DLK	Conifer cytospora canker <i>Cytospora abietis</i>
	Fir broom rust <i>Melampsorella caryophyllacearum</i>			DLP	Phomopsis canker <i>Diaporthe lokoyae</i>
	Spruce broom rust <i>Chrysomyxa arctostaphyli</i>			DLS	Sclerophoma tip dieback <i>Sydowia polyspora</i>
DD	STEM DECAYS			DM	DWARF MISTLETOES
DDA	White mottled rot <i>Ganoderma applanatum</i>			DMF	Douglas-fir dwarf mistletoe <i>Arceuthobium douglasii</i>
DDO	Sulfur shelf fungus <i>Laetiporus sulphureus</i>			DMH	Hemlock dwarf mistletoe <i>Arceuthobium tsugense</i>
DOE	Rust-red stringy rot <i>Echinodontium tinctorium</i>			DML	Larch dwarf mistletoe <i>Arceuthobium laricis</i>
DOF	Brown crumbly rot <i>Fomitopsis pinicola</i>			DMP	Lodgepole pine dwarf mistletoe <i>Arceuthobium americanum</i>
DOO	Cedar brown pocket rot <i>Postia sericeomollis</i>			DR	ROOT DISEASES
DOP	Red ring rot <i>Porodaedalea pini</i>			DRA	Armillaria root disease <i>Armillaria ostoyae</i>
DOQ	Brown trunk rot <i>Fomitopsis officinalis</i>			DRB	Blackstain root disease <i>Leptographium wageneri</i>
DOR	Red heart rot <i>Stereum sanguinolentum</i>			DRC	Cedar laminated root and butt rot <i>Coniferiporia weinii</i>

21a. Conifer damage agent and condition codes (FS 747 - 2022/03)

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FIELD CODES	DESCRIPTION	FIELD CODES	DESCRIPTION
DRL	Laminated root rot <i>Coniferiporia sulphurascens</i>	IDI	Pine needle sheath miner <i>Zelleria halmachi</i>
DRN	Annosus root disease <i>Heterobasidion occidentale</i>	IDL	Western hemlock looper <i>Lambdina fuscicollis lugubrosa</i>
DRR	Rhizina root disease <i>Rhizina undulata</i>	IDP	Larch sawfly <i>Pristiphora erichsonii</i>
DRS	Schweinitzii butt rot <i>Phaeolus schweinitzii</i>	IDS	Conifer sawflies <i>Neodiprion abietis</i>
DRT	Tomentosus root rot <i>Onnia tomentosa</i>	IDT	Douglas-fir tussock moth <i>Orgyia pseudotsugata</i>
DS	STEM DISEASES (CANKERS OR RUSTS)	IDV	Variegated cutworm <i>Peridroma saucia</i>
DSA	Atropellis canker <i>Atropellis piniphila</i>	IDW	Western spruce budworm <i>Choristoneura freemani</i>
DSB	White pine blister rust <i>Cronartium ribicola</i>	IDZ	Western false hemlock looper <i>Nepytia freemani</i>
DSC	Comandra blister rust <i>Cronartium comandrae</i>	IS	SHOOT INSECTS
DSG	Western gall rust <i>Endocronartium harknessii</i>	ISB	Western cedar borer <i>Trachykele blondeli</i>
DSS	Stalactiform blister rust <i>Cronartium coleosporioides</i>	ISE	European pine shoot moth <i>Rhyacionia buoliana</i>
I	INSECTS	ISG	Gouty pitch midge <i>Cecidomyia pininopis</i>
IA	APHIDS OR ADELGIDS	ISP	Pitch nodule moths <i>Petrova</i> spp.
IAB	Balsam woolly adelgid <i>Adelges piceae</i>	ISQ	Sequoia pitch moth <i>Vespa mima sequoia</i>
IAC	Giant conifer aphid <i>Cinara</i> spp.	ISS	Western pine shoot borer <i>Eucosma sonomana</i>
IAG	Cooley spruce gall adelgid <i>Adelges cooleyi</i>	IW	WEEVILS
IAL	Larch cone woolly aphid <i>Adelges lariciatus</i>	IWC	Conifer seedling weevil <i>Steremnius carinatus</i>
IAP	Pine needle scale <i>Chionaspis pinifoliae</i>	IWM	Magdalis spp.
IAS	Spruce aphid <i>Elatobium abietinum</i>	IWP	Lodgepole pine terminal weevil <i>Pissodes terminalis</i>
IB	BARK BEETLES	IWS	White pine weevil (on spruce) <i>Pissodes strobi</i>
IBB	Western balsam bark beetle <i>Dryocoetes confusus</i>	IWW	Warren's root collar weevil <i>Hylobius warreni</i>
IBD	Douglas-fir beetle <i>Dendroctonus pseudotsugae</i>	IWY	Cylindrocopturus weevil <i>Cylindrocopturus</i> spp.
IBE	Silver fir beetle <i>Pseudohylesinus sericeus</i>	IWZ	Yosemite bark weevil <i>Pissodes schwartzii</i>
IBF	Fir engraver beetle <i>Scolytus ventralis</i>	M	MITE DAMAGE (TRISETACUS SPECIES)
IBH	Hylurgops beetle <i>Hylurgops rugipennis</i>	P	FUNGAL PATHOGENS
IBI	Engraver beetles <i>Ips</i> spp.	PBC	Gray mold PPG Damping-off Disease
IBL	Lodgepole pine beetle <i>Dendroctonus murrayanae</i>	PFX	<i>Fusarium</i> spp.
IBM	Mountain pine beetle <i>Dendroctonus ponderosae</i>	T	TREATMENT INJURIES
IBP	Twig beetles <i>Pityogenes</i> , <i>Pityophthorus</i> spp.	TC	CHEMICAL
IBS	Spruce beetle <i>Dendroctonus rufipennis</i>	TL	LOGGING
IBT	Red turpentine beetle <i>Dendroctonus valens</i>	TM	OTHER MECHANICAL DAMAGE (NON-LOGGING)
IBW	Western pine beetle <i>Dendroctonus brevicornis</i>	TP	PLANTING
ID	DEFOLIATING INSECTS	TPM	Planting — poor microsite
IDA	Black army cutworm <i>Actebia fennica</i>	TR	PRUNING
IDB	Two-year budworm <i>Choristoneura biennis</i>	TT	THINNING OR SPACING
IDC	Larch casebearer <i>Coleophora laricella</i>	V	VEGETATION PROBLEMS
IDE	Spruce budworm <i>Choristoneura fumiferana</i>	VH	HERBACEOUS COMPETITION
IDG	Green-striped forest looper <i>Melanophila imitata</i>	VP	VEGETATION PRESS
IDH	Western blackheaded budworm <i>Aciens gloverana</i>	V5	SHRUB COMPETITION
		VT	TREE COMPETITION

21b. Conifer damage agent and condition codes (FS 747 - 2022/03)

FIELD CODES	DESCRIPTION	FIELD CODES	DESCRIPTION	FIELD CODES	DESCRIPTION
A	ANIMAL DAMAGE			D	DISEASES
AB	BEAR	AO	PIKA	DD	STEM DECAYS
AC	CATTLE	AP	PORCUPINE	DDA	White mottled rot <i>Ganoderma applanatum</i>
AD	DEER	AS	SQUIRREL	DOB	White spongy trunk rot <i>Fomes fomentarius</i>
AE	ELK	AV	VOLE	DOC	Brown cubical rot of birch <i>Fomitopsis betulinus</i>
AH	HARE or RABBIT	AX	BIRDS	DDD	Sulfur shelf fungus <i>Laetiporus sulphureus</i>
AM	MOOSE	AZ	BEAVER	DDF	Brown crumbly rot <i>Fomitopsis pinicola</i>
AN	HORSE			DDG	Sterile conk trunk rot of birch <i>Inonotus obliquus</i>
N	ABIOTIC INJURIES			DDH	Hardwood trunk rot <i>Phellinus ignarius</i>
NAV	Avalanche or snow slide	NI	RED HEART	DDQ	Quinine conk rot <i>Fomitopsis officinalis</i>
NB	FIRE	NK	FUMEKILL	DDT	Aspen trunk rot <i>Phellinus tremulae</i>
NBP	Post-burn mortality	NL	LIGHTNING		
NC	DECLINE	NN	ROAD SALT	DF	FOLIAGE DISEASES
NCA	Aspen Decline	NR	REDBELT	DFD	Marssonina leaf blights <i>Marssonina</i> spp.
NCB	Birch Decline	NS	SLIDE	DFG	Cottonwood leaf rust <i>Melampsora occidentalis</i>
ND	DROUGHT	NW	WINDTHROW	DFI	<i>Linospora</i> leaf blotch <i>Linospora tetraspora</i>
NDF	Drought – foliage loss or damage	NWS	Windthrow – soil failure	DFK	<i>Septoria</i> leaf spot <i>Sphaerulina populicola</i>
NDM	Drought – mortality	NWT	Windthrow – treatment or harvest-related	DFV	Leaf rust <i>Melampsora</i> spp.
NF	FLOODING	NX	WIND SCARRING or RUBBING	DL	DISEASE CAUSED DIEBACKS
NG	FROST	NY	SNOW OR ICE	DLV	Aspen & poplar leaf and shoot blights <i>Venturia</i> spp.
NGC	Frost crack	NYB	Snow or ice breakage		
NGH	Frost-heaved	NYP	Snow press	DR	ROOT DISEASES
NGK	Shoot or bud frost kill	NZ	SUNSCALD	DRA	<i>Armillaria</i> root disease <i>Armillaria ostoyae</i>
NH	HAIL				

21c. Deciduous damage agent and condition codes (FS Deciduous 747 - 2022/03)

FIELD CODES	DESCRIPTION	FIELD CODES	DESCRIPTION
DS	STEM DISEASES (CANKERS OR RUSTS)	ID5	Fall webworm Hyphantria cunea
DSE	Sooty bark canker <i>Encoelia pruinosa</i>	ID6	Aspen leaf miner <i>Phyllocnistis populiella</i>
DSH	Hypoxyton canker <i>Entoleuca mammatum</i>	ID7	Woolly alder sawfly <i>Eriocampa ovata</i>
DSM	Septoria canker <i>Sphaerulina musiva</i>	ID8	Aspen leaf roller <i>Pseudexentera oregonana</i>
DSN	Aspen running canker <i>Neodothiora populina</i>	ID9	Birch leaf skeletonizer <i>Buccatrix</i> spp.
DSP	Cryptosphaeria canker <i>Cryptosphaeria populina</i>	IEA	Unidentified aspen defoliation
DSR	Ceratocystis canker <i>Ceratocystis fimbriata</i>	IEF	Cottonwood leaf skeletonizer <i>Phyllonoryctes apparella</i>
DST	Target canker <i>Neonectria galligena</i>	IEJ	Willow leafminer <i>Micrurapteryx salicifoliella</i>
DSY	Cytospora canker <i>Cytospora chrysosperma</i>	IEK	Rusty tussock moth <i>Orygia antiqua</i>
I	INSECTS	IS	SHOOT INSECTS
ID	DEFOLIATING INSECTS	ISA	Bronze birch borer <i>Agrilus anxius</i>
IDA	Black army cutworm <i>Actebia fennica</i>	ISC	Poplar borer <i>Saperda calcarata</i>
IDD	Western winter moth <i>Erannis vancouverensis</i>	ISW	Poplar and willow borer <i>Cryptorhynchus lapathi</i>
IDF	Forest tent caterpillar <i>Malacosoma disstria</i>	M	MITE DAMAGE (TRISETACUS SPECIES)
IDJ	Gray forest looper <i>Caripeta divisa</i>	T	TREATMENT INJURIES
IDK	Northern tent caterpillar <i>Malacosoma californicum</i>	TC	CHEMICAL
IDM	Lymantria (gypsy) moth <i>Lymantria dispar</i>	TL	LOGGING
IDN	Lyonetia miner <i>Lyonetia</i> spp.	TM	OTHER MECHANICAL DAMAGE (NON-LOGGING)
IDO	Filament bearer <i>Nematocampa filamentaria</i>	TP	PLANTING
IDR	Alder sawfly <i>Eriocampa ovata</i>	TPM	Planting – poor microsite
IDU	Satin moth <i>Leucoma salicis</i>	TR	PRUNING
IDV	Variegated cutworm <i>Peridroma saucia</i>	TT	THINNING OR SPACING
IDX	Large aspen tortrix <i>Choristoneura conflictana</i>	V	VEGETATION PROBLEMS
IDY	Birch-aspen leafroller <i>Epinotia solandriana</i>	VH	HERBACEOUS COMPETITION
ID1	Leaf beetles <i>Chrysomela</i> spp.	VP	VEGETATION PRESS
ID2	Bruce spanworm <i>Operophtera bruceata</i>	VS	SHRUB COMPETITION
ID3	Winter moth <i>Operophtera brumata</i>	VT	TREE COMPETITION
ID4	Cottonwood sawfly <i>Nematus currani</i>		

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host species	Some possible causes	Comments
Stem	Wound (including sunscald and girdling)	<ul style="list-style-type: none"> the tree has any wound which is greater than 33% of the stem circumference, or the tree has a wound which is greater than 20% of the total length of the stem, or the tree has a wound centred on an infection caused by a stem rust, canker, or dwarf mistletoe (See Note under Stem or Branch: Dwarf Mistletoe Infection). The tree is enclosed within a seedling protector (added 2015) Any amount of girdling or damage to the stem caused by seedling protectors (added 2015). 	All	cattle AC, squirrel AS, beaver AZ, vole AV, porcupine AP, hare AH, Warrens root collar weevil IWW, sequoia pitch moth ISQ, fire NB, wind-throw NW, sunscald NZ, logging TL, mechanical TM.	<p>A wound is defined as an injury in which the cambium is dead (e.g., sunscald) or completely removed from the tree exposing the sapwood. Measure the wound across the widest point of the exposed sapwood (or dead cambium when the tree is damaged by sunscald).</p> <p>Healed over wounds (=scars) are acceptable. See "Damage types."</p> <p>Girdling can be caused by seedling protectors.</p>
Stem	Insect mining at root collar	<ul style="list-style-type: none"> the tree is currently attacked by a bark-mining insect such as a weevil or a beetle and exhibits symptoms such as foliage discoloration, thinning, and/or reduced height growth increments 	PI, Sx	Warren's root collar weevil IWW.	Only trees that are symptomatic should be checked for insect infestation or mining damage. Non-symptomatic trees are presumed to be unaffected by insect mining.
Stem	Deformation (including crook, sweep, fork, browse, and dead or broken top)	<ul style="list-style-type: none"> the pith is horizontally displaced more than 30 cm from the point of defect and originates above 30 cm from the point of germination. the tree leader has been killed three or more times in the last five years (weevil only). the tree has two or more leaders with no dominance expressed after five years growth and the fork originates above 30cm from the point of germination. the tree has a dead or broken top at a point that is >2 cm (>3 cm for the coast) in diameter. 	<p>For sweep, all except Cw and Hw</p> <p>Sx, Ss, PI</p> <p>All</p> <p>All</p>	<p>Defoliators ID, white pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP, northern pitch twig moth ISP, cattle AC, deer AD, frost NG, hail NH, snow NY, drought ND, logging TL</p> <p>White pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP, terminal weevils (IWS, IWP), frost NG, animal damage A.</p>	<p>For horizontal displacement see "Damage types."</p> <p>This criterion applies only for terminal weevil damage.</p> <p>Leader dominance occurs when the tallest leader is at least 5 cm taller than the second tallest leader. See "Damage types."</p>

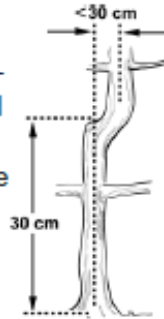
Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host species	Some possible causes	Comments
Stem	Bark mining	<ul style="list-style-type: none"> Boring dust, pitch tubes, or bark sloughing is visible 	PI, Sx, Fd	Bark beetles (IB), mountain pine beetle (IBM), Ips pini (IBI), Pityogenes, Pityophthorus (IBP).	The mountain pine beetle outbreak has caused unexpected mortality in young pine. Stressed trees are also susceptible to secondary bark and twig beetles.
Stem	Infection (including cankers and galls)	<ul style="list-style-type: none"> any infection occurs on the stem. 	All	comandra blister rust DSC, stalactiform blister rust DSS, white pine blister rust DSB, western gall rust DSG.	Note: To best identify pine rusts, surveys should be scheduled between May and July as a best management practice (Added 2020). Wounds caused by rodent feeding around rust cankers should have stem rust recorded as the causal agent.
Branch	Infection (cankers)	<ul style="list-style-type: none"> an infection occurs on a live branch less than 20 cm from the stem. (added 2015) 	PI, Py	comandra blister rust DSC	Note: To best identify pine rusts, surveys should be scheduled between May and July as a best management practice (Added 2020).
		<ul style="list-style-type: none"> an infection occurs on a live branch less than 60 cm from the stem. 	Pw, PI, Py	white pine blister rust DSB, stalactiform blister rust DSS	
Branch	Galls	<ul style="list-style-type: none"> a gall rust infection occurs on a live branch less than 5 cm from the stem. 	PI, Py	western gall rust DSG.	
Branch	Gouting	<ul style="list-style-type: none"> any adelgid gouting occurs on a branch. 	Ba, Bg, BI	balsam woolly adelgid IAB.	Gouting is defined as excessive swelling of a branch or shoot caused by balsam woolly adelgid, and is often accompanied by misshapen needles and buds. It is most common on branch tips and at nodes near the ends of branches. Consult a recent distribution map to identify the geographic extent of this pest.
Stem or Branch	Dwarf mistletoe infection	<ul style="list-style-type: none"> any infection occurs on the stem or a live branch, or a susceptible tree is located within 10 m of an overtopping tree, which is infected with dwarf mistletoe. 	Hw, PI, Lw, Fd	hemlock dwarf mistletoe DMH, PI dwarf mistletoe DMP, larch dwarf mistletoe DML, Fd dwarf mistletoe DMF.	To confirm infection, the surveyor must observe mistletoe aerial shoots or basal cups on regeneration or on live or dead fallen brooms. Overtopping tree is a tree that is three or more times taller than the height of the tree being assessed.
Foliage	Defoliation	<ul style="list-style-type: none"> >50% of tree foliage has been removed by Dothistroma in ICH, CWH and SBS biogeoclimatic zones. (see 23d.) 	B, F, P, S	Dothistroma needle blight, DFS	See "Defoliation for Determinate Growth Species."
		<ul style="list-style-type: none"> Any defoliation, stunting, or red-brown discoloration in the top 1/3rd of the live crown due to Elytroderma in the IDFd3, IDFd4, SBPSmk or SBPSxc biogeoclimatic subzones (added 2020). 	PI	DfE, elytroderma needle and shoot disease	Note: After July 1st Elytroderma can be confirmed by the presence of black lines on the previous year's needles.
		<ul style="list-style-type: none"> >80% of tree foliage has been removed due to insects or disease. 	All others	foliage diseases DF, ND drought.	

22b. Free growing damage criteria for even-aged (age class 1) coniferous trees (pg. 2)

Location of Damage	Type of Damage	Tree being assessed is UNACCEPTABLE if:	Host species	Some possible causes	Comments
Roots	Root disease	<ul style="list-style-type: none"> sign(s) or a definitive combination of symptoms of root disease are observed. 	All	<p>armillaria root disease DRA, laminated root rot DRL, tomentosus root rot DRT, annosus root disease DRN, blackstain root disease DRB.</p>	<p>Signs are direct evidence of the pathogenic fungus including fruiting bodies, distinctive mycelium or rhizomorphs. Symptoms include foliar chlorosis or thinning, pronounced resin flow near the root collar, reduced recent leader growth, a distress cone crop, and wood decay or stain. An individual symptom is not sufficient to identify a root disease.</p>
Roots	Root disease (continued)	<ul style="list-style-type: none"> infected tree found in plot. See comments for well-spaced tree net down calculation. The multiplier for DRA is two, except in BEC zones PPdh1 and 2, IDFxh1, IDFdm1 and 2, MSdk1, and MSdm1 where the multiplier is one except for Cw (in all BEC zones) the multiplier is one and only if the Cw is considered preferred or acceptable or species and is performing well within the polygon or stratum being assessed. 	All	<p>armillaria root disease DRA.</p>	<p>Note: All conifer species are considered susceptible. Broadleaf species are considered not susceptible for survey purposes only.</p> <p>Example: How to apply net down for root disease.</p> <p>If root disease-infected trees are found in the plot:</p> <ol style="list-style-type: none"> In the first sweep, determine the total number of healthy, well spaced trees using the prescribed minimum inter-tree distance (MITD) (e.g., 12 trees) ignoring the M-value; In a second independent sweep, determine the number of infected trees (including the dead infected stumps for DRT) that are the MITD from each other (e.g., 4 infected trees or stumps); Multiply the number from step 2 by the multiplier for the specific root disease and subtract this number from the number of susceptible healthy well-spaced trees found in step 1 (e.g., for DRA: $12 - 4 \times 2 = 4$). The result is the maximum number of free growing trees that may be tallied for the plot. Next consider competing vegetation.
		<ul style="list-style-type: none"> infected conifer found in plot. See comments for well-spaced tree net down calculation. The multiplier for DRL is four. 	Fd, Sx, Se Lw, Ba, Bg	laminated root rot DRL.	Note: Bl, Cw, Pl, Pw, Py and broadleaf species are considered not susceptible for survey purposes only.
		<ul style="list-style-type: none"> infected conifer or stump found in plot. See comments for well-spaced tree net down calculation. The multiplier for DRT is two. 	Se, Sx	tomentosus root rot DRT.	Note: Ba, Bl, Cw, Fd, Pl, Pw, Py and broadleaf species are considered not susceptible for survey purposes only.
		<ul style="list-style-type: none"> infected conifer found in plot. See comments for well-spaced tree net down calculation. The multiplier for DRN is two. 	Ba, Hw, Ss	annosus root rot DRN.	Note: Bg, Bl, Cw, Cy, Fd, Hm, Pl, Pw, Py, Sx and broadleaf species are considered not susceptible for survey purposes only.

22d. Damage types Crooks (old stems)

A crook is unacceptable if it is displaced more than 30 cm and originates above 30 cm.



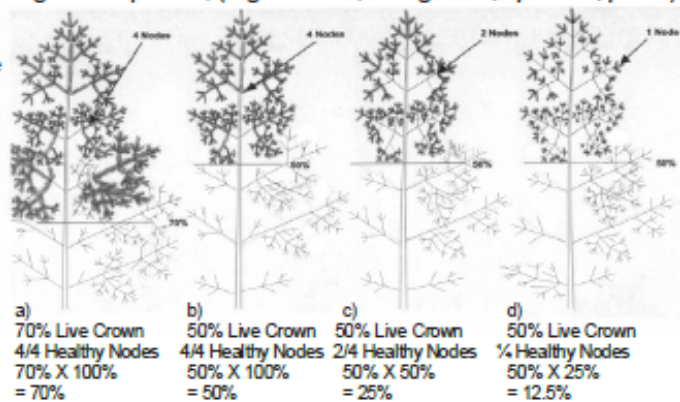
Defoliation, general

Defoliation is unacceptable if more than 80% of the needles are removed due to insects or disease.

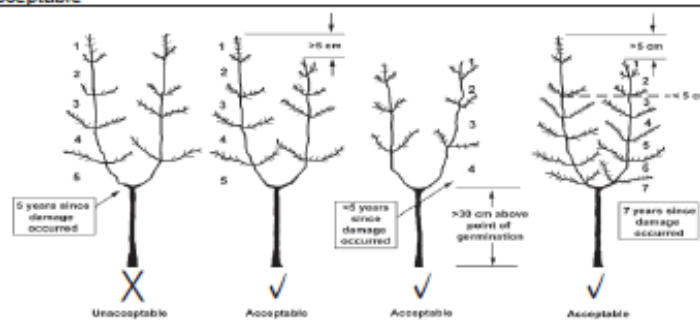


Defoliation, for determinate growth species, (e.g. true firs, Douglas fir, spruces, pines)

1. Determine the % live crown.
 2. Determine how many of the most recent 4 nodes have >50% of their foliage, express it as a %.
 3. Step 1% x Step 2%: The result is the percentage of foliage remaining on the tree.
- for Dothistroma, in ICH, CWH and SBS
 - >50% = acceptable
 - all other causes and biogeoclimatic zones
 - >20% = acceptable



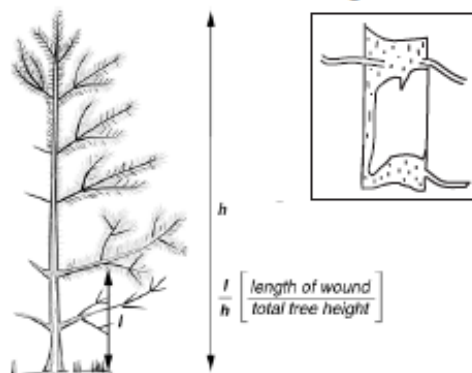
Forks



Wounds

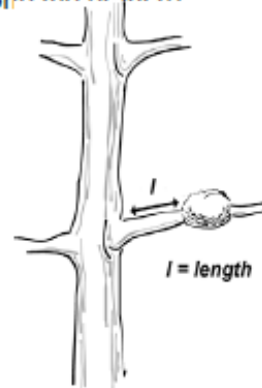
Damage to the cambium or deeper is unacceptable where it is:

- more than one-third the circumference, or
- more than 20% of the height of tree.



Gall and Canker

Distance measurement from point of infection by canker or gall to main stem (measured along the branch)



23. Broadleaf Forest Health Free Growing Damage Criteria

Unless otherwise stated in regulation or an approved FDP or FSP stocking standard, an acceptable hardwood crop tree must:

- not have a tree pith that is laterally displaced more than 30 cm from the location of the root-crown pith¹.
- not originate from a cut stump².
- have at least one dominant live leader³.
- not have a wound that is greater than 10% of the stem circumference nor is greater than 10% of the total length of the stem⁴.
- not have any fungal infections or insect infestations affecting tissues below the bark surface, visible without destructive sampling⁵.
- not be browsed so as to limit its ability to become a crop tree.

- 1 A requirement of the Establishment to Free Growing Guidebook, Prince George Forest Region, May 2000, Appendix 6, Boreal Broadleaf Stocking Guidelines, BWBS.
- 2 Stems originating from the sides or cut surface of stumps are very susceptible to breakage at the coppice point
- 3 The objective is that the tree has a single stem that will develop into a healthy crop tree. Accordingly, a healthy, free growing broadleaf tree must have an identifiable live leader. It is not important if a portion, but not all, of the leader is browsed or killed for example by venturia blight.
- 4 This criterion is modified from the conifer criterion, and threshold percent values are chosen subjectively. Research is needed to determine more exactly the size of an open wound at free growing assessment that is likely to limit the development of a healthy crop tree. A wound is defined as an injury in which the cambium is dead or completely removed from the tree exposing the sapwood. Measure the wound across the widest point of the exposed sapwood. Healed-over wounds (= scars) are acceptable. Fire or sunscald damage can also cause wounds. Injury of broadleaf stems is considered an important entry court for decay organisms.
- 5 Visible stem infections include cytospora canker or sooty-bark canker, and visible insect infestations, such as poplar borer. The significance of some diseases, such as armillaria root disease, to aspen is unknown or uncertain, and several cannot be feasibly identified by visual features during free growing surveys.

Appendix C: Stocking Standards – LMH#68

Husby's FSP ammendment is now implementing Land Management Handbook #68 (LMH68) to operationalize stocking standards that are consistent with current data collected, since the release of LMH #28 in 1994. LMH68, first published in 2014, was created to better demonstrate relationships of plant communities specific to Haida Gwaii. Future site plans will also align accordingly based on the same principles (plant species, tree productivity, etc.) to environmental properties of SMR and SNR, the LMH28 had originally been written for humus form, soil properties (e.g., texture, CFC), slope position will also aid in site-level ecosystem classifications.

CWHwh1 – even aged

BGC Classification		Ecological Suitability for a Timber Objective				Regeneration and Free Growing Stocking Standard									
Zone/ SZ	Site Series	Conifer Species				RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Free Growing Assessment Period		Minimum Height at Free Growing
		Primary	Secondary	Tertiary	Broad- leaf Species				Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species- Height (m)
CWHwh1	101a	Hw Ss Cw			Dr	1047994	Hw Ss Cw	Dr Yc	900	500	400	6	14	20	Ss-3.0, Hw-2.0, Cw-1.5, Dr-4.0
CWHwh1	101b	Hw Ss Cw			Dr		Hw Cw	Ss Dr Yc	900	500	400	6	14	20	Ss-3.0, Hw-2.0, Cw-1.5, Dr-4.0
CWHwh1	102	Cw Hw	Ss	Pl	Dr	1047995	Cw Hw Ss	Pl Dr	900	500	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.25, Dr-3.0
CWHwh1	103.1	Ss		Cw Hw	Dr	1048007	Ss	Cw Hw Dr	400	200	200	6	11	20	Ss-2.0, Hw-1.25, Cw-1.25, Dr-3.0
CWHwh1	103.2	Ss		Cw Hw	Dr		Ss	Cw Hw Dr	400	200	200	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Dr-3.0
CWHwh1	104	Ss		Cw Hw	Dr		Ss	Cw Hw Dr	900	500	400	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Dr-3.0
CWHwh1	105a	Cw Ss	Hw		Dr	1047996	Cw Ss	Hw Dr	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Dr-4.0

CWHwh1	105b	Cw Ss	Hw		Dr		Cw Ss	Hw Dr	800	400	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Dr-4.0
CWHwh1	110a	Cw Hw		Pl Ss	Dr	1047998	Cw Hw	Pl Yc Dr	900	500	400	6	11	20	Hw-1.25, Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0
CWHwh1	110b	Cw Hw		Pl Ss	Dr		Cw Hw	Pl Yc Dr	900	500	400	6	11	20	Hw-1.25, Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0
CWHwh1	111a	Cw Ss	Hw		Dr	1047999	Cw Ss	Hw Dr Yc	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Dr-4.0
CWHwh1	111b	Cw Ss	Hw		Dr		Cw Ss Dr	Hw Yc	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Dr-4.0
CWHwh1	111c	Cw Ss	Hw		Dr		Cw Ss	Hw Dr Yc	800	400	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Dr-4.0
CWHwh1	112	Ss	Cw Hw		Dr	1048001	Ss	Cw Hw Dr	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Dr-4.0
CWHwh1	113	Ss	Cw	Hw	Dr	1048002	Ss	Cw Dr	900	500	400	6	11	14	Ss-4.0, Cw-2.0, Dr-4.0
CWHwh1	114	no conifers		Ss	Dr		no conifers		-	-	-	-	-	-	-
CWHwh1	115	Cw	Hw Yc	Hm Pl	Dr	1048003	Cw Hw Yc	Pl Dr	800	400	400	6	11	20	Hw-1.25, Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0
CWHwh1	116	Cw Ss	Hw		Dr	1048000	Cw Ss Yc	Hw Dr	800	400	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Yc-2.0, Dr-4.0
CWHwh1	117	Ss	Cw	Hw	Dr		Ss	Cw Dr	400	200	200	6	11	20	Ss-2.0, Cw-1.25, Dr-3.0
CWHwh1	118a	Cw	Ss	Hw Pl Yc	Dr	1048005	Cw	Ss Yc Dr	800	400	400	6	11	20	Ss-2.0, Cw-1.25, Yc-1.25, Dr-3.0
CWHwh1	118b	Cw		Hw Pl Yc Ss	Dr	1048006	Cw	Ss Yc Dr	800	400	400	6	11	20	Ss-2.0, Cw-1.25, Yc-1.25, Dr-3.0
CWHwh1	Wb51	Pl		Cw Yc		1048004	Pl	Cw Yc Dr	400	200	200	6	11	20	Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0

CWHwh2 – even aged

BGC Classification		Ecological Suitability for a Timber Objective				Regeneration and Free Growing Stocking Standard										
Zone/ SZ	Site Se- ries	Conifer Species				Broad- leaf Species	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Free Growing As- sessment Period		Minimum Height at Free Grow- ing
		Primary	Secondary	Tertiary	Target					MIN pa	MIN p	Earliest (yrs)		Latest (yrs)	Species- Height (m)	
(well-spaced/ha)																
CWHwh2	101a	Hw Yc	Cw Ss	Hm		1048013	Hw Ss Yc	Cw Hm Dr	900	500	400	6	11	20	Hw-2.0, Cw-1.5, Ss-1.5, Yc-1.5, Hm-1.0, Dr-3.0	
CWHwh2	101b	Hw Yc	Cw Ss	Hm			Hw Yc	Cw Hm Ss Dr	900	500	400	6	11	20	Hw-1.5, Cw-1.2, Ss-1.2, Yc-1.2, Hm-1.0, Dr-3.0	
CWHwh2	101c	Hw Yc	Cw	Hm Ss		1048014	Hw Yc	Cw Hm Ss Dr	900	500	400	6	11	20	Hw-2.0, Cw-1.5, Ss-1.5, Yc-1.5, Hm-1.0, Dr-3.0	
CWHwh2	110	Hw Yc	Cw Ss	Hm		1048015	Hw Ss Yc	Cw Hm Dr	900	500	400	6	11	20	Hw-2.0, Cw-1.5, Ss-1.5, Yc-1.5, Hm-1.0, Dr-3.0	
CWHwh2	111	Yc	Hw Hm	Cw Ss		1048017	Yc	Cw Hw Hm Dr	400	200	200	6	11	20	Hw-1.25, Cw-1.25, Hm-0.75, Dr-3.0	
CWHwh2	112a	Hw Yc	Cw Ss			1048016	Hw Yc Ss	Cw Hm Dr	800	400	400	6	11	20	Hw-2.0, Cw-1.5, Ss-1.5, Yc-1.5, Hm-1.0, Dr-3.0	
CWHwh2	112b	Yc	Cw Hw Ss	Hm		1048018	Yc Ss	Cw Hw Hm Dr	800	400	400	6	11	20	Hw-1.25, Cw-1.25, Ss-1.0, Yc-1.25, Hm-0.75, Dr-3.0	

CWHvh3 – even aged

BGC Classification		Ecological Suitability for a Timber Objective				Regeneration and Free Growing Stocking Standard										
Zone/ SZ	Site Series	Conifer Species				Broad- leaf Species	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Free Growing As- sessment Period		Minimum Height at Free Grow- ing
		Primary	Secondary	Tertiary	Target					MIN pa	MIN p	Earliest (yrs)		Latest (yrs)	Species- Height (m)	
(well-spaced/ha)																
CWHvh3	101a	Cw Hw	Pl Yc	Ss	Dr	1047953	Cw Hw Yc	Pl Dr	900	500	400	6	14	20	Hw-2.0, Cw-1.5, Pl-1.5, Yc-1.5, Dr-3.0	
CWHvh3	101b	Cw Hw	Pl Yc		Dr	1047954	Cw Hw Yc	Pl Dr	800	400	400	6	14	20	Hw-1.25, Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0	
CWHvh3	101c	Cw Hw	Pl Yc		Dr	1047955	Cw Hw Yc	Pl Dr	800	400	400	6	14	20	Hw-1.25, Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0	
CWHvh3	102	Pl	Cw Yc	Hw	Dr	1047952	Pl Cw Yc	Dr-3.0	400	200	200	6	11	20	Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0	
CWHvh3	103.1	Ss		Cw Hw	Dr	1047989	Ss	Cw Hw Dr	400	200	200	6	11	20	Ss-2.0, Hw-1.25, Cw-1.25, Dr-3.0	
CWHvh3	103.2	Ss		Cw Hw	Dr		Ss	Cw Hw Dr	400	200	200	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Dr-4.0	
CWHvh3	104	Ss		Cw Hw	Dr		Ss	Cw Hw Dr	900	500	400	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Dr-4.0	
CWHvh3	105a	Hw Cw Ss		Yc	Dr	1047956	Hw Cw Ss	Yc Dr	900	500	400	6	14	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0	
CWHvh3	105b	Hw Ss Cw		Yc	Dr		Hw Ss Cw	Yc Dr	800	400	400	6	14	20	Ss-3.0, Cw-1.5, Yc-1.25, Hw-1.5, Dr-3.0	
CWHvh3	106a	Cw Ss	Hw	Yc	Dr	1047957	Cw Ss	Hw Yc Dr	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0	

CWHvh3	106b	Cw Ss	Hw	Yc	Dr		Cw Ss	Hw Yc Dr	800	400	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0
CWHvh3	106c	Cw Ss	Hw	Yc	Dr		Cw Ss	Hw Yc Dr	800	400	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0
CWHvh3	110a	Cw Ss	Hw	Yc	Dr	1047958	Cw Ss	Hw Yc Dr	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0
CWHvh3	110b	Cw Ss	Hw	Yc	Dr	1047958	Ss Cw	Hw Yc Dr	800	400	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0
CWHvh3	110c	Cw Ss	Hw	Yc	Dr	1047958	Cw Ss	Hw Yc Dr	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0
CWHvh3	111	Ss	Ss	Hw Cw	Dr	1047983	Ss	Hw Cw Dr	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Hw-1.75, Dr-4.0
CWHvh3	112	Ss	Cw	Hw	Dr	1047984	Ss	Cw Dr	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Hw-1.75, Dr-4.0
CWHvh3	113	no conifers		Ss	Dr		-	no conifers	-	-	-	-	-	-	-
CWHvh3	114	Cw Ss	Hw	Yc	Dr	1047982	Cw Ss	Hw Yc Dr	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75, Dr-4.0
CWHvh3	115	Cw Hw Yc	Pl		Dr	1047985	Cw Hw Yc	Pl Dr	800	400	400	6	11	20	Hw-1.25, Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0
CWHvh3	116	Ss	Cw	Hw	Dr	1047986	Ss	Cw Dr	400	200	200	6	11	20	Ss-2.0, Cw-1.25, Dr-3.0
CWHvh3	117a	Cw Yc	Ss	Pl Hw	Dr	1047987	Cw Yc	Ss Dr	400	200	200	6	11	20	Ss-2.0, Cw-1.25, Yc-1.25, Dr-3.0
CWHvh3	117b	Cw Yc		Hw Pl Ss	Dr	1047988	Cw Yc	Hw Dr	400	200	200	6	11	20	Hw-1.25, Cw-1.25, Yc-1.25, Dr-3.0
CWHvh3	Wb53	Cw Pl Yc				1047986	Cw Pl Yc	Dr	400	200	200	6	11	20	Pl-1.25, Cw-1.25, Yc-1.25, Dr-3.0

MHwh – even aged

BGC Classification		Ecological Suitability for a Timber Objective				Regeneration and Free Growing Stocking Standard										
Zone/ SZ	Site Series	Conifer Species				Broad- leaf Species	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density			Regen. Delay (max yrs)	Free Growing As- sessment Period		Minimum Height at Free Growing Species-Height (m)
		Primary	Secondary	Tertiary	Target					MIN pa	MIN p	Earliest (yrs)		Latest (yrs)		
(well-spaced/ha)																
MHwh	101a	Hm Yc	Hw Ss	Cw		1048019	Hm Yc	Hw Ss	800	400	400	7	15	20	Ss-1.5, Hm-1.0, Hw-1.0 Yc-1.25	
MHwh	101b	Hm Yc	Hw Ss	Cw			Hm Yc	Hw Ss	800	400	400	7	15	20	Ss-1.5, Hm-1.0, Hw-1.0, Yc-1.25	
MHwh	101c	Hm Yc	Hw	Cw		1048022	Hm Yc	Hw	800	400	400	7	15	20	Hw-1.0, Hm-1.0, Yc-1.25	
MHwh	102	Hm Yc	Pl	Cw		1048020	Hm Yc	Pl	400	200	200	6	12	20	Pl-1.3, Hm-0.75, Yc-0.75	
MHwh	110	Hm Yc	Ss	Cw Hw		1048021	Hm Yc	Ss	800	400	400	7	15	20	Ss-1.5, Hm-1.0, Yc-1.25	
MHwh	111	Hm Yc	Ss	Cw Hw		1048024	Hm Yc	Ss	800	400	400	7	15	20	Ss-1.5, Hm-1.0, Yc-1.25	
MHwh	Wb53	Yc	Pl Hm	Cw		1048026	Yc	Hm Pl	400	200	200	6	12	20	Pl-1.3, Hm-0.75, Yc-1.25	

Appendix D: Stocking Standards – LMH #28

CWHwh1 – even aged

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
01	Hw/2.0	900	500	2.00 (Dr/1.5)	6	20
	Ss/3.0					
	Cw/1.2					
	Dr/4.0					
01s	Hw/2.0	900	500	2.00	6	20
	Cw/1.2					
	Ss/3.0					
	Plc/2.0					
02	Cw/1.2	900	500	2.00	6	20
	Hw/1.3					
	Plc/1.3					
	Ss/2.0					
03	Ss/3.0	900	500	2.00 (Dr/1.5)	6	20
	Cw/2.0					
	Hw/2.8					
	Yc/1.2					
	Dr/4.0					
04	Cw/1.2	900	500	2.00 (Dr/1.5)	6	20
	Hw/1.3					
	Yc/1.2					
	Plc/1.3					
	Ss/2.0					
	Dr/4.0					
05	Hw/2.8	900	500	2.00 (Dr/1.5)	6	20
	Cw/1.2					
	Ss/3.0					
	Dr/4.0					
06	Hw/2.8	800	400	1.50	6	20
	Cw1.2					
	Yc/1.2					
	Ss/3.0					
	Hm/2.8					
	Dr/4.0					
07	Ss/3.0	900	500	2.00 (Dr/1.5)	6	20

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
	Cw/2.0					
	Hw/2.8					
	Dr4.0					
08	Ss/3.0	900	500	2.00 (Dr/1.5)	6	20
	Cw/2.0					
	Dr/4.0					
10	Cw/1.2	800	400	1.50	6	20
	Yc/1.2					
	Hw/1.3					
	Plc/1.3					
	Ss/2.0					
	Hm/0.8					
11	Plc/1.3	400	200	1.50	6	20
	Cw/1.2					
	Yc/1.2					
12	Cw/1.2	800	400	1.50	6	20
	Hw/1.3					
	Yc/1.2					
	Plc/1.3					
	Ss/1.3					
13	Cw/1.2	400	200	1.50	6	20
	Hw/1.3					
	Plc/1.3					
	Ss/2.0					
14	Ss/3.0	900	500	2.00	6	20
	Hw/2.0					
	Cw/1.5					
15	Ss/3.0	400	200	1.50	6	20
	Cw/1.5					
	Plc/2.0					
	Hw/2.0					
16	Ss/3.0	900	500	2.00	6	20
	Hw/2.0					
	Cw/1.5					
17	Ss2.0	400	200	1.50	6	20
	Cw/1.2					
	Hw/1.3					
18	Ss/2.0	400	200	1.50	6	20

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
*Mixed wood strategy on the CWHwh1 site series' 03, 05, 06, 07, and 08: where red alder is being managed as a leading species it will comprise $\geq 80\%$ of the Free Growing stand; the target density will be 800–1200 sph; estimated rotation age of 50–70 years, with a target of 30cm dbh at rotation age.						

CWHwh2 – even aged

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
01	Hw/2.0	900	500	2.00	6	20
	Cw/1.2					
	Ss/1.5					
	Yc/1.5					
	Hm/1.0					
02	Hw/2.0	900	500	2.00	6	20
	Cw/1.2					
	Yc/1.5					
	Ss/1.5					
	Hm/1.0					
03	Hw/2.0	900	500	2.00	6	20
	Cw/1.2					
	Yc/1.5					
	Ss/1.5					
04	Hw/2.0	800	400	1.50	6	20
	Cw/1.2					
	Yc/1.5					
	Ss/1.5					
05	Yc/1.2	400	200	1.50	6	20
	Cw/1.2					
	Hw/1.3					
	Hm/0.8					
	Ss/1.0					
06	Yc/1.2	800	400	1.50	6	20
	Cw/1.2					
	Hw/1.3					
	Hm/0.8					
	Ss/1.0					

CWHvh2 – even aged

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
01	Cw/1.2	900	500	2.00 (Dr/1.5)	6	20
	Hw/2.0					
	Yc/1.5					
	Dr/4.0					
	Ss/3.0					
	Plc/1.3					
02	Plc/1.3	400	200	1.50	6	20
	Cw/1.2					
	Yc/1.2					
	Hw/1.3					
03	Cw/1.2	800	400	1.50 (Dr/1.5)	6	20
	Hw/1.3					
	Plc/1.3					
	Yc/1.2					
	Ss/2.0					
	Dr/4.0					
04	Hw/1.8	900	500	2.00 (Dr/1.5)	6	20
	Ss/3.0					
	Cw//1.2					
	Dr/4.0					
	Yc2.0					
05/06	Cw/1.5	900	500	2.00 (Dr/1.5)	6	20
	Ss/3.0					
	Hw/1.8					
	Yc/1.5					
	Dr/4.0					
07	Cw/1.5	900	500	2.00 (Dr/1.5)	6	20
	Ss/3.0					
	Hw/1.8					
	Yc/1.5					
	Dr/4.0					
08	Ss/3.0	900	500	2.00 (Dr/1.5)	6	20
	Cw/1.5					
	Hw/1.8					
	Dr/4.0					
09	Ss/4.0	900	500	2.00	6	20
	Hw/1.8					
	Cw/1.5					

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
11	Cw/1.2	800	400	1.50	6	20
	Yc/1.2					
	Hw/1.3					
	Plc/1.3					
12	Cw/1.2	400	200	1.50	6	20
	Yc/1.2					
	Plc/1.3					
13	Cw/1.2	800	400	1.50	6	20
	Yc/1.2					
	Ss/2.0					
	Hw/1.3					
	Plc/1.3					
14	Ss/2.0	400	200	2.00	6	20
	Cw/1.2					
	Hw/1.3					
	Plc/1.3					
15	Ss/3.0	900	500	2.00	6	20
	Cw/1.5					
	Hw/2.0					
16	Ss/3.0	400	200	2.00	6	20
	Cw/1.5					
	Hw/2.0					
	Plc/1.5					
17	Ss/2.0	900	500	2.00	6	20
	Cw/1.2					
	Hw/1.3					
18	Ss/2.0	400	200	2.00	6	20
	Cw/1.2					
*Mixed wood strategy on the CWHvh2 site series' 03, 04, 05/06, 07 and 08: where red alder is being managed as a leading species it will comprise ≥ 80% of the Free Growing stand; the target density will be 800–1200 sph; estimated rotation age of 50–70 years, with a target of 30cm dbh at rotation age.						

MHwh – even aged

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
01	Hw/1.0	900	500	2	6	20

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
	Yc/1.2					
	Hm/1.0					
	Cw/1.2					
	Ss/1.5					
02	Hm/1.0	400	200	1.5	6	20
	Yc/1.2					
	Cw/1.2					
	Hw/1.0					
	Ss/1.0					
03	Hw/1.0	900	500	2	6	20
	Ss/1.5					
	Cw/1.2					
	Yc/1.2					
	Hm/1.0					
04	Cw/1.2	900	500	2	6	20
	Yc/1.2					
	Hw/2.0					
	Hm/1.0					
	Ss/2.0					
05	Cw/1.2	900	500	2	6	20
	Yc/1.2					
	Hw/2.0					
	Hm/1.0					
	Ss/1.5					
	Plc/2.0					
06	Cw/1.2	800	400	1.5	6	20
	Yc/1.2					
	Hw/0.8					
	Hm/0.8					
	Ss/1.5					
07	Cw/1.2	900	500	1.5	6	20
	Yc/1.2					
	Hw/0.8					
	Hm/0.8					
	Ss/1.0					
08	Cw/1.2	400	200	1.5	6	20
	Yc/1.2					
	Hw/0.8					

Site Series	Species and Min. FG height (m)	Target Stocking Standard (sph)	Min Stocking Standard (sph)	Min Inter-tree Distance (m)	Regen Date (years)	FTG (years)
	Hm/0.8					
09	Cw/1.2	800	400	1.5	6	20
	Yc/1.2					
	Hw/0.8					
	Hm/0.8					
	Ss/1.0					

Species Acceptability

Ecologically suitable species are provided in the stocking standards in the tables above. The suitability/acceptability of regeneration will be determined in the field by a Qualified Professional based on site-specific soil moisture, nutrient, aspect, and elevation characteristics and tree performance in response to the site. Tree species that are ecologically suitable and commercially valuable are listed in the standards provided in Appendix B.

Sitka Spruce (Ss)

On marginal sites: CHWwh1 (101, 102, 116); CWHwh2 (101, 112); CWHvh3 (105); and MHwh (101, 111,) where Ss is accepted, it will only be accepted to a maximum of 50% of the minimum stocking density. Furthermore, on these sites, Ss will be limited in terms of its acceptance at regen and Free-Growing to microsites that are medium or better, in terms of productivity (Soil Nutrient Regimes C-E). Sitka spruce will be targeted on elevated and productive microsites. In terms of elevation, Ss will be focused on lower elevation sites (especially in the MH subzone) and planted within the applicable elevation range for the stock.

Lodgepole Pine (Plc)

On marginal sites: CHWwh1 (102, 110, 115, Wb51); CWHvh3 (101, 102, 115, Wb53/54); and MHwh (102, Wb53/54) where Plc is accepted, it will only be accepted to a maximum of 50% of the minimum stocking density. Furthermore, on these sites, Plc will be limited in terms of its acceptance at regen and Free Growing to microsites that are medium or poorer, in terms of productivity (Soil Nutrient Regimes A-C). Lodgepole pine will be targeted on depressions, folisolic, and other poor productivity microsites.

Red Alder (Dr)

Natural red alder ingress will be defaulted to a preferred species on all sites within 3 metres of any stream banks where harvesting is permissible.

An acceptable red alder crop tree must:

- 1) Be free from brush competition (consistent with the crop tree to brush height ratio for the BEC applicable BEC unit).
- 2) Not have a tree pith that is laterally displaced more than 30cm from the location of the root-crown pith.
- 3) Not originate from a cut stump.
- 4) Have one dominant live leader.

- 5) Not have a wound that is greater than 10% of the stem circumference nor is greater than 10% of the total length of the stem.
- 6) Not have any fungal infections or insect infestations affecting tissues below the bark surface, visible without destructive sampling.
- 7) Not be browsed so as to limit its ability to become a crop tree.

Minimum Inter-Tree Distance

Minimum inter-tree distances have been specified in the stocking standards tables above; however, for all sites, the minimum inter-tree distance may be reduced to 1.5m in the following circumstances:

- 1) within the roadside work area as defined in FPPR s.35(1); or
- 2) immediately adjacent to stream or riparian areas, naturally Non-Productive Areas, or areas (50m²) covered with unplantable slash; or
- 3) on helicopter logged areas; or
- 4) on any talus site; or
- 5) immediately adjacent to retained single trees.

Brush Competition at Free Growing

The crop tree to brush height ratio at Free Growing is as follows:

- 1) For CWHwh1, CWHwh2 and CWHvh3 BEC units, the ratio is 150%.
- 2) For MHwh BEC Units, the ratio is 125%.

Mixed Conifer–Hardwood Management

Red alder may be the leading species in mixed-hardwood/ conifer (i.e., micro-patch mixed wood) management situations. Where red alder is the leading species ($\geq 80\%$), the hardwood stocking standard may be applied. Where red alder is not the leading species, it will not be accepted as a crop tree.

On an annual basis, the Plan Holder area to be managed to hardwood stocking standards will be a maximum of 100ha.

Where red alder is included as a suitable species, the strategy will to pre-stratify the development area, and assign conifer or red alder stocking standards, as appropriate, consistent with the Site Plan. The minimum patch size for identifying and assigning the alder stocking standard will be 0.25ha.

Appendix E: Land Use Order Schedules

Haida Gwaii Land Use Orders Schedules can be found in the following link:

http://www.haidagwaiimanagementcouncil.ca/land_use_orders.html