Taan FOREST
From the land and spirit of the Haida.

Taan Forest Ltd & LP

Forest Stewardship Plan

2023 to 2028

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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 FPRA or the FPPR, the order of precedence is as follows: the HGLUOO, then the FRPA, then the FPPR.

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

"Plan Holder" means the signatories to the FSP, as indicated in Table 1, below.

"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. The Adaptive Management Plan will be submitted to the Solutions Table and if approved will be incorporated within a Site Plan and/or incorporated into an Operational Plan such as a Road Plan or Harvest Plan.

"Active Bear Den" for the purposes of "Black Bear Dens" Section 2 means a Black Bear Den identified by a Qualified individual that either has a bear physically occupying the den or illustrates that a bear is using that den by evidence of bear sign such as scat in the immediate area, used bear trails, recent scratching on the den tree or surrounding trees, bear tracks, new carpentry work n the entrance, new bedding material in the den for over winter use in that year of the assessment and requires additional steps for protection.

"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.

"Black Bear Den" is a cavity within a tree, a snag, a stump, or log, greater than 0.80 meters in diameter which shows evidence of use by Black Bears for winter hibernation

"Cedar" means, unless specified otherwise, Western Red Cedar (*Thuja plicata*) or Yellow Cedar (*Cupressus nootkatensis*).

"CMT" means culturally modified tree, as defined in the HGLUOO. Furthermore, as noted within the HGLUOO, s. 1(2), the HGLUOO conflicts with FPPR s. 10. However, consistent with FPPR s. 12(4), the objective established under the HGLUOO prevails regarding the date provided for a CMT (i.e., is 1920, rather than 1846, as defined under the Heritage Conservation Act and referenced in the FPPR).

The "Development Area" becomes the "footprint" of a cutblock. The Development Area represents the area encompassed by the Plan Holder for the management of HGLUOO features and HGLUOO objectives, WTRA and road access to meet HGLUOO and FRPA/ FPPR requirements by cutblock. The Development Area may be equal to but not greater than the area covered in the CFI. Development Area "footprints" are tracked spatially and reported to the Council of the Haida Nation (CHN), will be shown on information maps provided during permit

applications and will be part of the Site Plan. If another "footprint" from another harvest area falls within the original "footprint" of an old harvest area, the Plan Holder will make sure the integrity of the initial "footprint" is protected to ensure no features are removed that were intended to be retained to represent the first cutblock, unless additional features can be found to replace those being harvested for the new block.

"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 the tree is lying on the 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.

"Forest Swamp" means an ecological area for protection as defined under schedule 10 of the HGLUOO.

"Important Bird Areas" means places that are recognized globally and that are of international significance for the conservation of birds and biodiversity of threatened birds or large groups of birds.

"Operational Feasibility" means that a Qualified Professional or operational specialist 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. An intergovernmental process will occur when operational feasibility is used as a rationale to adhere to a result or strategy.

"Practicable" means capable of being successfully done, effected, or put into practice with available means and feasibility. Factors to consider in order, may include, but are not limited to: Cultural value of resource to protect; environmental risk of alternative options; development area and current and future economic opportunities.

"Qualified Individual" means a trained person or a person holding credentials to carry out an activity specifically aligned with the training or the credentials.

"Qualified Professional" means an applied scientist or technologist who is registered and in good standing with an appropriate B.C. professional organization constituted under an Act. A Qualified Professional must be acting under that association's code of ethics, and subject to the organization's disciplinary action.

"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 the road (not adjacent), a highway rest stop, recreation site park, marine anchorage, group of homes, settlement or community or a tourist-related commercial enterprise. Viewpoints are established on Haida Gwaii for the completion of Visual Quality analysis.

"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 located in a development area to assist in meeting the land use objectives in this plan.

Stand Level Retention for yew will include "the yew patch(s)" and as many other trees creating shade to the yew 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 LUO Schedule 5. 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 LUO Schedule 5. As site-series information is required to reference Schedule 5, the Plan Holder will need to determine the dominant site-series by field verifying the site-series.
- 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).

Only one method of measuring tree length will be utilized within a development area. The method utilized will be indicated within the site plan for the development area.

In most cases, the Plan Holder is utilizing the dominant site series and Schedule 5 of the HGLUOO to determine tree lengths. Using this method is auditable, measurable, and verifiable. The dominant ecosystem that the feature is in will be used for reserve and/or management zone tree height of the feature – not the ecosystem that is adjacent to the feature. For example, the dominant ecosystem that a type 1 stream is in will be utilized to cross-reference with Schedule 5 of the HGLUOO to determine the tree-length for the reserve and applicable management zone width. For a single stem feature such as a devil's club stem, CMT or Monumental, the dominant ecosystem that the feature is in will be utilized to cross-reference with Schedule 5 of the HGLUOO.

If the tallest tree is utilized, the tallest tree will be picked adjacent to the feature, dimensions will be documented in the site plan, and the tree will be clearly marked in the field. For example, if determining the management zone width along a type I stream the tallest tree along the stream and stream reserve will be utilized for the reserve and management zone width. For a single stem feature such as a devil's club stem, CMT or Monumental the tallest tree within the reserve zone of the single stem will be utilized for the reserve and management zone width.

"High priority invasive plants" are those listed in Table 11.

"Village Councils" means the village councils of the villages Masset, Old Massett, Port Clements, Daajing Giids, Skidegate, and the regional district representatives.

"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" a Western Yew tree that is not included in a Western Yew Patch.

The abbreviation "s." is used to indicate a numbered section or sections of the indicated Act or Regulation.

The capitalized word "Section" or "Sub-section" is used in the singular or plural to refer or cross-refer to a numbered clause or section within this FSP.

Where the HGLUOO or Schedules contained therein are referenced in this Plan, they 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

“AOA” means an Archeological Overview Assessment completed by a Professional Archeologist.

“BEC” means Biogeoclimatic Ecosystem Classification

“CFI” means Cultural Feature Identification

“CHN” means the Council of the Haida Nation

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

“CP” means Cutting Permit

“DDM” means Delegated Decision Maker

“ECA” means Equivalent Clearcut Area

“FSC™” means Forest Stewardship Council

“FSP” means Forest Stewardship Plan

“FDU” means Forest Development Unit

“FNWL” means First Nation Woodland Licence

“FRPA” means the Forest and Range Practices Act

“FPPR” means the Forest Planning and Practices Regulation

“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

“LP” means Limited Partnership

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

“HGLUOO” means the Haida Gwaii Land Use Objectives Order (dated December 16, 2010 and amended from time to time)

“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 Plant Council

“PAS” mean Permanent Access Structure

“RBA” means Residual Basal Area

“RMA” means Riparian Management Area

“RMZ” means Riparian Management Zone “RP” means Road Permit

"RRZ" means Riparian Reserve Zone

"SPH" means Stems per Hectare

"TEM" mean Terrestrial Ecosystem Mapping

"TFL" means Tree Farm License

"TL" means Timber License

"TSA" means Timber Supply Area

"TSL" means Timber Sale License

"VQO" means Visual Quality Objectives

"WHA" means Wildlife Habitat Area

3.0 Application

Regulation: s. FRPA 3(4).

Plan Signatories and Tenures

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

Table 1: Plan Signatory and Tenures.

Plan Signatory	Tenure	FDU
Taan Forest LP Taan Forest Ltd	TFL 60	A
	FNWL N1G	A

Designations in Effect Prior to Submission

Regulation: FPPR. 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 Goshawk: 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 Daajing Giids Community Watershed	A	June 15, 1995 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 Sites (not included in Designation but that will be managed for as sites)	Mosquito Lake and Poppa Johns	A	
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 or RP (in effect at the Date of Submission) held by the Plan Holders.

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

Table 3: Active Cutting Permits.

Plan Signatory	Tenure	Approved CPs
Taan Forest LP Taan Forest Ltd	TFL 60	110, 111, 206, 403, 501, 602, 901, 952
	FNWL N1G	028, 029, 030, 031, 032, 033, 034, 652, 704

Table 4: Active Road Permits.

Plan Signatory	Tenure	Approved RPs
Taan Forest LP Taan Forest Ltd	TFL 60	R13328, R13346, R13347, R13348, R13349, R13350
	FNWL N1G	R23640

Table 5: Active Salvage Permits.

Plan Signatory	Tenure	Approved CPs
Taan Forest LP Taan Forest Ltd	TFL 60	901, 952
	FNWL N1G	654, 704

Table 6: Declared Areas.

Plan Signatory	Tenure	Declared Areas	
		Cutblocks	Roads
Taan Forest LP Taan Forest Ltd	TFL 60	BUC005, IAN020, HAA007, WAS001, MAT016	N/A
	FNWL N1G	LAW003, GRA006	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 Council of the Haida Nation and Provincial DDM and expires 5 years after the date of approval, or another date specified in writing by the Minister or CHN and Provincial DDM.

The approval date is May 22nd 2023, result in an expiry date of May 21st, 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 and 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	1.1. The Plan Holder will not harvest within Cedar Stewardship Areas (CS Areas) (as identified in the HGLUOO, Schedule 3). 1.2. Despite Objective 1.1. above, circumstances may arise where harvesting within Cedar Stewardship Area(s) (CS Area) is required by the plan holder because of access requirements, operational feasibility, safety, or other concerns. Up to 10% of the total area of cedar stewardship area may be harvested for commercial purposes, of which up to 250ha may be harvested in a 10 year period, provided that: 1.2.1. an intergovernmental process is completed; and 1.2.2. cultural values within the specific cedar stewardship area proposed for harvesting area identified in accordance with section 4 of HGLUOO; and 1.2.3. and the distribution of harvest is proportional to the occurrence of cedar stewardship areas with the FDU. 1.3. The Plan Holder will maintain a ledger and work with other forest licensees to ensure that no more than 10% of the total area of all cedar stewardship areas throughout all landscapes units are harvested for commercial purposes. No more than 250 hectares of combined cedar stewardship areas may be harvested in a 10-year period across all landscape units 1.4. Despite 1.1. & 1.2.1 to 1.2.3., harvesting within a CSA may be conducted at the discretion of the Council of the Haida Nation for management purposes of Cedar Stewardship Areas, as long as it is in accordance with the applicable legislation including but not limited to the CHN's CSA Management Plan, Provincial Government approvals and does not contribute to 1.2. 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 cannot exceed 250.00ha

Objective 2	**Culture Feature Identification**
Regulation	HGLUOO s. 4.
Results & Strategy	2.1. A Cultural Features Identification Survey will be completed and submitted prior to Cutting Permit or Road Permit submission, to the CHN, for the proposed area by a surveyor certified by and in good standing with the Council of the Haida Nation. The CFI will be submitted 30 days prior to Cutting Authority Application submissions. If a CFI is not required a rationale will be submitted with the CP or RP application.

Objective 3	**Haida Traditional Heritage Features**
Regulation	HGLUOO s. 5.
Results & Strategy	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: 3.1.1. Known HTHFs will be illustrated on a map at the planning stages for CFI work and reconnaissance of a development area. When planned developments are within a minimum of 1.5 times the distance of the reserve and management zones buffers combined from a known HTHF, the location of the known HTHF will be field verified during the CFI Survey. 3.1.2. A CFI survey will include the total area between the location of the HTHF and the development area. 3.2. Where additional Class 1 or 2 features could be present, based on the results of an AOA, CFI findings and/or information provided by the CHN regarding Class 1 & 2 HTHF's and Archaeological sites, the AIA survey area will extend a minimum of the reserve and management zone(s) width required to buffer a Class 1 HTHF beyond the proposed harvest boundary. 3.3. Archaeology information shared with the Plan Holder by the CHN will not be illustrated on maps that are available to the public, nor will the Plan Holder indicate the type of feature on their field maps, instead the field maps will only illustrate that HTHF is a Class 1 or Class 2 feature. 3.4. The Plan Holder will share findings of Class 1 or 2 features with the CHN to determine the cultural significance of that feature. 3.5. Where potential HTHFs are located, AIAs will be completed by professional archaeologists who hold a valid permit for archaeological work on Haida Tenures including subsurface work and tidal zones where needed. Members of the Haida Nation, preferably those who complete CFI work, will be in attendance with the archaeologists to confirm the finding and search for other HTHF. In addition, a representative of the CHN may attend. 3.6. Where a development area is below 25m in elevation, AIAs will be completed by professional archaeologists and members of the Haida Nation, preferably those who complete CFI work, will be in attendance with the archaeologists to confirm the finding and search for other HTHF. In addition, a representative of the CHN may attend. 3.7. Where any HTHF or Culturally Modified Tree(s) are found, AIAs will be completed by professional archaeologists and members of the Haida Nation, preferably those who complete CFI work, will be in attendance with the archaeologists to confirm the finding and search for other HTHF. In addition, a representative of the CHN may attend. 3.8. Where the CFI surveyor expects a likelihood of subsurface features, AIAs will be

completed by professional archaeologists and members of the Haida Nation, preferably those who complete CFI work, will be in attendance with the archaeologists to confirm the finding and search for other HTHF. In addition, a representative of the CHN may attend.

3.9. Where archaeological evidence is documented in an adjacent area, AIAs will be completed by professional archaeologists and members of the Haida Nation, preferably those who complete CFI work, will be in attendance with the archaeologists to confirm the finding and search for other HTHF. In addition, all confirmed findings by the archaeologists will be recorded and submitted to the Council of The Haida Nation and to the Provincial Archaeological Site Registry through the BC Archaeology Branch. This will ensure site registration, documentation, and location of the feature to enable protection of the archaeological feature under the Heritage Conservation Act.

3.10. Where Class 1 HTHFs exist, they will be retained and a 500m (minimum width) reserve zone, measured from the edge of the HTHF, will be maintained to protect the HTHF, subject to 3.10.1. and 3.10.2. below.

3.10.1. Where a reduction in the reserve zone 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 zone consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the BC Archaeological Branch.

3.10.2. Where necessary to address site-specific values, the reserve zone 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 zone area within the development area. Site-specific values will be determined by the signing Forester and documented within the Site Plan.

3.11. Where Class 2 HTHFs exist, they will be retained and a 100m (average width) reserve zone, measured from the edge of the class 2 HTHF, will be maintained to protect the class 2 HTHF, subject to 3.11.1. and 3.11.2. below.

3.11.1. Where alteration, removal, or reduction of the Class 2 HTHF or reserve zone 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 zone consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the Archaeological Branch.

3.11.2. Where necessary to address site specific values, the reserve zone 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 zone area within the development area. Site specific values will be determined by the signing Forester and documented within the Site Plan.

3.12. When HTHF are located they will be recorded under the Province of British Columbia archaeological site registry.

3.13. Where alteration, removal or reduction of the Class 2 HTHF or reserve zone 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 zone consistent with the outcome of a completed intergovernmental process and in accordance with an alteration permit issued by the Archaeological Branch. 3.14. Where necessary to address site-specific values, the reserve zone 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 zone area within the development area. Site-specific values will be determined by the signing Forester and documented within the Site Plan. 3.15. The Plan Holder will complete an Archaeological Impact Assessment if within the Cultural Feature Identification report any of the following describe a development area: 3.15.1. The development area is below 25 meters in elevation, 3.15.2. any Haida Traditional Heritage Features are found, 3.15.3. any Culturally Modified Trees that are found, 3.15.4. known development is planned to occur between at least two archaeological features (i.e., CMTs) that are within 100 meters of each other, 3.15.5. where the surveyor suspects a likelihood of subsurface features. 3.15.6. where archaeological evidence is documented in an adjacent area (e.g. known traditional use site, village, camp, trail, or an area specifically identified in an Archaeological Overview Assessment).
Objective 4	**Karst**
Regulation	HGLUOO s. 5.
Results & Strategy	4.1. Where Karst Resource Features exist, they will be managed as per Haida Traditional Heritage Features Section 3 above. For the purpose of being consistent with the Government Action Regulation, "Order to Identify Karst Resource Features for the Queen Charlotte Islands", effective September 15, 2006, a karst survey for areas mapped as having "karst potential" as shown on the "Queen Charlotte Islands Karst Distribution" map, dated September 12, 2006, and Karst maps as updated by a Qualified Professional.
Objective 5	**Haida Traditional Forest Feature**
Regulation	HGLUOO s. 6.
Results & Strategy	5.1. Where Class 1 HTFFs are located, they will be retained and a 1.0 tree-length reserve zone, measured from the edge of the HTFF, will be maintained to protect the HTFF. Adjacent to the reserve zone, a 1.0 tree-length (average width) management zone, measured from the edge of the reserve zone, will be maintained to protect the reserve zone, subject to 5.2. and 5.3. below. 5.2. Where necessary to address site-specific values, the Class 1 HTFF management zone identified 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. 5.3. The area of the reserve zone and/or management zone may be modified in shape or size, if necessary for road access, other infrastructure, to address safety concerns or to protect the feature from windfall, provided that an intergovernmental process is completed. 5.4. Despite 5.1. above, the Class 1 HTFF may be altered or removed provided that: 5.4.1. alteration or removal is required for road access and there is no practicable alternative for road location or infrastructure, and 5.4.2. an intergovernmental process is completed. 5.5. Where Class 2 HTFFs are located within a development area, ≥ 50% of the occurrences will be retained in stand level retention and documented in the Site Plan. 5.6. Despite 5.1. above, less than 50% of Class 2 HTFFs can be retained provided the retention of less than 50% is: 5.7. consistent with the outcome of an intergovernmental process, and 5.8. removal is required for road access or other infrastructure and no practicable alternative exists. 5.9. 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: 5.9.1. Prescribing directional falling away from the feature, 5.9.2. Retain non-merchantable trees around the feature to protect it from logging damage, 5.9.3. Prescribing a machine free zone around the feature. 5.10. Despite 5.3., 5.4., and 5.5. above, a Class 2 HTFF may be altered or removed, provided that: 5.11. The alteration or removal is required for road access or other infrastructure and there is no practical alternative; and 5.12. An intergovernmental process is completed. 5.13. HTFF, reserve zones, management zones and stand level retention required under sections 1 to 6 above will be documented and submitted to the CHN and Province of BC annually.
Objective 6	**Cedar Retention**
Regulation	HGLUOO s. 7.

Results & Strategy	6.1. Where development areas are either: 6.1.1. > 10ha and the pre-harvest cedar (Western Red Cedar and Yellow Cedar) content is >30%; or 6.1.2. ≤ 10ha and the pre-harvest cedar (Western Red Cedar and Yellow Cedar) content is >60%. 6.2. The Plan Holder will retain a minimum of 15% of the combined pre-harvest cedar composition of the development area, measured in hectares. The method of determining the pre-harvest cedar content will be documented in the Site Plan. The Plan Holder will use the following strategies to adhere to the 15% cedar retention requirement: 6.2.1. Areas designated to contribute to the cedar retention requirements will be located within reserve zones, management zones and stand level retention areas. 6.2.2. If areas described in a) above are insufficient to meet the cedar retention requirements, then additional cedar retention areas will be retained by locating cedar retention areas that are large and contiguous when possible. 6.2.3. Each cedar retention "area" that contribute to meeting the 15% retention requirement will be >1.0ha in size. A range of diameters of cedars will be retained which are representative of the pre-harvest area, as documented by the signing Forester in the Site Plan documents. 6.3. While adhering to 6.1. and 6.2., the Plan Holder will retain equivalent cedar composition and structure to the pre-harvest stand regarding Western Red Cedar and Yellow Cedar composition and structure. 6.4. The Plan Holder will notify stakeholders, who have requested to be notified in writing, regarding potential cedar bark stripping areas prior to harvesting (preferably after roads are constructed).
Objective 7	**Cedar Stocking**
Regulation	HGLUOO s. 7.
Results & Strategy	7.1. Where development areas have pre-harvest 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 and at the free to grow stage the area will adhere to the minimum post-harvest cedar composition and strategies listed below in Table 8, subject to Section 7.4. 7.2. The cedar commitment will be determined on a cutblock by cutblock basis. The cedar regeneration requirement for a cutblock will be calculated by multiplying the NAR times the appropriate Minimum Post-Harvest Cedar Composition, as indicated in Table 8, below. Location of planted cedar within the cutblock will be at the discretion of the prescribing Forester, and consistent with approved stocking standards.

7.3. The following strategies to meet the objective will be implemented:

7.3.1. Adhere to the cedar commitment via planting and/or natural regeneration measured during silviculture surveys.

7.3.2. At a minimum, plant a representative percentage of Yellow Cedar on site prior to harvest. If Taan's Forester determines that planting more Yellow Cedar would be ecologically suitable considering site factors and climate change then planting additional Yellow Cedar may be prescribed.

7.3.3. Where deer browse hazard is determined by a Qualified Professional to be moderate to high, cedar trees that are planted by the Plan Holder will be protected. Protection measures may include coning, scented deterrents, caging, fencing and/or obstruction planting.

7.3.4. For areas that have been planted with Western Red and/or Yellow Cedar, where the combined cedar content falls below 80% of the Minimum Post-Harvest Cedar Composition requirement, the area will be fill-planted one time. Additional fill-planting (beyond the one fill plant) may be required provided that:

7.3.4.1. The fill-planting is required because of a catastrophic failure such as fire, insect damage or stock health, and/or

7.3.4.2. The area is Surveyed by a Qualified Professional and they indicate that additional planted cedar will survive and be part of the Free Growing Stand.

7.3.5. Regenerated cedar will only be accepted if they are of good form and vigour (refer to Appendix b) and regenerated cedar will only be accepted at the free to grow stage if they are ≥ 1.2m tall.

7.3.6. The cedar regeneration obligation due-date will be no sooner than 6 years, and no later than 20 years, post-harvest commencement. The Plan Holder will complete a cedar requirement survey which will be made available to the CHN and the Haida Gwaii District.

7.4. The cedar regeneration requirement for a given cutblock may be lower than those set in Table 8, provided that the new requirement is consistent with the outcome of a completed intergovernmental process.

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 8	**Cultural Cedar Stands, Culturally Modified Trees, and Monumental Cedar**
Regulation	HGLUOO s. 9.
Results & Strategy	8.1. Where cultural cedar stands are located, they will be retained, and a 0.5 tree-length (minimum width) reserve zone will be maintained to protect the feature. The reserve zone will be protected by maintaining a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve zone, subject to 8.2., 8.3., and 8.4. below. 8.2. 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. Any harvested CMTs will be managed in accordance with the direction of the Haida Nation. Monumental Cedar will be provided to the Cultural Wood Access Program. 8.3. Where a reduction in the size of the cultural cedar stand reserve zone in a development area 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 zone(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the cultural cedar stand is maintained. 8.4. Where a reduction in the size of the cultural cedar stand 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.

8.5. Where CMTs are located, they will be retained, and a 0.5 tree-length (minimum width) reserve zone will be maintained to protect the feature. The reserve zone will be protected by maintaining a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve zone, subject to 8.6., 8.7., and 8.8. below.

8.6. In a development area 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.

8.7. In a development area where a reduction in the size of the CMT reserve zone(s) 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 zone(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the CMT is maintained.

8.8. In a development area where a reduction in the size of the CMT 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.

8.9. Where a monumental cedar > 120cm dbh is located, it will be retained, and a 0.5 tree-length (minimum width) reserve zone will be maintained to protect the feature. The reserve zone will be protected by maintaining a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve zone, subject to 8.10., 8.11., and 8.12. below.

8.10. In a development area 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 to harvest the >120cm monumental for the Cultural Wood Access Program,

8.10.1. the Plan Holder may alter or remove the > 120cm dbh monumental cedar consistent with the outcome of a completed intergovernmental process except when the harvest is requested for the Cultural Wood Access Program. The harvested Monumental Cedar will be provided to the Cultural Wood Access Program in accordance with the Plan Holder's Monumental Cedar SOP.

8.11. In a development area where a reduction in the size of the monumental reserve zone 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 zone(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the monumental cedar is maintained.

8.12. Where a reduction in the size of the monumental management zone(s) 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(s) is maintained. 8.13. When monumental cedars < 120cm dbh are located, they will be retained, and a 0.5 tree-length (minimum width) reserve zone will be maintained to protect the feature. The reserve zone will be protected by maintaining a 1.0 tree-length (average width) management zone, measured from the outer boundary of the reserve zone, subject to 8.16.) and 8.17. below. 8.14. Despite Section 8.13., a < 120cm dbh monumental cedar located in a development area and not located within a cultural cedar stand may be harvested, subject to: 8.14.1 The greater of 10% or one monumental cedar are protected within the development area, and/or 8.14.2. the harvesting of the monumental cedar tree is requested for the Cultural Wood Access Program. 8.15. In a development area where a reduction in the size of the monumental cedar reserve zone 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 zone(s) consistent with the outcome of a completed intergovernmental process and provided the integrity of the monumental cedar is maintained. 8.16. In a development area where a reduction in the size of the monumental cedar 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. 8.17. When monumental cedars are harvested, they all will be marked and provided for the Haida Gwaii Cultural Wood Access Program in accordance with Taan's Monumental Cedar SOP.
Objective 9	**Western Yew Retention**
Regulation	HGLUOO s. 8.
Results & Strategy	9.1. Where Western Yew patches are identified within a development area, they will be protected by establishing stand level retention areas commonly referred to as "yew retention areas". Protecting Western Yew patches is an objective of the HGLUOO "see definition of stand level retention". 9.2. Despite 9.1., Western Yew patches may be altered or removed to accommodate operational requirements for road and bridge construction, where no practicable alternative exists. 9.3. Where individual Western Yew trees are located within a development area and do not meet the definition of a Western Yew patch, individual western yew will be targeted for protection. The majority of individual yew will be placed outside the harvest area 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. 9.4. Despite 9.3., 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 less than 75% of the total stems of Western Yew cannot be retained in the Development Area.
Objective 10	**Type I Fish Habitat**
Regulation	HGLUOO s. 10.
Results & Strategy	10.1. For the purposes of this Plan the locations of Type I Fish Habitat are as indicated in Schedule 4 of the HGLUOO, unless field assessment indicates otherwise. Where there is a conflict between the HGLUOO and the field assessment as to where the Type I Fish Habitat is located, the field assessment shall prevail. 10.2. For the purposes of defining stream riparian classes, the following is provided: The riparian reserve zone begins at the outer edge of the Type I Fish Habitat, including the active floodplain. 10.3. The riparian management zone begins at the outer edge of the riparian reserve zone, or if there is no riparian reserve zone, the edge of the stream channel bank 10.4. 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 zone, measured from the outer edge of the Type I Fish Habitat, will be maintained to protect the Type I Fish Habitat, subject to all of the following: 10.4.1. Where necessary to address site specific values, the Type I reserve zone may be increased or decreased by up to 0.5 tree-lengths, measured from the outer edge of the reserve zone, provided that there is no net loss of Type I reserve zone area within the development area. 10.4.2. Within an individual development area, up to 5% of the total area of the Type I habitat reserve zone may be altered or removed, provided that: 10.4.2.1. the integrity of the Type I Fish Habitat is maintained: and 10.4.2.2. the alteration or removal is required for road or bridge construction, or to address a safety concern and no practicable alternative exists; or 10.5. Despite above, the area of the reserve zone in a development area may be altered or removed, provided that: 10.5.1. The alteration or removal is required for road and bridge construction, or to address a safety concern, and there is no practicable alternative, 10.5.2. an assessment of risk to the fish stream from the forest development and disturbance is completed by a Qualified Professional, 10.5.3. the integrity of the Type I fish habitat is maintained, 10.5.4. an adaptive management plan is developed and implemented; and 10.5.5. an intergovernmental process is completed.

Objective 11	**Type II Fish Habitat**
Regulation	HGLUOO s. 11.
Results & Strategy	11.1. For the purposes of this Plan the locations of Type II Fish Habitat are as indicated in Schedule 4 of the HGLUOO, unless field assessment indicates otherwise. Where there is a conflict between the HGLUOO and the field assessment as to where the Type II fish habitat is located, the field assessment shall prevail. 11.2. For the purposes of defining stream riparian classes, the following is provided: The riparian reserve zone begins at the outer edge of the Type II Fish Habitat, including the active floodplain. 11.3. 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 zone, measured from the outer edge of the Type II habitat, will be maintained to protect the Type II Fish Habitat. Adjacent the reserve zone a 0.5 tree-length (average width) management zone will be maintained to protect the reserve zone, subject to all of the following: 11.3.1. Within an individual development area, up to 5% of the total area of the Type II habitat reserve zone may be altered or removed, provided that the integrity of the Type II Fish Habitat is maintained. 11.3.2. 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. 11.3.3. The retention of trees within the management zone will be based on consideration of the likelihood of damages to the reserve zone caused by windthrow. 11.4. Despite Section 11.3. the combined area of the reserve zone and management zone may be reduced further, provided that: 11.4.1. the reduced area is consistent with the outcome of a completed intergovernmental process, and 11.4.2. the alteration or removal is required for road and bridge construction, or to address a safety concern and there is no practicable alternative, and 11.4.3. the integrity of the Type II habitat is maintained, and 11.4.4. an adaptive management plan is developed, documented, and implemented prior to reducing the size of the Type II reserve and management zones under Section 3, and 11.4.5. an assessment of risk to the fish stream from the forest development and disturbance within the reserve zone is completed by a Qualified Professional.
Objective 12	**Active Fluvial Units**

Regulation	HGLUOO s. 12.
Results & Strategy	12.1. With reference to individual development areas, where naturally occurring AFUs occur; a 1.5 tree-length (minimum width) management zone, measured from the outer edge of the medium to high bench transition will be maintained for protection of the hydrogeomorphic processes that occur within the low and medium benches. The management zone may include all or a portion of the high bench of the 100-year flood zone. 12.2. The Plan Holder will coordinate and conduct training by a Qualified specialist for their forestry development team regarding Active Fluvial Units. 12.3. Despite Section 12.1. 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% at any given time, measured in hectares. 12.4. In addition to Section 12.3. 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: 12.4.1. sufficient functional riparian forest is retained to protect the integrity of the AFU, and 12.4.2. an adaptive management plan is developed by a Qualified Professional, documented and implemented prior to reducing the size of the AFU management zone(s) under Section 12.1. above.
Objective 13	**Upland Stream Areas**
Regulation	HGLUOO s. 13.
Results & Strategy	13.1. Within each watershed sub-unit indicated in the HGLUOO Schedule 6, and where development areas are proposed by the Plan Holder, the Plan Holder will do the following: 13.1.1. a watershed analysis will be completed that indicates the watershed condition of the upland stream area, where the watershed forest area of the sub-unit includes all land area with the exception of Type I and Type II fish habitat area, and 13.1.2. ensure that rates of harvesting within a watershed sub-unit are consistent with the watershed analysis results and that >70% of the forest, measured in hectares, in the upland stream area is hydrologically recovered; and 13.1.3. maintain a ledger that tracks the development activities within watershed sub-units. 13.2. Despite Section 13.1., <70% of the upland stream area, measured in hectares may be retained, provided that the Plan Holder ensures the following, subject to the following, subject to Section 13.3. and 13.4. below: 13.2.1. the revised upland stream area retention percentage is consistent with the outcome of a completed intergovernmental process; and 13.2.2. a 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 13.2.3. the rates of harvesting within a watershed sub-unit are consistent with the watershed assessment results provided in Sub-section 13.2.2.; and 13.2.4. an adaptive management plan is developed, documented, and implemented by a Qualified Professional prior to reducing the upland stream area retention percentage below 70%, measured in hectares. 13.3. 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. 13.4. In upland stream areas, where stream channels are incised (on average 3 meters deep), have steep gradients (greater than 50%) and support riparian plant communities that are dependent on high- humidity microclimates, a 30m reserve on each side of the stream will be maintained to ensure trees and vegetation are retained to maintain said riparian plant community and will become an indefinite portion of the 70% hydrological recovered area required of the upland stream area.
Objective 14	**Sensitive Watersheds**
Regulation	HGLUOO s. 14.
Results & Strategy	14.1. Within each sensitive watershed indicated on the HGLUOO Schedule 7, and where development areas are proposed by the Plan Holder, the Plan Holder will do the following: 14.1.1. A watershed analysis will be completed by a Qualified Professional that indicates the watershed ECA condition - where the analysis area includes all water and land area. 14.1.2. The Plan Holder will maintain a ledger which tracks the development activities within the sensitive watersheds. 14.2. Within each sensitive watershed indicated on the HGLUOO Schedule 7, and where development areas are proposed by the Plan Holder, harvest rates will be consistent with the following: 14.2.1. For watersheds ≥ 500ha, a maximum 5% of the watershed area may be harvested in a 5-year period. 14.2.2. For watersheds < 500ha, a maximum 10% of the watershed area may be harvested in a 10-year period. Despite Sub-sections 14.2.1. and 14.2.2. above, no harvesting will occur in sensitive watersheds with an ECA ≥ 20%. Harvest rates and ECAs will be based on the watershed analysis required above. 14.3. Despite Section 14.2. above, for a given sensitive watershed, the Plan Holder may maintain a rate of harvest and/or an ECA that exceeds the thresholds indicated, provided the Plan Holder ensures the following: 14.3.1. the revised rate of harvest and/or ECA threshold is consistent with the outcome of a completed intergovernmental process; and

	14.3.2. 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 14.3.3. the rates of harvesting within a watershed sub-unit are consistent with the watershed assessment results provided in Sub-section b), above; and 14.3.4. an adaptive management plan is developed by a Qualified Professional, documented, and implemented prior to increasing the rate of harvest and/or ECA for the watershed.
Objective 15	**Forest Swamps**
Regulation	HGLUOO s. 15.
Results & Strategy	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). 15.1. With reference to individual development areas, where a forested swamp area ≥0.25ha occur, they will be retained, and a 1.5 tree-length (average width) management zone will be maintained to protect the forested swamp. 15.2. Within the management zone maintained under Section 15.1. above, > 70% of the forest, measured in basal area, will be retained as mature or old forest. 15.3. Despite Section 15.2. above, the amount of mature or old forest retained in the management zone may be reduced to 60%, measured in basal area, provided that: 15.3.1. the amount of mature and old forest retained is sufficient to maintain the integrity of the forested swamp; and 15.3.2. an adaptive management plan is developed by a Qualified Professional, documented, and implemented prior to reducing the percentage of mature and old forest below 70%, measured in hectares.
Objective 16	**Common and Rare Ecosystems**
Regulation	HGLUOO s. 16.
Results & Strategy	16.1. Within each Landscape Unit indicated in the HGLUOO Schedule 10, and where development areas are proposed by the Plan Holder, prior to development activities the Plan Holder will: 16.1.1. Complete an ecological representation analysis by a Qualified person that indicates the current inventory of old forest by site series and Landscape Unit. 16.1.2. Where LUs overlap with other licensees, as per the Implementation Agreement signed by all licensees, the Plan Holder will work with that other licensee: 16.1.2.1. To complete the ecological representation analysis for that LU; and

16.1.2.2. To determine how the required old forest retention will be allocated; and

16.1.2.3. To determine how any required old forest recruitment, consistent with Section 16.3 below, will be allocated; and

16.1.2.4. To determine who is responsible for tracking the old forest retention.

16.2. The Plan Holder will maintain a ledger, updated annually at a minimum, to track depletions and additions to the old forest inventory by site series and LU. Where development activities are proposed within a forest area that is classified as a rare or common site-series, consistent with the 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 Section 16.1. above.

16.3. Where practicable, old forest areas that are retained consistent with Section 16.1. above, will include habitat for local species at risk and regionally important wildlife, including, but not limited to:

16.3.1. Northern Goshawk nesting and foraging habitat; and

16.3.2. Marbled Murrelet nesting habitat, Great Blue Heron nesting habitat, and Northern Saw-Whet Owl core nesting areas; and

16.3.3. Black Bear dens and denning habitat.

16.4. Where there is insufficient old forest available to meet the requirements under Section 16.1. above, The Plan Holder will identify, retain, and recruit 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.

Strategies that will be used to identify, retain, and recruit old forest stands include:

16.4.1. 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.

16.4.2. Where there are not enough mature stands (of the appropriate site-series) in the LU that are already constrained for other reasons, unconstrained stands will be identified and designated as non-spatial reserves set aside to meet the ecological representation requirements.

16.4.3. With stand and site series confirmation during block development, common and rare ecosystems that are not spatially reserved will be placed in reserve until LU targets of ecosystems are reached.

16.5. Where forest 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:

16.5.1. Fertilization treatments, to help accelerate rates of growth and promote old-growth characteristics.

	16.5.2. Stand thinning or stand modification treatments to help accelerate rates of growth and promote old-growth characteristics.
Objective 17	**Red and Blue-Listed Ecological Communities**
Regulation	HGLUOO s. 17.
Results & Strategy	17.1. With reference to individual development areas, where red or blue-listed ecological communities ≥0.25ha occur, they will be retained. 17.2. Despite Section 17.1. 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. 17.3. Despite Section 17.1. above, up to 30% of the area of each blue-listed ecological community occurring in a development area may be altered or harvested if: 17.3.1. the harvesting is required for road access or to address a safety concern; or the harvesting is required for another reason than specified in Sub-section 17.3.2. above, provided that the harvesting is consistent with the outcome of a completed intergovernmental process.
Objective 18	**Black Bear Dens**
Regulation	HGLUOO s. 18.
Results & Strategy	18.1. 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. 18.2. Where a Black Bear den exists, and a Qualified Professional confirms the den is active, then a minimum 200m no-work zone from the management zone will be applied during the winter hibernation season between November 15 to May 15. All primary forest activities including hauling will not occur in the no-work zone between the dates listed above. 18.3. Despite Section 18.1., alteration or removal of a Black Bear den or its reserve zone, or both, may occur provided that: 18.3.1. the alteration and/or removal is consistent with the outcome of a completed intergovernmental process; and 18.3.2. the alteration and/or removal is required for road access or to address a safety concern; and 18.3.3. the alteration and/or removal does not occur during the winter hibernation season. 18.4. For the purposes of recruiting future Black Bear den sites, where practicable: 18.4.1. suitable Western Red Cedar or Yellow Cedar will be retained within the

	management zone identified in Section 18.1. above, and 18.4.2. trees, snags, stumps, and logs >80cm in diameter will be retained within stand level retention associated with the development area. 18.5. Despite Section 18.1., alteration or removal of trees within the management zone may occur, outside of the winter hibernation season, consistent with any of the following: 18.5.1. the alteration and/or removal is required to accommodate operational requirements for road or bridge construction and no practicable alternative exists; or 18.5.2. 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 18.5.3. the alteration and/or removal is required to mitigate the impact of windthrow.
Objective 19	**Raptor Conservation**
Regulation	HGLUOO s. 20.
Results & Strategy	19.1. The Plan Holder will comply with the Ministry of Environment "Guidelines for Raptor Conservation".
Objective 20	**Marbled Murrelet Nesting Habitat**
Regulation	HGLUOO s. 19.
Results & Strategy	20.1. Within each Landscape Unit, and where development areas are proposed by the Plan Holder, prior to development activities, the Plan Holder will: 20.1.1. retain an amount of Marbled Murrelet nesting habitat within each LU greater than or equal to the LU target area listed in the HGLUOO Schedule 9; and 20.1.2. ensure the nesting habitat referred to in Sub-section a) above, is within the areas shown in the HGLUOO Schedule 11; or may be a different area than identified in the HGLUOO Schedule 11, provided the nesting habitat is Class 1 or 2, as identified by a Qualified Professional; and 20.1.3. maintain a ledger, which tracks the depletions and additions to the Marbled Murrelet nesting habitat retention inventory, by LU. 20.2. 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: 20.2.1. A Marbled Murrelet nesting habitat retention inventory will be completed by a Qualified Professional; and 20.2.2. The Plan Holder will be responsible to ensure the amount of nesting habitat is

	maintained by Landscape Unit by weighted average of tenure in that landscape. 20.3. In respect to the WHAs, the Plan Holder will comply with the applicable GWMs, as per FPPR s. 69.
Objective 21	**Northern Goshawk Habitat**
Regulation	HGLUOO s. 20.
Results & Strategy	21.1. The Plan Holder will retain all Northern Goshawk reserves as shown on the HGLUOO Schedule 12. 21.2. The Plan Holder will provide nest identification training to their forestry development team and will assess areas prior to primary forest activities to identify previously unidentified Northern Goshawk nests. 21.3. When the Plan Holder during the development area planning phase or during anytime of block development discovers a potential Northern Goshawk nest that is outside of the HGLUOO Schedule 12 reserves, the Plan Holder will do all of the following: 21.3.1. 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 21.3.2. have the nest and surrounding area assessed by a Qualified Professional; and 21.3.3. where the Qualified 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 21.3.4. report the location of the confirmed nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and 21.3.5. A restricted activity zone will be maintained during the breeding season, with a minimum radius of 800m around the nest site; and 21.3.6. Where some or all of the reserve zone maintained under Section 3 (c) 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. The Haida Nation has made Stads K'un the National Bird of Haida Gwaii. The plan holder will work with the CHN and the Goshawk recovery team to develop a recovery strategy for Stads K'un where the strategy would include but not limited to population monitoring, inventory of potential habitat, habitat recruitment and restoration, introduced species mitigation and proper forage habitat management. 21.4. Despite Section 21.1., Northern Goshawk reserves (the HGLUOO Sch. 12) and reserve zones may be reduced, provided that: 21.4.1. the reduction is consistent with the outcome of a completed intergovernmental process; and

	21.4.2. the reduction is required for road access or other infrastructure, where no practicable alternative exists, or to address a safety concern; and 21.4.3. the reduction does not occur during Northern Goshawk breeding season; and 21.4.4. there is no net loss to the Northern Goshawk reserve area. In respect of the WHAs, the Plan Holder will comply with the applicable GWMs, as per FPPR s. 69.
Objective 22	**Great Blue Heron Nesting Habitat**
Regulation	HGLUOO s. 21.
Results & Strategy	22.1. With reference to individual development areas, where Great Blue Heron nest sites occur, they will be retained and a 350m (minimum width) reserve zone, measured from the edge of the nest site, will be maintained to protect the nest site. Additionally, the reserve zone will be ≥ 45ha in size. 22.2. The Plan Holder will provide nest identification training to their forestry development team. 22.3. Where the Plan Holder discovers a new potential Great Blue Heron nest site, the Plan Holder will: 22.3.1. 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 22.3.2. have the nest and surrounding area assessed by a Qualified Professional; and 22.3.3. where the qualified registered professional determines the nest to be a Great Blue Heron nest, a reserve zone will be maintained consistent with Section 1 above; and 22.3.4. report the location of the confirmed nest to the Council of the Haida Nation and the Province of BC as soon as practicable; and 22.3.5. unless confirmed by a qualified registered 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 zone.
Objective 23	**Northern Saw-Whet Owl Nesting Habitat**
Regulation	HGLUOO s. 22.
Results & Strategy	23.1. The Plan Holder will retain all Northern Saw-Whet Owl reserves, as shown on the HGLUOO Schedule 12. 23.2. The Plan Holder will provide nest identification training to their forestry development team.

	23.3. Where the Plan Holder discovers a new potential Northern Saw-Whet Owl nest that outside of the HGLUOO Schedule 12 reserves, the Plan Holder will: 23.3.1. 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 23.3.2. have the nest and surrounding area assessed by a qualified registered professional; and 23.3.3. where the Qualified Professional determines the nest to be a Northern Saw-Whet Owl nest, a reserve zone will be maintained around the nest site that is a minimum of 10ha and centered on the nest; and 23.3.4. report the location of the confirmed nest to the Council of the Haida Nation and the Province of BC as soon as practicable. 23.4. 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.
Objective 24	**Important Bird Areas**
Regulation	HGLUOO s. 19, 20, 21, and 22.
Results & Strategy	24.1. When forest management activities are planned within 500m of Important Bird Areas the prescribing foresters should consider the habitat values associated with the Important Bird Areas and document their considerations in the Site Plan.
Objective 25	**Forest Reserves**
Regulation	HGLUOO s. 23.
Results & Strategy	25.1. The Plan Holder will retain all the Forest Reserves, as shown on the HGLUOO Schedule 8. 25.2. Despite Objective 25.1. above, the area of an individual Forest Reserve may be reduced by up to 5%, provided that: 25.2.1. applicable results and strategies within this FSP address the target requirements indicated in the HGLUOO Schedules 9 and 10; and 25.2.2. the remaining Forest Reserve is ≥ 5.0ha; and 25.2.3. the reduction is necessary to: 25.2.3.1. accommodate operational requirements for road or bridge construction, where no practicable alternative exists; or 25.2.3.2. 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

	25.2.3.3. to mitigate the impact of windthrow. 25.3. Despite Section 25.1., a portion of a Forest Reserve may be moved to another location within the same Landscape Unit, provided that: 25.3.1. the alteration of the Forest Reserve is consistent with the outcome of a completed intergovernmental process; and 25.3.2. applicable results and strategies within this FSP (e.g., Marbled Murrelet and Ecological Representation) address all of the target requirements indicated in the HGLUOO Schedules 9 and 10 for the applicable LU; and 25.3.3. the portion removed is ≤ 20ha; and 25.3.4. the areas retained are >200m in width; and 25.3.5. the relocation does not result in any Forest Reserve that is < 5.0ha; and 25.3.6. 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 where: 25.3.6.1. Marbled Murrelet habitat is of equal or better class as indicated within the Marbled Murrelet Nesting Habitat Inventory than reserve area being modified, 25.3.6.2. When moving a Forest Reserve with ecological properties by moving the forest reserve will not deplete the ecosystem below reserve targets in Schedule 10 or the new reserve area has an equal amount or greater of the ecosystem type(s) as determined by a Qualified Professional.
Objective 26	**Recruitment in Reserve Zones, Management Zones & Stand Level Retention**
Regulation	HGLUOO s. 5, 6, 10, 11, 15 and 20.
Results & Strategy	26.1. Where some or all of the reserve zones, management zones or stand level retention areas established under the applicable HGLUOO objectives -refer to Table 9-have been previously altered or harvested, the Plan Holder will provide for recruitment of mature and old forest in the reserve zone, management zone or stand level retention area, as applicable, through natural processes (passive recruitment) and may promote recruitment through voluntary interventions (active recruitment). 26.2. 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). 26.3. 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.

Table 9: Recruitment Summary Table, by HGLUOO Objective.

Objective Requiring Recruitment	Recruitment Location	FSP Section Reference
Class 1 HTHFs	Reserve Zone	"Haida Traditional Heritage Features" Objective 3.10.
Class 2 HTHFs	Reserve Zone	"Haida Traditional Heritage Features" Objective 3.11.
Class 1 HTFFs	Reserve Zone	"Haida Traditional Forest Feature" Objective 5.1.
Class 2 HTFFs	Applicable Stand Level Retention	"Haida Traditional Forest Feature" Objective 5.3.
Cultural Cedar Stands, CMTs & Monumental Cedar	Management Zones	"Culturally Modified Trees and Monumental Cedar" Objective 8.9
Type I Fish Habitat	Type I Fish Habitat & Reserve Zone	"Type I Fish Habitat" Objective 10.4.
Type II Fish Habitat	Type II Fish Habitat & Reserve Zone	"Type I Fish Habitat" Objective 11.3.
Active Fluvial Units	Active Fluvial Unit & Management Zone	"Active Fluvial Units" Objective 12.1.
Forest Swamps	Management Zone	"Forest Swamps" Objective 15.1.
Existing Northern Goshawk Reserves	Reserve	"Northern Goshawk Habitat" Objective 21.1.
New Northern Goshawk nesting Reserve Zones	Reserve Zone	"Northern Goshawk Habitat" Objective 21.3.

Objective 27	**Annual Reporting and Data Submission**
Regulation	HGLUOO 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17 and 23
Results & Strategy	27.1. Where applicable features prescribed under the HGLUOO are identified (refer to Table 10), and associated reserve zones (including cedar reserves), management zones and stand level retention are established or managed by the Plan Holder, the feature(s) and associated reserve zones, management zones, Black Bear Den retention, establishment of no-work zones for bears, restricted activity (goshawks) zones, and stand level retention will be documented and the digital spatial data will be submitted by the Plan Holder, along with the development area shape(s). The submission will occur at time of Road Permit or Cutting Permit submission, whichever is first, to the Council of the Haida Nation and to the Province of BC. 27.2. Updates and any features not recorded within a development area and not reported at time of Road or Cutting Permit application will be submitted by December 31 of each year to the Council of the Haida Nation and to the Province of BC.

Table 10: Summary of HGLUOO Objectives Requiring Annual Reporting and Data Submission.

Objective Requiring Annual Reporting & Data Submission	Reporting Element	FSP Section Reference
Class 1 HTHFs	HTHF &Reserve Zone	"Haida Traditional Heritage Features" Objective 3.10.
Class 2 HTHFs	HTHF &Reserve Zone	"Haida Traditional Heritage Features" Objective 3.11.
Class 1 HTFFs	HTFF &Reserve Zone	"Haida Traditional Forest Feature" Objective 5.1.
Class 2 HTFFs	HTFF & Applicable Stand Level Retention	"Haida Traditional Forest Feature" Objective 5.5.
Cedar Retention	Cedar Retention Areas	"Cedar Retention" Objective 6.1.

Objective Requiring Annual Reporting & Data Submission	Reporting Element	FSP Section Reference
Western Yew Retention	Western Yew Patches, individual yew tree retention, & applicable stand level retention	"Western Yew" Objective 9.1.
Cultural Cedar Stands, CMTs & Monumental Cedar	Cultural Cedar Stands, CMTs, Monumental Cedar Reserves, Reserve Zones & Management Zones	"Culturally Modified Trees and Monumental Cedar" Objective 8.9.
Type I Fish Habitat	Type I Fish Habitat, Reserve Zone & applicable Management Zone	"Type I Fish Habitat" Objective 10.4.
Type II Fish Habitat	Type II Fish Habitat, Reserve Zone & Management Zone	"Type I Fish Habitat" Objective 11.3.
Active Fluvial Units	Active Fluvial Unit & Management Zone	"Active Fluvial Units" Objective 12.1.
Forest Swamps	Forested Swamp & Management Zone	"Forest Swamps" Objective 15.1.
Ecological Representation	Old Forest Reserves	"Common and Rare Ecosystems" Objective 16.2.
Red & Blue-listed Ecological Communities	Red & Blue-listed Plant Communities	"Red & Blue-listed Ecological Communities" Objective 17.1.
Black Bear Dens	Black Bear Dens (existing & newly discovered) No work zones	"Black Bear Dens" Objective 18.1.
Forest Reserves	Forest Reserves	"Forest Reserves" Objective 25.2.
Goshawk Nests	Nest and no work zones	"Northern Goshawk Habitat" Objective 21.3.
Digital Spatial Data	Development Area Shapes	"Annual Reporting and Data Submission" Objective 27.1.

Forest Range Practices Act Objectives

Objective 28	**Cedar Partition – Volume Tracking Reporting (N1G)**
Results & Strategy	28.1. Within the FNWL area, The Plan Holder is committed to ensuring the partition for cedar set by the Chief Forester is not exceeded within the FNWL N1G Area over a five-year period by maintaining an equal portion of the partition based on the Tenure Holder's AAC. The current AAC in the FNWL N1G Area for the Plan Holder is 137,129m3 and the cedar partition is 38.09%. The cedar allocation may change with changing AAC determinations. 28.2. The Plan Holder will adhere to a partition calculation where in a 5 year period the amount of cedar harvested does not exceed 38.09% based on current AAC determinations. Within any given year the allocated volume of cedar harvest for the year will not exceed an additional 10%. Any undercut volume of cedar from a previous year can be brought forward. 28.3. BCTS has an annual harvest within FNWL N1G of 16,238m3 above the volume stated in 1 above. The plan holder is committed to ensuring the cedar partition is upheld with the BCTS volume by having BCTS follow the percent of cedar volume harvested as stated in 1 & 2 above.
Objective 29	**Forest Stewardship Plan Implementation**
Results & Strategy	29.1. The Plan Holder will adhere to the 2023 Haida Gwaii FSP Implementation Agreement signed in 2023 by Forest Licensees operating on Haida Gwaii regarding results and strategies of this Plan.
Objective 30	**Information Sharing**
Regulation	FPPR s. 10, 20, 21, 22.
Results & Strategy	30.1. The Plan Holder will ensure that a primary forest activity will not cause harm to a cultural heritage resource that is: 30.1.1. referred to in Section 10 of FPPR, as it was on the Date of Submission, 30.1.2. likely to be adversely impacted by that primary forest activity, 30.1.3. not conserved or protected through: (A) legislation, plans or policies; or (B) other means or arrangements, developed or accepted through information sharing with the Council of the Haida Nation; and 30.1.4. important, valuable, and scarce in the context of a traditional use by the Haida Nation, based on input from the Council of the Haida Nation. 30.2. The Plan Holder will share information with the Council of the Haida Nation related to primary forest activities that are proposed within the traditional territory of the Haida Nation People: 30.2.1. according to established agreements between government and the Council of the Haida Nation regarding information sharing timelines and required content of information provided; or 30.2.2. as determined by a Qualified Professional based on the factors in FPPR Schedule 1, Section 4 when no agreements between governments (Council of the Haida

	Nation and Province of BC.) exist. 30.3. The Plan Holder has created an advisory group with the Council of the Haida Nation and the two Band Councils on Haida Gwaii as a means of open dialogue and information sharing of community interests and the Plan Holder's activities and development on Haida Gwaii: 30.3.1. The Plan Holder is committed to meeting with the advisory group at a minimum annually; although, meetings may occur more often. 30.4. Development plans where harvesting areas are identified and/or road construction activities are planned will be reviewed with the advisory group annually. Information with respect to cultural heritage resources will be requested from the advisory group focusing on traditional use and importance of the potential development areas. 30.5. The Haida Nation, the shareholders and owners of Haico/ Taan Forest have been provided a draft version of this FSP via the Council of the Haida Nation prior to the beginning of the public consultation process. This process is not to constitute First Nation consultation, but for owners to have a say in what the FSP will look like and how it will read. The input into the plan from the CHN will be incorporated into this document and the supporting documentation. 30.6. The Plan Holder through the Solutions Table will share information regarding cultural heritage resources that are the focus of traditional use and importance to the Haida Nation. The Plan Holder will: 30.6.1. identify areas where harvesting and/or road construction activities are planned and request information respecting cultural heritage resources that are the focus of traditional use and importance within the identified areas as identified through the Haida Gwaii Land Use Objectives Order and in this FSP, 30.6.2. keep a record of any information provided by the Haida Nation on cultural heritage resources that are the focus of traditional use and importance within the Plan Area; and 30.6.3. document in the Site Plan how management activities will manage for cultural heritage resources that are the focus of traditional use and importance, or why in accordance with a completed IGP alternate management methods are made to accommodate the traditional use. 30.7. The Plan Holder will adhere with FPPR s. 22 (1) and will consider any written comment received regarding the Plan that is relevant to the Plan. 30.8. The Plan Holder will adhere to FPPR s. 22 (2) and will at time of Plan submission provide: 30.8.1. a copy of the notice published under Section 20, 30.8.2. a copy of each written comment received under Section 21, 30.8.3. a description of any changes made to the plan as a result of the comments received under FPPR s. 21, and 30.8.4. a description of the efforts made to comply with the requirements of FPPR s. 21 (1) (d).
Objective 31	**Development Area Referral**

Results & Strategy	31.1. The Plan Holder will adhere to the requirements of the HGLUOO for development area referral process and spatial data uploads. This includes development area line work and the HGLUOO Feature Spatial information as well as sharing all assessment upon request by the Haida Nation.
Objective 32	**Public Engagement**
Regulation	FPPR s. 22.
Results & Strategy	32.1. The Plan Holder will, at a minimum of once annually, host a public engagement meeting on Haida Gwaii to discuss forestry issues. This may be in conjunction with Certification or Haida Enterprise Corporation (HaiCo) Public engagement processes or open house sessions. 32.2. The Plan Holder will post Operational Planning Maps on their website prior to harvesting. 32.3. The Plan Holder will post the current FSP, Appendices and supporting documentation on their website. 32.4. The Plan Holder will provide copies of a draft FSP and associated maps to Village Councils on Haida Gwaii: 32.4.1. Village Council and public feedback will be requested. 32.4.2. Presentations or public forums by community will be completed at Village Council's request. 32.5. The FSP and associated amendments will be kept for public reference on the Plan Holder's website for the life of the FSP. 32.6. The Plan Holder will participate in Haida Gwaii "All Licensees'" public forums and discussions as scheduled. 32.7. The Plan Holder has developed protocols regarding access to fiber outside of the Cultural Wood Access Program, as well as protocols for access to non-timber forest products and recreational opportunities. 32.8. The plan holder is willing to engage with members of the public who are interested or have concerns with the Plan Holder's forest management. During the Life of the Plan if the Plan Holder is contacted by a member of the public with questions or concerns the Plan Holder will, in writing, respond to that question or concern and if necessary complete a field tour with those interested. 32.9. The Plan holder through their certification processes will engage the public annually to provide comment, and feedback on its certification goals.
Objective 33	**Recreation Resources**
Regulation	FRPA s. 180, 181.
Results & Strategy	As of the date of Plan submission, there are five recreation sites and four recreation trails established (no interpretive sites established), with designated objectives, within the Plan Area (refer to Table 2 of the FSP). 33.1. 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. 33.2. 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: 33.2.1. 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 33.2.2. obtain written approval from the government agency responsible for the recreation site or trail, to maintain access for further operations or activities, and the access will be established as per the approval.
Objective 34	**Visual Quality**
Regulation	FPPR s. 9.2, GAR s. 7(2), FRPA s. 180, 181.
Results & Strategy	Visual Quality Objectives (VQOs) have been established for the Scenic Areas on the Haida Gwaii (mapping consolidated for TSA and TFLs on December 5, 2005). 34.1. The Plan Holder will design roads and cutblocks to conform with the Visual Quality 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. 34.2. The Plan Holder will adhere to the following percent alteration limits for clear-cutting for set objectives on mid-ground landforms 1 to 8km from significant public viewpoints: • Preservation = 0% • Retention = 0% to 1.5% • Partial Retention = 1.6% to 7% • Modification = 7.1% to 18% • Maximum Modification = 18.1 to 30% 34.3. 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. 34.4. 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. 34.5. 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.

	34.6. 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: 34.6.1. it is to recover timber damaged from natural causes and the action must be completed expeditiously; or 34.6.2. the activities are otherwise required by applicable government 34.6.3. If harvesting and/or road building occurs and the VQO is exceeded, as per Sub-sections a) or b) above, then the Plan Holder will ensure that good design principles are followed and the VQO is exceeded to the minimum extent required. 34.7. 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.
Objective 35	**Community Watersheds**
Regulation	FPPR s. 8.2.
Results & Strategy	35.1. Prior to proposing primary forest activities within a community watershed to which Section 8.2 of the FPPR applies, the Plan Holder will do the following: 35.1.1. ensure a watershed assessment is completed by a Qualified Professional that assesses the current watershed condition, the potential impacts on water quality, water quantity, including risks to public health, and timing of water flows from primary forest activities; and provides a potential schedule for harvesting within the community watershed that maintains the community watershed's values; and 35.1.2. ensure that primary forest activities are consistent with any recommendations made in the watershed assessment; and 35.1.3. ensure the watershed assessment indicated in Sub-section a), is updated by a Qualified Professional at least every 5 years, unless no additional primary forest activities are proposed; and 35.1.4. maintain a ledger that tracks the development activities within the community watershed. 35.2. Prior to development activities within a community watershed, the applicable Plan Holder will form an agreement that documents: 35.2.1. who is responsible for completing the watershed assessment and any updates that may be required; and 35.2.2. how the rates of harvesting will be allocated, consistent with the watershed analysis; and 35.2.3. who is responsible for tracking the rates of harvest within the community watershed.
Objective 36	**Stream Riparian Classes**
Regulation	FPPR s. 47.

Results & Strategy	36.1. Where a stream meets the definition of Type I or II Fish Habitat, as defined in the HGLUOO, then the stream is classed as Type I or II Fish habitat and managed accordingly, otherwise, the Plan Holder shall adopt the FPPR requirements in relation to stream riparian classes and minimum zone widths listed below:

Riparian Class	Riparian Management Area (meters)	Riparian Reserve Zone (meters)	Riparian Management Zone (meters)
S1-A	100	0	100
S1-B	70	50	20
S2	50	30	20
S3	40	20	20
S4	30	0	30
S5	30	0	30
S6	20	0	20

Objective 37	**Wetland Riparian Classes**
Regulation	FPPR s. 48.
Results & Strategy	37.1. 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 shall adopt the FPPR requirements in relation to wetland riparian classes and minimum zone widths listed below:

Riparian Class	Riparian Management Area (meters)	Riparian Reserve Zone (meters)	Riparian Management Zone (meters)
W1	50	10	40
W2	30	10	20
W3	30	0	30

W4	30	0	30
W5	50	10	40

Objective 38	**Lake Riparian Classes**
Regulation	FPPR s. 49.
Results & Strategy	38.1. 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 zone widths listed below:

Riparian Class	Riparian Management Area (meters)	Riparian Reserve Zone (meters)	Riparian Management Zone (meters)
L1-A	0	0	0
L1-B	10	10	0
L2	30	10	20
L3	30	0	30
L4	30	0	30

Objective 39	**Restrictions in a Stream, Wetland or Lake Riparian Management Area**
Regulation	FPPR s. 50.
Results & Strategy	39.1. 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 will adopt the FPPR requirements in relation to restrictions within a riparian management area indicated in above Sections for Stream, Wetland, and Lake Riparian Classes.

Objective 40	**Restrictions in a Wetland or Lake Riparian Reserve Zone**
Regulation	FPPR s. 51.
Results & Strategy	40.1. 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 will adopt the FPPR requirements in relation to restrictions within riparian area indicated in above Sections for Stream, Wetland, and Lake Riparian Classes.
Objective 41	**Retention of Trees within the Riparian Management Zones**
Regulation	FPPR s. 12(3).
Results & Strategy	41.1. Retention of trees within riparian management zones will be as follows: 41.1.1. For Upland Streams, the retention of trees within riparian management zones, measured in basal area, will be determined by the signing Forester, and documented within the Site Plan. Additional factors for riparian retention for Upland Streams are detailed above. 41.1.2. 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 be determined by the signing Forester and documented within the Site Plan.
Objective 42	**Soils**
Regulation	FPPR s. 5, 35.
Results & Strategy	42.1. The Plan Holder will undertake (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 43	**Maximum Net Area to be Reforested Cutblock Size**
Regulation	FPPR s. 64.
Results & Strategy	43.1. The Plan Holder undertakes (FPPR s. 12.1(3)) to comply with the legislated requirements in relation to maximum cutblock size (FPPR s. 64) of 40.0 ha Net Area to Reforest (NAR) Harvesting Adjacent to Another Cutblock.

Objective 44	**Adjacency**
Regulation	FPPR s. 65.
Results & Strategy	44.1. The Plan Holder undertakes to comply with the legislated requirements in relation to harvesting adjacent to another cutblock (FPPR s. 65). 44.2. Where an adjacent block should not impact another harvest area with light influence, wind, or hydrological influence the Plan Holder defines 400m as a guideline between blocks for determining if a cutblock is adjacent. This is guidance from the Forest Practices Code Biodiversity Guidebook. 44.3. Despite Section 2, the Plan Holder may reduce the distance between cutblocks to less than 400m and still determine that the cutblocks are not adjacent if a rationale is provided illustrating how the blocks adhere to FPPR s. 65 (1) and this rationale is documented in the Site Plan.
Objective 45	**Wildlife Tree Retention and Harvest Restrictions**
Regulation	FPPR s. 66, 67.
Results & Strategy	45.1. The Plan Holder undertakes (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).
Objective 46	**Forest Health**
Regulation	FPPR s. 26, 111, Factors 6.
Results & Strategy	46.1. The Plan Holder undertakes that the regeneration date and the standards will result in an area, that requires regeneration, being stocked with ecologically suitable species that address immediate and long-term forest health issues on the area, to a density or to a basal area that, in either case, 46.1.1. is consistent with maintaining or enhancing an economically valuable supply of commercial timber from British Columbia's forests, and 46.1.2. is consistent with the timber supply analysis and forest management assumptions that apply to the area covered by the plan on the date that the plan is submitted for approval. 46.2. The Plan Holder undertakes that the following factors apply to the development of stocking standards, generally: 46.2.1. the long term forest health risks that are relevant to species selection for the purposes of establishing a free growing stand, 46.2.2. the occurrence and extent of forest health factors.

	46.3. The Plan Holder will undertake to ensure that harvest plans consider pest infestations, invasive plants, and windfall from endemic winds. 46.4. The Plan Holder will attempt to correlate new pest infestation outbreaks and endemic winds to Climate Change to develop a strategy for managing such occurrences. 46.5. The Plan Holder will undertake for areas that have been planted and require a fill plant because of a catastrophic failure such as fire, insect damage or stock health the area will be fill-planted once.

Invasive Plants

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

Haida Gwaii IPMA Plant List - 2020		
a) Red font indicates species has been identified within the IPMA; if marked "*", the species needs to be confirmed. b) Additional details are referenced by number and added at the bottom of the applicable column. c) Black font indicates species to keep an eye out for.		
Provincial/Regional EDRR	**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's		
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		
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	[2]Himalayan blackberry outside of VQC [3]Scotch broom outside of containment	
	[4]Tansy Ragwort outside of containment	

Haida Gwaii IPMA Plant List - 2020

Table 11 illustrates the most up to date list available at time of FSP approval. The Plan Holder will use the most up to date version of the prioritized plant list in the Haida Gwaii Invasive Plant Management Area provided by the Northwest Invasive Plant Council

Where the introduction or spread of invasive plants is likely the result of forest practices of the Plan Holder under this FSP, the Plan Holder will do the following, unless the Plan Holder deems the area to be an active Road Subgrade Width:

Objective 47	**Invasive Plants Training**
Regulations	FPPR s. 17.
Results & Strategy	47.1. Provide forestry staff training in the recognition of invasive plants that are, or may potentially be within (i.e., known to occur in adjacent areas) the Plan area. Training will include the identification of known invasives within the Plan Holder's tenures, use of the provincial IAS application, IMapBC Invasive plant display and reporting and identification procedures. 47.2. The Plan Holder will meet annually with the members of the Northwest Invasive Plant Council (NWIPC).
Objective 48	**Invasive Plants Management, Monitoring & Reporting**
Regulations	FPPR s. 17.
Results & Strategy	48.1. The Plan Holder will review IMapBC Invasive plant inventory prior to block development to determine if known EDRR or High Priority invasive plants are present in the area or along the access route to the area where the development is proposed. 48.2. If known invasive plants, as listed in Table 11 as EDRR or High Priority, are located within one kilometer of the proposed development area or along the access route to the development area, during the review described in Section 1 above, a development area specific plan will be created outlining procedures to: 48.2.1. Identify the plant to determine if it is present, 48.2.2. Minimize the spread of these invasive plants, and 48.2.3. Where necessary, dispose of the plant in a suitable method to avoid the spread of the plant as prescribed by an invasive plant specialist, such as personnel from the Northwest Invasive Plant Committee. 48.2.4. Where a known invasive plant, as listed in Table 11 as EDRR or High Priority, is not within the Plan Holders tenures the Plan Holder will work with the responsible tenure holder to develop a plan associated with Section 48.2.2. & 48.2.3. 48.3. 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 NWIPC, or by filing a report through the IAS application directly. 48.4. Where new occurrences of invasive plants are detected (either a newly introduced invasive plant species, or a new location of an invasive plant species known to exist within the Plan Area) and where practicable, the Plan Holder in conjunction with the CHN, other Haida Gwaii Island Government invasive plant specialists and the NWIPC will prepare and implement an appropriate action plan to address these invasive plant occurrences. Action plans may include an eradication or management plan. 48.5. The Plan Holder will require their logging and road building contractors to inspect vehicles and equipment, particularly tracks and undercarriages, for the presence of plant parts and that equipment be cleaned prior to leaving an area that is known to contain priority invasive plant species. 48.6. The Plan Holder will work with NWIPC, the Province and the CHN to develop strategies to control invasives listed in Table 1 as REDDR or High Priority where they are found within the Plan Holders Tenures 48.7. The Plan Holder will continue to have an annual contract with NWIPC to treat and monitor for invasives within TFL 60. FNWL N1G is treated under Provincial requirements by NWIPC 48.8. The Plan Holder will continue to receive updates of treatment and recordings of new invasives within TFL 60 and FNWL N1G from NWIPC on an annual basis.
Objective 49	**Invasive Plants Re-Vegetation**
Regulations	FPPR s. 17.
Results & Strategy	49.1. For Development areas that the Plan Holder's representative determine that harvesting and/or road construction practices have resulted in exposed mineral soils (where contiguous area is greater than 0.1ha, with a contiguous minimum width of 5m, excluding the Road Subgrade Width of a road), the following will be prescribed: 49.1.1. re-vegetate the exposed area, as climatic and soil conditions allow, within one year of disturbance, if: 49.1.2. the disturbed area is not to be reforested, and is not the Road Subgrade Width of a road; and 49.1.3. the soil disturbance is likely to result in the introduction or spread of the established invasive plants; and 49.1.4. re-vegetating the site will materially reduce that likelihood of the spread of the invasive plants, 49.1.5. 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

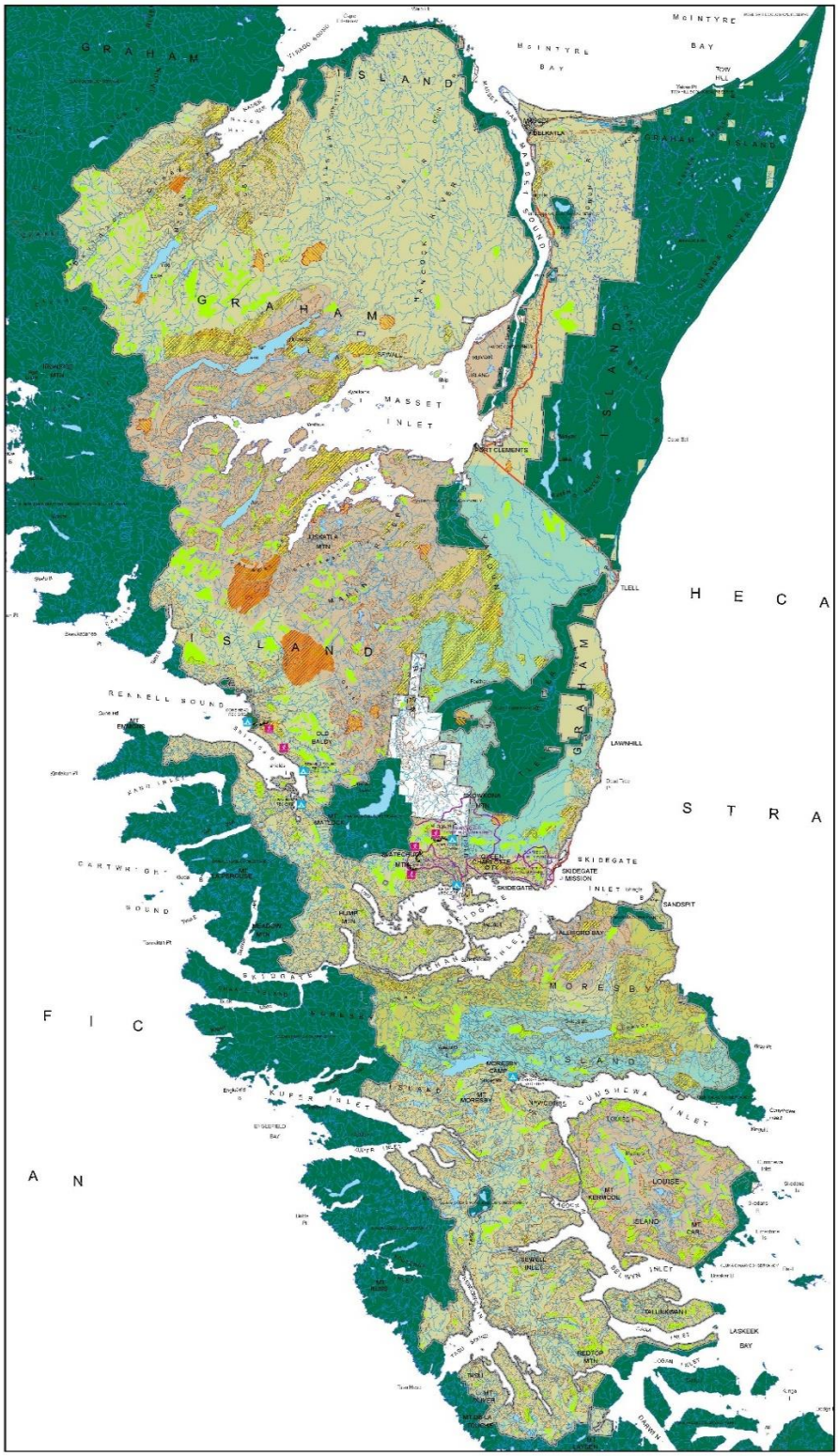
	49.1.6. if within one year of the area being initially seeded, the seed does not germinate to the extent necessary to occupy the areas of exposed soil, the Plan Holder will re-seed the area as soon as practicable. Where seeding alone is not successful, fertilization and scarification treatments will be considered, where practicable. 49.2. For re-vegetation, the Plan Holder will use Haida Gwaii reseeding Mixture (according to Canada's Seeds Regulations), or better.
Objective 50	**Invasive Plants Roadside Brushing**
Regulations	FPPR s. 17.
Results & Strategy	50.1. Prior to prescribing roadside brushing: 50.1.1. the Plan Holder will review iMapBC invasive plant inventory to determine if EDDR or high priority invasive plants are recorded in the area of the proposed brushing and if EDDR or high priority invasive plants have been recorded in an area prescribed for roadside brushing, then the Plan Holder will either complete the brushing between November to March or manually brush the area. 50.1.2. The Plan Holder will collaborate with Northwest Invasive Plant Council members to determine a brushing strategy. 50.2. The Plan Holder will, where practicable, modify roadside brushing treatment timing, methods, and/or procedures to minimize the spread of established invasive plants.

Climate Change

Objective 51	**Climate Change Monitoring**
Results & Strategy	51.1. The Plan Holder will meet with the Province and the Council of the Haida Nation on an annual basis to discuss monitoring pest infestations, invasive plants, and windfall monitoring from endemic winds. The Plan Holder will attempt to correlate new infestation outbreaks and endemic winds to Climate Change to develop a strategy for managing such occurrences. 51.2. The Plan Holder will maintain weather records to attempt to correlate climate change to: 51.2.1. Increased & decreased temperatures (Increased water temperatures, catastrophic winds, increased pest incidence, increased invasive species, ecosystem disruption, reduced aquatic life, wildfires, heat wave), 51.2.2. Heavy rain events (Landslide, local flooding, ecosystem disruption, 51.2.3. Drought events (Reduced aquatic life, 51.2.4. saltwater intrusion(sea level rise, flooding, storm events/king tides) 51.2.5. The Plan Holder will continue supporting research efforts of yellow cedar dieback, carbon sequestration, improved tree growth, fertilization, and Green House gas emissions.
Objective 52	**Climate Change Action**
Results & Strategy	52.1. The Plan Holder will develop a Climate Change Risk Assessment to compare different significant climate-related risks; with other risks; develop priority-based forestry related responses in an adaptation plan; and identify potential situations where current response capacity may be exceeded. 52.2. The Plan Holder will continue to review with their logging and road construction contractors the Off Road Compressions-Ignition Engine Emission Regulations and when appropriate the On-Road Vehicle and Engine Emissions Regulations when replacing or retrofitting logging equipment, road equipment and logging trucks. 52.3. The Plan Holder will maintain the vehicles that the company owns, and their employees operate to meet the On-Road Vehicle and Engine Emission Regulations 2004. 52.4. The Plan Holder will continue efforts to strengthen damaged riparian areas through enhanced silviculture techniques to mitigate consequences to riparian areas caused by climate change and to increase carbon sequestration.
Objective 53	**Climate Change Communication**

Results & Strategy	53.1.	The Plan Holder will meet with the Council of the Haida Nation annually regarding climate change.
	53.2.	The Risk Assessment and associated forest planning will be shared with landowners, local government (CHN, Regional, Municipal & Provincial) and other land managers for coordination of effort
	53.3.	Information from climate change research (52.1.) will be shared with CHN and the Province
	53.4.	All Staff, Contractors and guests will be informed through Standard Operating Procedures the emergency response requirements, marshalling points and safe zones for natural disasters (Caused by climate change or other) while within the Plan Holder's operating areas.

Appendix A: FSP Map



Forest Stewardship Plan

- Forest Development Unit A
- TFL 58
- TFL 60
- FNWL N1G
- Haida Gwaii TSA
- Scenic Area
- Wildlife Habitat Areas
- Community Watersheds
- LUO Schedule 3 - Cedar Stewardship Areas
- LUO Schedule 8 - Forest Reserves
- LUO Schedule 12 - NOGO Reserves
- LUO Schedule 12 - NSWO Reserves
- Recreation Sites and Reserves
- Recreation Trails
- Protected Areas
- Highway
- Paved Road
- Gravel Road

N

Map Date April 27, 2017 /Updated October 20 2022

1:150,000

Albers Equal Area Conic Projection, NAD 83

Not to scale unless printed at 34'x 44'

Disclaimer

Although we take great care in the preparation of this information and are confident that it is accurate, we do not give any warranty as to its accuracy or suitability for any purpose that it might be used for. Users assume the risk associated with the accuracy and results of the contents of this document.

Map Notes

Map contents are for illustration purposes only and are representative of data captured from varying sources using differing scale and accuracy. Exact locations of specific map features or in relation to adjacent or corresponding features should be determined on the ground.

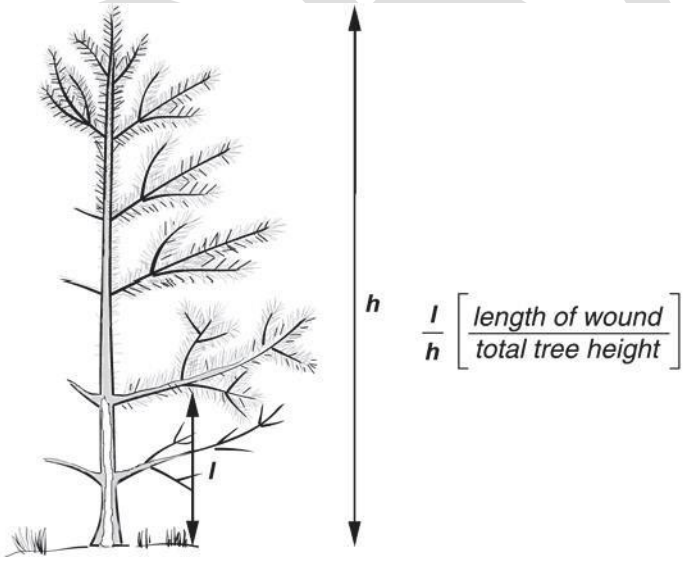
In many instances, only information pertinent to the FSP and more specifically to the Forest Development Unit has been displayed on the map. Information that does not intersect the Forest Development Unit may not be shown.

Appendix B: Cedar Regeneration (and Free Growing) Acceptability Criteria

a. ***Table 12: Free growing damage Criteria for even-aged (age class 1) coniferous trees.***

Location of damage	Type of damage	Tree being assessed is UNACCEPTABLE if:	Host species	Likely damage agents & damage agent codes	Comments
Stem	**Wound** (including sunscald and girdling)	• 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: Infection).	All	squirrel AS, beaver AZ, vole AV, porcupine AP, hare AH, Warrens root collar weevil IWW, sequoia pitch moth ISQ, fire NB, windthrow NW, sunscald NZ, logging TL, mechanical TM.	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). Healed over wounds (=scars) are acceptable. See Figure A5-1.
Stem	**Insect mining at root collar**	• 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	Pl, Sx	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)	• the pith is horizontally displaced more than 30 cm from the point of defect and originates above 30 cm from the point of germination.	For sweep, all except Cw and Hw	Defoliators ID, white pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP, northern pitch twig moth ISP, sequoia pitch moth ISQ, cattle AC, deer AD, elk AE, moose AM, frost NG, hail NH, snow NY, drought ND, logging TL, mechanical TM.	For **horizontal displacement** see Figure A5-2.
		• the tree leader has been killed three or more times in the last five years (weevil only).	Sx, Ss, Pl	White pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP.	This criterion applies only for terminal weevil damage.
		• the tree has two or more leaders with no dominance expressed after five years growth and the fork originates above 30 cm from the point of germination.	All	terminal weevils (IWS, IWP), frost NG, animal damage A.	**Leader dominance** occurs when the tallest leader is at least 5 cm taller than the second tallest leader. See Figure A5-3.
		• the tree has a dead or broken top at a point that is >2 cm (>3 cm for the coast) in diameter.	All		
Stem	**Infection** (including cankers and galls)	• any infection occurs on the stem.	All	comandra blister rust DSC, stalactiform blister rust DSS, white pine blister rust DSB, western gall rust DSG, atropellis canker DSA.	**Note**: Wounds caused by rodent feeding around rust cankers should have stem rust recorded as the causal agent.
Branch	**Infection** (cankers)	• an infection occurs on a live branch less than 60 cm from the stem.	Pw, Pl, Py	white pine blister rust DSB, comandra blister rust DSC, stalactiform blister rust DSS.	See Figure A5-4.
Branch	**Galls**	• a gall rust infection occurs on a live branch less than 5 cm from the stem.	Pl, Py	western gall rust DSG.	See Figure A5-4.

Location of damage	Type of damage	Tree being assessed is UNACCEPTABLE if:	Host species	Likely damage agents & damage agent codes	Comments
Branch	**Gouting**	• any adelgid **gouting** occurs on a branch.	Ba, Bg, Bl	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.
Foliage	**Defoliation**	• >80% of tree foliage has been removed due to defoliating insects or foliage disease.	All	defoliators ID, foliage diseases DF.	
Stem or Branch	**Dwarf mistletoe infection**	• 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, Pl, Lw, Fd	hemlock dwarf mistletoe DMH, lodgepole pine dwarf mistletoe DMP, larch dwarf mistletoe DML, Douglas-fir dwarf mistletoe DMF.	**Note:** 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 median height of the trees being assessed.
Roots	**Root disease**	• sign(s) or a definitive combination of symptoms of root disease are observed.	All	armillaria root disease DRA, laminated root rot DRL, tomentosus root rot DRT, annosus root disease DRN, blackstain root disease DRB.	**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.
		• 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**.	All	armillaria root disease DRA.	**Note:** All conifer species are considered susceptible. Broadleaf species are considered **not susceptible** for survey purposes only. **Example:** How to apply net down for root disease. If root disease-infected trees are found in the plot: 1. 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; 2. In a second independent sweep, determine the number of well-spaced **infected** trees (including dead infected trees and for DRT only, infected stumps) using MITD (e.g., one infected tree); 3. 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: 12-1(2) = 10). The result is the maximum number of free growing trees tallied for the plot.
		• 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.
		• 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.
		• 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.



b. *Figure 1: Calculation of wound along stem length.*

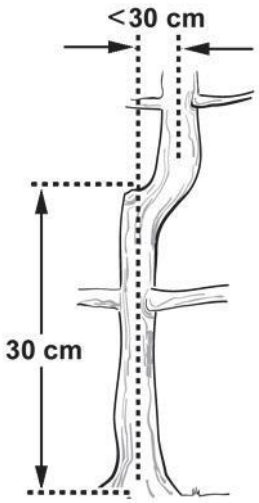


Figure 2: Determining horizontal displacement and height above point of germination when assessing stem deformation.

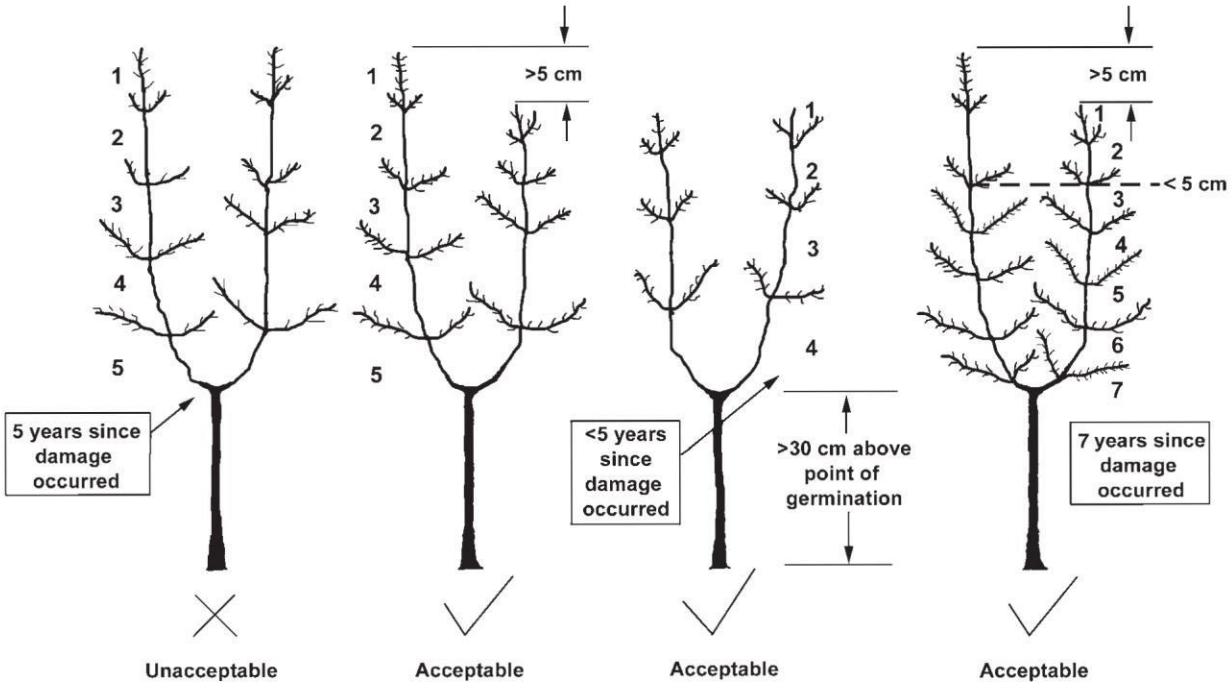


Figure 3: Acceptable and unacceptable forks.

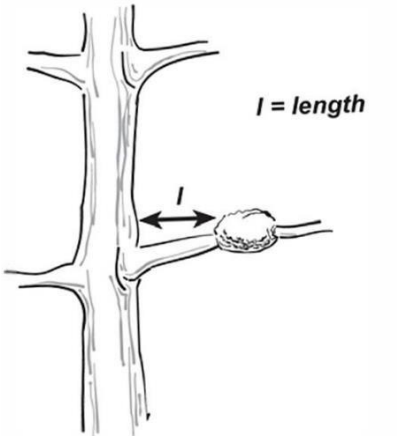


Figure 4: Distance measurement from point of infection by canker or gall to main stem.

Definitions:

Decay: the disintegration of plant tissue. The process by which sound wood is decomposed by the action of wood-destroying fungi and other microorganisms.

Fork: two or more leaders have originated from the loss of a leader or apical shoot. At free-growing age, a fork is considered persistent if it has not differentiated in height between competing leaders by more than 5 cm after five years of growth since the leader damage occurred. Forks may provide entry points for decay fungi, are points of weakness during felling, and may create waste in the highest-value first log.

Gall: nodule or lump of malformed bark or woody material caused by a variety of damaging agents, such as western gall rust and some insects.

Gouting: excessive swelling of a branch or shoot, often accompanied by misshapen needles and buds. Most common at nodes on branches and frequently caused by balsam woolly adelgid on true firs (*Abies* spp.).

Infection: characterized by a lesion or canker on stem or branches or by swelling around the entrance point of a pathogen.

Injury: damage to a tree by a biological, physical, or chemical agent.

Scar: a wound completely healed over with callus tissue

Wound: an injury where cambium is dead (e.g., sunscald) or completely removed. Wounds often serve as entry points for decay fungi.

Appendix C: Even Aged Stocking Standards – LMH #68

Taan's FSP ammendment is now implementing Land Management Handbook #68 (LMH #68) to operationalize stocking standards that are consistent with current data collected, since the release of LMH #28 in 1994. LMH #68, 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 LMH #28 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									
		Conifer Species			Broad-leaf Species	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density (well-spaced/ha)			Regen. Delay (max yrs)	Free Growing Assessment Period		Minimum Height at Free Growing
Zone/ SZ	Site Series	Primary	Secondary	Tertiary					Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species-Height (m)
CWHwh1	101	Hw Ss Cw	Yc		Dr	1047994	Hw Ss Cw Yc		900	500	400	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Yc-1.5
CWHwh1	102	Cw Hw	Yc Ss	Pl	Dr	1047995	Cw Hw Ss Yc	Pl	900	500	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHwh1	105	Cw Ss	Hw		Dr	1047996	Cw Ss	Hw Yc	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Yc-2.0
CWHwh1	110	Cw Hw		Pl Ss	Dr	1047998	Cw Hw Yc	Pl	900	500	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHwh1	111	Cw Ss	Hw		Dr	1047999	Cw Ss Yc		900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Yc-2.0
CWHwh1	116	Cw Ss	Hw		Dr	1048000	Cw Ss	Hw Yc	800	400	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Yc-2.0
CWHwh1	112	Ss	Cw Hw		Dr	1048001	Ss	Cw Hw Yc	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Yc-2.0

CWHwh1	113	Ss	Cw	Hw	Dr	1048002	Ss	Cw Yc	900	500	400	6	11	20	Ss-4.0, Hw-2.75, Cw-2.0, Yc-2.0
CWHwh1	114	no coni-fers		Ss	Dr		no conifers		-	-	-	-	-	-	
CWHwh1	115	Cw	Hw Yc	Hm Pl	Dr	1048003	Cw Hw Pl Yc		800	400	400	6	11	20	Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0, Hm-0.75
CWHwh1	Wb51*	Pl		Cw Yc		1048004	Pl	Cw Yc	400	200	200	6	11	20	Pl-1.25, Cw-1.0, Yc-1.0
CWHwh1	118a	Cw	Ss	Hw Pl Yc	Dr	1048005	Cw	Ss Yc	800	400	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHwh1	118b	Cw		Hw Pl Yc Ss	Dr	1048006	Cw	Ss Yc	800	400	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHwh1	103.1*	Ss		Cw Hw	Dr	1048007	Ss	Cw Hw Yc	400	200	200	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHwh1	104	Ss		Cw Hw	Dr	1048008	Ss	Cw Hw Yc	900	500	400	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Yc-1.5
CWHwh1	103.2*	Ss		Cw Hw	Dr	1048009	Ss	Cw Hw Yc	400	200	200	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Yc-1.5
CWHwh1	105	Cw Ss	Hw		Dr	1048010	Ss Cw	Hw Yc	900	500	400	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Yc-1.5
CWHwh1	117*	Ss	Cw	Hw	Dr	1048011	Ss	Cw Yc	400	200	200	6	11	20	Ss-2.0, Hw-1.25, Cw-1.0, Yc-1.0

CWHwh2 – even aged

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

CWHvh3 – even aged

BGC Classification		Ecological Suitability for a Timber Objective				Regeneration and Free Growing Stocking Standard									
		Conifer Species			Broad-leaf Species	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density (well-spaced/ha)			Regen. Delay (max yrs)	Free Growing Assessment Period		Minimum Height at Free Growing
Zone/ SZ	Site Series	Primary	Secondary	Tertiary					Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species-Height (m)
CWHvh3	101a	Cw Hw	Pl Yc	Ss	Dr	1047953	Cw Hw Yc	Pl Yc	900	500	400	6	11	20	Ss-3.0, Hw-2.0, Cw-1.5, Pl-1.5, Yc-1.5
CWHvh3	102*	Pl	Cw Yc	Hw	Dr	1047952	Pl Cw Yc		400	200	200	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHvh3	101b	Cw Hw	Pl Yc		Dr	1047954	Cw Hw Yc	Pl	800	400	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHvh3	101c	Cw Hw	Pl Yc		Dr	1047955	Cw Hw Yc	Pl	800	400	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHvh3	105	Hw Ss Cw		Yc	Dr	1047956	Hw Ss Cw	Yc	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75
CWHvh3	106	Cw Ss	Hw	Yc	Dr	1047957	Cw Ss	Hw Yc	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75
CWHvh3	110	Cw Ss	Hw	Yc	Dr	1047958	Cw Ss	Hw Yc	900	500	400	6	11	11	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75
CWHvh3	114	Cw Ss	Hw	Yc	Dr	1047982	Cw Ss	Hw Yc	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75
CWHvh3	111	Ss	Hw Cw		Dr	1047983	Ss	Hw Cw Yc	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75
CWHvh3	112	Ss	Cw	Hw	Dr	1047984	Ss	Cw Yc	900	500	400	6	11	20	Ss-4.0, Cw-2.0, Yc-2.0, Hw-1.75
CWHvh3	113	no conifers		Ss	Dr		no conifers		-	-	-	-	-	-	
CWHvh3	115	Cw Hw Yc	Pl		Dr	1047985	Cw Hw Yc	Pl	800	400	400	6	11	20	Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0

CWHvh3	Wb53*	Cw Pl Yc				1047986	Cw Pl Yc		400	200	200	6	11	20	Pl-1.25, Cw-1.0, Yc-1.0
CWHvh3	117a	Cw Yc	Ss	Pl Hw	Dr	1047987	Cw Yc	Ss	800	400	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHvh3	117b	Cw Yc		Hw Pl Ss	Dr	1047988	Cw Yc	Hw	800	400	400	6	11	20	Ss-2.0, Hw-1.25, Pl-1.25, Cw-1.0, Yc-1.0
CWHvh3	103.1*	Ss		Cw Hw	Dr	1047989	Ss	Cw Hw Yc	400	200	200	6	11	20	Ss-2.0, Hw-1.25, Cw-1.0, Yc-1.0

MHwh – even aged

BGC Classification		Ecological Suitability for a Timber Objective				Regeneration and Free Growing Stocking Standard									
		Conifer Species			Broad-leaf Species	RESULTS Stocking Standards ID	Preferred (p) Species	Acceptable (a) Species	Density (well-spaced/ha)			Regen. Delay (max yrs)	Free Growing Assessment Period		Minimum Height at Free Growing
Zone/ SZ	Site Series	Primary	Secondary	Tertiary					Target	MIN pa	MIN p		Earliest (yrs)	Latest (yrs)	Species-Height (m)
MHwh	101	Hm Yc	Hw Ss	Cw		1048019	Hm Yc	Hw Ss	900	500	400	7	15	20	Ss-1.5, Cw-1.0, Hm-1.0, Hw-1.0 Yc-1.0
MHwh	102*	Hm Yc	Pl	Cw		1048020	Hm Yc	Pl	400	200	200	6	12	20	Pl-1.3, Cw-0.75, Hm-0.75, Yc-0.75
MHwh	110	Hm Yc	Ss	Cw Hw		1048021	Hm Yc	Ss	900	500	400	7	15	20	Ss-1.5, Cw-1.0, Hm-1.0, Hw-1.0, Yc-1.0
MHwh	101c	Hm Yc	Hw	Cw		1048022	Hm Yc	Hw	900	500	400	7	15	20	Cw-1.0, Hm-1.0, Hw-1.0, Yc-1.0
MHwh	111	Hm Yc	Ss	Cw Hw		1048023	Hm Yc	Ss	900	500	400	6	12	20	Ss-1.5, Cw-1.0, Hm-1.0, Hw-1.0, Yc-1.0
MHwh	111	Hm Yc	Ss	Cw Hw		1048024	Hm Yc	Ss	800	400	400	7	15	20	Ss-1.0, Cw-0.75, Hm-0.75, Hw-0.75, Yc-0.75
MHwh	111	Hm Yc	Ss	Cw Hw		1048025	Hm Yc	Ss	900	500	400	6	12	20	Ss-1.0, Cw-0.75, Hm-0.75, Hw-0.75, Yc-0.75
MHwh	Wb53*	Yc	Pl Hm	Cw		1048026	Yc	Hm Pl	400	200	200	6	12	20	Pl-1.3, Ss-1.0, Cw-0.75, Hm-0.75, Yc-0.75
MHwh	111	Hm Yc	Ss	Cw Hw		1048027	Hm Yc	Ss	800	500	400	6	12	20	Ss-1.0, Cw-0.75, Hm-0.75, Hw-0.75, Yc-0.75

Appendix D: Even Aged 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 Ss/3.0 Cw/1.2 Dr/4.0	900	500	2.00 (Dr/1.5)	6	20
01s	Hw/2.0 Cw/1.2 Ss/3.0 Plc/2.0	900	500	2.00	6	20
02	Cw/1.2 Hw/1.3 Plc/1.3 Ss/2.0	900	500	2.00	6	20
03	Ss/3.0 Cw/2.0 Hw/2.8 Yc/1.2 Dr/4.0	900	500	2.00 (Dr/1.5)	6	20
04	Cw/1.2 Hw/1.3 Yc/1.2 Plc/1.3 Ss/2.0 Dr/4.0	900	500	2.00 (Dr/1.5)	6	20
05	Hw/2.8 Cw/1.2 Ss/3.0 Dr/4.0	900	500	2.00 (Dr/1.5)	6	20
06	Hw/2.8 Cw1.2 Yc/1.2 Ss/3.0 Hm/2.8 Dr/4.0	800	400	1.50	6	20
07	Ss/3.0 Cw/2.0 Hw/2.8 Dr4.0	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)
08	Ss/3.0 Cw/2.0 Dr/4.0	900	500	2.00 (Dr/1.5)	6	20
10	Cw/1.2 Yc/1.2 Hw/1.3 Plc/1.3 Ss/2.0 Hm/0.8	800	400	1.50	6	20
11	Plc/1.3 Cw/1.2 Yc/1.2	400	200	1.50	6	20
12	Cw/1.2 Hw/1.3 Yc/1.2 Plc/1.3 Ss/1.3	800	400	1.50	6	20
13	Cw/1.2 Hw/1.3 Plc/1.3 Ss/2.0	400	200	1.50	6	20
14	Ss/3.0 Hw/2.0 Cw/1.5	900	500	2.00	6	20
15	Ss/3.0 Cw/1.5 Plc/2.0 Hw/2.0	400	200	1.50	6	20
16	Ss/3.0 Hw/2.0 Cw/1.5	900	500	2.00	6	20
17	Ss2.0 Cw/1.2 Hw/1.3	400	200	1.50	6	20
18	Ss/2.0	400	200	1.50	6	20
*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 ≥ 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 Cw/1.2 Ss/1.5 Yc/1.5 Hm/1.0	900	500	2.00	6	20
02	Hw/2.0 Cw/1.2 Yc/1.5 Ss/1.5 Hm/1.0	900	500	2.00	6	20
03	Hw/2.0 Cw/1.2 Yc/1.5 Ss/1.5	900	500	2.00	6	20
04	Hw/2.0 Cw/1.2 Yc/1.5 Ss/1.5	800	400	1.50	6	20
05	Yc/1.2 Cw/1.2 Hw/1.3 Hm/0.8 Ss/1.0	400	200	1.50	6	20
06	Yc/1.2 Cw/1.2 Hw/1.3 Hm/0.8 Ss/1.0	800	400	1.50	6	20

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 Hw/2.0 Yc/1.5 Dr/4.0 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)
	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					
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

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					
	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
	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					

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					
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					
	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 C.

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.

Free Growing Criteria

Conifers

An acceptable conifer crop tree must:

a. Be free from brush competition (consistent with the crop tree to brush height ratio for the BEC applicable BEC unit).

b. Be of good health, form and vigour and meet the Free Growing damage criteria for conifers, as provided in Appendix B, above.

Red Alder

An acceptable red alder crop tree must:

a. Be free from brush competition (consistent with the crop tree to brush height ratio for the BEC applicable BEC unit).

b. Not have a tree pith that is laterally displaced more than 30 cm from the location of the root- crown pith.

c. Not originate from a cut stump.

d. Have one dominant live leader.

e. 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.

f. Not have any fungal infections or insect infestations affecting tissues below the bark surface, visible without destructive sampling.

g. Not be browsed so as to limit its ability to become a crop tree.

Minimum Inter-Tree Distance

The 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:

a. within 20.0m of the road centre-line; or

b. immediately adjacent to stream or riparian areas, naturally Non-Productive Areas, or areas (50m^2) covered with unplantable slash; or

c. on helicopter logged areas, where slash treatment is not practicable; or

d. on any talus site; or

e. immediately adjacent to retained single trees.

Brush Competition at Free-Growing

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

a. For CWHwh1, CWHwh2 and CWHvh2 BEC units, the ratio is 150%.

b. For MHwh BEC Units, the ratio is 125%.

Free Growing Window

The Free Growing window is to be 5-years after the regen obligation has been met, and no later than 20- years after the commencement of harvesting for the development area.

Mixed Conifer – Hardwood Management

Red alder may be the leading species in mixed-hardwood/ conifer (i.e., micro-patch mixedwood)) management situations. Where red alder is the leading species (≥ 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.

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 – Intermediate Entry Cutting Stocking Standards

BCG		Regeneration Guide								Stocking Stand Declaration Dates	
Classification		Ecologically Suitable Species						Stocking Basal Area		Earliest	Latest
Zone / SZ	Series	Layer 1* = 12.5cm DBH						Minimum**	m2/ha	(yrs)	(yrs)
CWHwh1	101	Hw	Ss	Cw	Yc			>=	40	1	1
	102	Cw	Hw	Plc	Ss	Yc		>=	40	1	1
	105	Ss	Cw	Hw	Yc			>=	40	1	1
	110	Cw	Yc	Hw	Plc	Ss	Hm	>=	40	1	1
	111	Ss	Cw	Hw	Yc			>=	40	1	1
	115	Cw	Hw	Yc	Hm	Plc		>=	40	1	1
	116	Cw	Ss	Hw				>=	40	1	1
	Wb51	Plc	Cw	Yc				>=	40	1	1
CWHwh2	101	Hw	Cw	Ss	Yc	Hm		>=	40	1	1
	110	Hw	Cw	Ss	Yc	Hm		>=	40	1	1
	111	Hw	Cw	Ss	Yc	Hm		>=	40	1	1

Layer 1*: crop trees >12.5cm DBH must meet the damage criteria outlined in the SEDRSS Framework Implementation Guide (Coastal) 2014.
Minimum**: is the average basal area across a standard unit post harvest with to openings >0.1 ha.

Layout

A pre-harvest stand profile of diameters at breast height (DBH), species and heights will be reviewed and a range of DBH's and species representative in distribution to the pre-harvest stand will be selected and marked for harvest. Low thinning (thinning from below) will be the prescribed thinning method where practicable, therefore, not targeting only the biggest and best trees.

The size of the intermediate entry will vary by stand size, reserves, windthrow and other FSP or high-level restrictions.

Small groups of trees should not be planned for removal in a commercial thin stand. If groups of trees are removed the opening size must be less than or equal to 0.1ha. This size of opening is not mapped, has no associated regeneration and requirements to establish a Free Growing Stand. The opening is small enough that there would be no impact on the overall productivity and future viability of harvesting the remainder of the stand.

Where safe to do so, snags, poorly formed wolf trees are to be retained and serve as wildlife trees . No work zones may have to be established. Heavily diseased trees with no market value will be felled to waste unless of wildlife habitat potential or non-timber resource value.

Non-merchantable understory trees where appropriate should be retained. Cedar understory must be retained where appropriate.

Thickets of small trees should be retained where possible to be utilized as shelter and cover by wildlife.

Visual Considerations - Retention and Partial Retention areas

Where windthrow risk is low commercial thinning can enhance the views cape along well travelled corridors

Windthrow Consideration

Follow windthrow assessment procedures and review height/ diameter ratios. Avoid high ratios (100) as windthrow, stem breakage and stem bending is likely.

Residual Stand

The residual stand will be a range of DBH's and species representative in distribution to the pre-harvest stand. The resulting stand composition will be within 10% of the species distribution of the original stand, unless forest health acceptability criteria requires additional removal of an individual species.
The stand is expected to continue to develop for future harvest opportunities. The end harvest planned is clear cut/ retention silviculture system.
Road and trail networks are expected to be maintained throughout the rotation of the stand to allow for planned entries or final harvest.

Site Plans and Surveys
A single stocking standard ID will be created via the RESULTS system and additional site series will be added to the standard, as required, using the approved variation mechanism. The appropriate stocking standard ID for the standard unit will be noted in the Site Plan by the prescribing Forester.
Surveying to ensure the standard is met must be 12 months after final harvest. This "window" between allows for time to ensure the target residual Basal Area is retained in the SU and no areas >0.1ha are created through natural processes (windfall, snow press etc.).
If areas >0.1 ha are created by natural events after harvest completion, the new opening may have to be amended and managed with an even aged stocking standard. If less than the target residual basal area of 40m^2/ha is surveyed, an amendment and new stocking standard, as per Table 12 of the FSP, would have to be applied.
The Site Plan must specify that the prescription only covers commercial thinning, harvesting of poles, sanitation, or other intermediate cuttings.

The following stocking information is to be included in the Site Plan for intermediate entry silviculture systems (i.e., commercial thinning) with no regeneration criteria:

a. Preferred and acceptable species of residual trees to ensure a viable future harvest
b. Post-harvest stand structure and composition goals (Basal Area)
c. Species and function of any trees left standing to satisfy non-timber resource objectives

Surveys must be undertaken no earlier than 12 months after the completion of harvesting.

For the NAR report:

- The area
- The BEC information
- Incidence of damage by forest health factors affecting trees
- The post-harvest inventory label, including species component, age, height, density, basal area, volume per hectare and site index
- The number of acceptable and preferred trees per hectare

Appendix F: Single Entry Dispersed Retention System (SEDRS) Stocking Obligations

Haida Gwaii Single Entry Dispersed Retention System (SEDRS) Stocking Standards
The procedures below outline the stocking standard and survey process to determine if stocking obligation has been met on partially harvested blocks on Haida Gwaii. These procedures are as of yet untested on Haida Gwaii and may be amended as necessary.
As this method/policy has yet to be implemented operationally on Haida Gwaii it is be considered as part of an adaptive management process and may be reviewed and improved on an ongoing basis. It is acknowledged that the SEDRS stocking standard will need to be reviewed in the next 5 years (i.e., at the end of the term, of the FSP), including a review of any Timber Supply impacts. To ensure that there are no significant adverse impact to the Timber Supply, application of the SEDRS stocking standard will be limited to less than 0.1% of the Timber Harvesting Landbase, on an annual basis, for all The Plan Holder combined.

Regen and Free-Growing Obligation Timing

Where required, the regen obligation date for stands managed under the SEDRS stocking standard is between 2 and 6 years, from harvest commencement.
Where required, the Free Growing obligation for stands managed under the SEDRS stocking standard is between 2 and 20 years, from harvest commencement, consistent with even-aged stocking standards.
If the stocking obligations are met after 2-years, a Free-Growing declaration may be made, consistent with FPPR s. 97 or 97.1.

Species Selection

Overstorey and understorey tree species acceptability is the same as described for the even-aged stocking standards in Appendix C, for the applicable site-series. Given that overstorey densities will be variable, depending on the level of harvesting, light interception by the overstorey will be factored into the species acceptability for a particular harvest area and balanced against individual tree species shade tolerance. Shade tolerant species will be considered acceptable where residual basal area is high, whereas shade intolerant species will not.

Post-Harvest Sampling Procedures

Stratification

The sampling procedures described are to be applied to areas with a residual basal area (RBA) of>5 to < 40m^2/ha. As such, development areas will be stratified according to the following criteria:

- Areas >0.1ha with ≤ 5m^2/ha will be assessed according to even-aged stocking standards and survey procedures.
- Areas ≥ 0.25ha uncut will be classified as group retention and be removed from the NAR and survey area.

Overstorey

Measure overstorey RBA using a prism that is suited to the tree sizes on site to capture, on average, a minimum of 4 trees per plot in an uncut portion of the stand (or cut and leave trees). The cruise compilation should guide the choice of prism size.

Tally all overstorey trees, by species, as either crop trees or non-crop trees (as defined in Appendices 1 and 2 of SEDRS Discussion Paper, dated November 5, 2009). Only overstorey crop trees contribute to RBA and the determination of differential from potential (DFP), as presented in Table 1.

Acceptable overstorey crop trees must meet the criteria specified in the Appendix F, based on the SEDRS Discussion Paper, dated November 5, 2009.

Understorey

An unimpeded well-spaced stem must be:

- Outside of the drip-line of overstorey trees.
- Healthy trees that meet the advanced regeneration criteria, as defined in Appendix G, based on the SEDRS Discussion Paper, dated November 5, 2009.
- Greater than the minimum described height for all species identified as suitable for the site (heights are determined as 75% of the heights provided in the Reference Guide for FDP Stocking Standards – for the Vancouver Forest Region[1] (MFLNRO, November 2010).

Unimpeded by vegetation (herbaceous or shrubs overtopping the stem).

Key elements of survey methodology

Pre-stratify: Identify SEDRS areas using stratification criteria described above

Plots: establish 1 plot per ha within a stratum (SU) with a minimum of 5 plots per stratum (SU), and a maximum of 15 plots per stratum (SU)

Plot Size: 0.005ha (3.99m radius)

Measurements**:** Determine RBA and the UWS stems per plot

Stocking Decision

Use Table 14, to determine Deviation-from-Potential and stocking category (open [O], partially stocked [P] or stocked [S]) for each plot. A block is deemed stocked if:

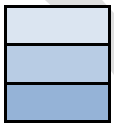
- average DFP value for all plots is ≤ 0.2, and
- proportion of plots in the S (stocked) category is ≥ 60%, and
- proportion of plots in the O (open) category is ≤ 20%

[1] http://www.for.gov.bc.ca/hfp/silviculture/stocking_stds.htm

Table 14: Deviation from Potential.

Overstorey BA (m^2/ha)	Well-Spaced Trees in Plot*								
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
5	0.86	0.65	0.45	0.30	0.19	0.11	0.06	0.02	0.00
6	0.82	0.62	0.43	0.28	0.18	0.11	0.06	0.02	0.00
7	0.77	0.58	0.40	0.27	0.17	0.10	0.05	0.02	0.00
8	0.72	0.55	0.38	0.25	0.16	0.09	0.05	0.02	0.00
9	0.67	0.51	0.35	0.23	0.15	0.09	0.05	0.02	0.00
10	0.62	0.47	0.32	0.21	0.14	0.08	0.04	0.02	0.00
11	0.57	0.43	0.30	0.20	0.12	0.07	0.04	0.02	0.00
12	0.52	0.39	0.27	0.18	0.11	0.07	0.04	0.01	0.00
13	0.47	0.35	0.24	0.16	0.10	0.06	0.03	0.01	0.00
14	0.42	0.32	0.22	0.15	0.09	0.05	0.03	0.01	0.00
15	0.38	0.28	0.20	0.13	0.08	0.05	0.03	0.01	0.00
16	0.33	0.25	0.17	0.11	0.07	0.04	0.02	0.01	0.00
17	0.29	0.22	0.15	0.10	0.06	0.04	0.02	0.01	0.00
18	0.26	0.19	0.13	0.09	0.06	0.03	0.02	0.01	0.00
19	0.22	0.17	0.12	0.08	0.05	0.03	0.02	0.01	0.00
20	0.19	0.14	0.10	0.07	0.04	0.02	0.01	0.01	0.00
21	0.16	0.12	0.08	0.06	0.04	0.02	0.01	0.00	0.00
22	0.13	0.10	0.07	0.05	0.03	0.02	0.01	0.00	0.00
23	0.11	0.08	0.06	0.04	0.02	0.01	0.01	0.00	0.00
24	0.09	0.07	0.05	0.03	0.02	0.01	0.01	0.00	0.00
25	0.07	0.05	0.04	0.02	0.02	0.01	0.00	0.00	0.00
26	0.05	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00
27	0.04	0.03	0.02	0.01	0.01	0.00	0.00	0.00	0.00
28	0.02	0.02	0.01	0.01	0.01	0.00	0.00	0.00	0.00
29	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00
30 – 40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

* Total number of well-spaced trees in a 0.005ha plot at a minimum inter-tree distance of 1.5m



"Open"
"Partially Stocked"
"Stocked"

Appendix G: Health and Vigour Criteria for Overstorey Crop Tree

BASED ON SUSPECT INDICATORS (PROVINCIAL CRUISING MANUAL – JUNE 2007)

CONKS, Heartrot conks on roots, live branches, or trunks, as considered below:

Conks are the fruiting bodies (sporophores) of decay fungi and are definite and reliable indicators of decay. Conks occur anywhere on the main stem, branches and exposed roots of the tree but appear most frequently around knots and on the underside of both dead branch stubs and live branches. Only specific root, butt and heart rot conks are suspect indicators. Slash conks are not suspect indicators.

It is necessary to be able to recognize the conks of the major heart rotting fungi found on living conifers and hardwoods. On conifers, the main conks to recognize are, Echinodontium tinctorium, Phellinus (Fomes) pini, Phaeolus (Polyporous) schweinitzii and Fomitopsis (Fomes) pinicolii. On hardwoods, the main conks are Phellinus igniarius and Phellinus tremulae. See the following host list for major and some minor heartwood decay species.

Conks vary in size and shape and therefore are hard to spot, particularly when they are just developing or occur on the upper trunk. Conks of E. tinctorium and Phellinus pini, frequently appear as a small hoof-like or shelf-like structure on the underside of dead branch stubs on the middle and/or lower trunk of an infected tree. Moss-covered branch stubs and burls often resemble conks, particularly when viewed from directly below; it is important therefore to view the tree from the side before making a decision.

P. schweinitzii

P. schweinitzii is the cause of brown cubical root and butt rot of most conifers but Douglas-fir and spruce are the most susceptible. The fruiting bodies may occur:

a. on the base of a tree,

b. on the ground up to 2 m from the tree where no exposed roots are evident, or

c. on the exposed roots.

If a P. schweinitzii conk is mid-way between:

a. Two living susceptible trees only one tree is considered to be infected.

b. A highly susceptible species (e.g., Douglas-fir) and a less susceptible species (e.g., red cedar), the most susceptible species is considered to be infected.

c. A living tree and a stump showing brown cubical rot, and it is not on a root of the live tree, it is assumed to be associated with the stump.

Blind Conks

Blind conks are pronounced swellings or depressions around knots caused mainly by P. pini on conifers and P. tremulae on aspen and if identified correctly, are definite indicators of decay (see Figure A.4).
The swelling or depression results from the tree attempting to heal over an abortive conk; a newly developing conk; or a point from which an old conk has dropped. Non-typical forms may appear as small branch holes or branch stubs at the base of trees. This form is often found in over-mature Douglas- fir and balsam species in the coast-interior transition zone (e.g., Boston Bar). Therefore over-mature trees with basal branch stubs should be examined for blind conk.

Poor trees should have only those indicators which have a high chance of being blind conk such as

large swollen knots and large caved-in knots. Do not call small knots and knot indicators on any species.

WOUNDS/ SCARS

A tree will be considered a non-crop tree with a wound or scar on the main stem (or secondary leader) that is not recent in origin. This is interpreted as the injury having not occurred within approximately the past five years. These may be open or closed wounds and generally have the following characteristics:

a. Aging - the scar or cat-face should show greyed or weathered wood and enough decay, when combined with other factors, indicates little or no value.

(PROVINCIAL CRUISING MANUAL – JUNE 2007)

b. Severe Recent Wound[2] Wounding as described in the Wounding and Decay Guidebook (BC MoF 1997) identifies different damage types that may lead to decay and possibly death. The guidebook breaks out damage criteria by management regime and by species groups.
Species susceptibility to decay, ranked from greatest to least: Broadleaf
B, H, Lw, Ss and Cw under 60 years
Yc, Sx and Cw over 60 years
Fd, Pw
Pl, Py
Based on the species group use the following to help identify trees susceptible to mortality:

Fd, Pl, Py and Pw:

c. A wound that girdles more than half the stem circumference.

ALL OTHER CONIFERS:

d. A wound girdles more than a third of stem circumference.

e. A wound on a supporting root within 1 m of the stem.

f. A gouge (splintered wood) any size.

All Broadleaf species:

g. A wound girdles more than a third of stem circumference.

h. A wound exceeding 400 cm^2 on the stem.

i. A wound supporting root within 1 m of the stem.

j. One gouge (splintered wood) any size.

[2] based on the 1997 BC Tree Wounding and Decay Guidebook recommendation for short term retention (20 years). The assumption is that these trees are at significant risk of mortality.

The presence of the following should be used to make the designation of non-crop – may wish to review in the field, these indicators could be used as a separate category – risker.

FORK OR PRONOUNCED CROOK

Any tree with a fork or pronounced crook as described below:

A fork or crook is the result of damage to the main leader of the tree where one or more lateral limbs take over as the main stem. Fork or crook is called if severe enough to indicate that the original injury exposed the wood and provided an entrance point for decay fungi. Forks or crooks are to be called between the root collar and the minimum top diameter specified in the cutting authority document.

Forks are used to indicate a poor tree for any of the following conditions:

a. The main stem is markedly forked to indicate that 2 or more leaders have resulted from serious damage to the original leader.

b. The diameter of the main stem changes excessively from its normal taper to indicate that a serious injury has occurred. For cruising purposes, the diameter change must be at least 10 percent.

c. Where there is no evidence of a broken top in the stem at the fork/crook position and neither of the leaders are merchantable, record fork/crook.

Crooks are used to indicate a poor tree if:

a. There is at least a 10 percent diameter change in the bole above and below the crook.

b. The offset is severe enough to indicate that damage occurred to the main stem. For cruising purposes, the offset must be at least 50 percent of the diameter of the tree at the crook.

c. There is a high likelihood that the stem could be snapped or broken by winds or snow-loading during the rotation.

Some forks and crooks are not used as "RISKER" indicators. Forks and crooks may be a growth characteristic of the tree species (for example deciduous species) or may have developed from malformation of the terminal leader due to insect or mistletoe attack. In addition, a fork may be confused with a branch. Forks or crooks which are not used as indicators of poor trees are as follows:

a. Crooks with a minor offset (for cruising purposes, an offset less than 50 percent of the diameter of the tree at the crook).

b. Small sharply angled branches or spikes (for cruising purposes, less than a 10 percent change in the diameter of the main stem).

c. Natural forking in deciduous tree species.

d. If the damage is less than 5 years old and/or occurs above the minimum timber merchantability specifications specified in the Timber Utilization Policy (Coast or Interior).

e. Flattening of the top of the tree caused by wind or natural out-

growth. Live Crown criteria:

A minimum of 30 % live crown unless otherwise described.

MISTLETOE TRUNK INFECTIONS

Only trees with a Hawsworth index[3] ≤ 3 without severe branch or stem swelling can contribute as a crop tree.

Characteristics and impacts are described below:

Trunk infections of mistletoe are indicated either by abnormal swelling or malformations of the trunk at the point of infection, or by clusters of dead and broken branches on the trunk or on hypertrophied branches immediately adjacent to the trunk.

Wood-rotting fungi gain entrance to the trunk through the dead hypertrophied branches or branch stubs where the swelling is on, or adjacent to the trunk. This can often put the tree at a high risk of breakage from wind or snow.

Do not include mistletoe on living limbs or limbs that are swollen only at some distance from the trunk. Include only those branch infections in which the swelling has clearly extended to trunk.

Vigour criteria specific to Western Red cedar:
Consider a crop tree if live and sound with greater than 2nd/3rd of the stem producing ≥50 % merchantable timber product. Trees with spiral grain are not considered as crop trees.

[3] Hawksworth six-class dwarf mistletoe rating system as identified at the following link: http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/dwarf/fig5.htm

Appendix H: Advanced Regeneration Acceptability Criteria for the SEDRS Stocking Standard

Location of damage	Type of damage	Tree being assessed is UNACCEPTABLE if:	Host species	Possible damage agents & damage agent codes	Comments
Stem	WOUND (including sunscald and girdling)	• Refer to table X for layers 1-4.	All	squirrel AS, beaver AZ, vole AV, porcupine AP, hare AH, Warrens root collar weevil IWW, fire NB, windthrow NW, sunscald NZ, logging TL, mechanical TT.	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).Healed over wounds (=scars) are acceptable.
Stem	DECAY	• Any pathological indicator(s) are present. This may include **conk, blind conk, frost crack, or rotten branches.**	All	various decay fungi DD.	
Stem	DEFORMATION (including crook, fork, and dead or broken top)	• These criteria apply to layer 1& 2 trees only. For layers 3 & 4 use the even-aged damage criteria. •A crook displaces the portion of the stem above the defect by >50% from the line of growth formed by the stem below the point of defect in the bottom 2/3rds of the stem only. •A fork occurs above stump height in the bottom 2/3rds of the stem only. •A dead or broken top extends more than 20% of the stem length or the live crown is removed.	All	defoliators ID, white pine (spruce) weevil IWS, lodgepole pine terminal weevil IWP, cattle AC, deer AD, elk AE, moose AM, frost NG, hail NH, snow NY, drought ND, logging TL, mechanical TT, Dwarf mistletoes (see below).	
Stem	INFECTION (including cankers, and galls	• Any infection occurs on the stem.	All	comandra blister rust DSC, stalactiform blister rust DSS, white pine blister rust DSB, western gall rust DSG, atropellis canker DSA, exploding canker DTNT, Dwarf mistletoes (see below).	Note: Wounds caused by rodent feeding around rust cankers should have stem rust recorded as the causal agent.
Branch	INFECTION (cankers)	• These criteria apply to layer 2, 3 & 4 trees only. An infection occurs on a live branch less than 60 cm from the stem.	Pw, Pl, Py	white pine blister rust DSB, comandra blister rust DSC, stalactiform blister rust DSS.	Branch infections on layer 1 trees can be ignored.
Branch	GALLS	• These criteria apply to layer 2, 3 & 4 trees only. A gall rust infection occurs on a live branch less than 5 cm from the stem.	Pl, Py	western gall rust DSG.	Branch infections on layer 1 trees can be ignored.

Location of damage	Type of damage	Tree being assessed is UNACCEPTABLE if:	Host species	Possible damage agents & damage agent codes	Comments
Foliage	DEFOLIATION	For defoliating insects: • > 80% of foliage has been removed, lost or damaged due to foliage disease. For foliar diseases: • > 50% of foliage has been removed, lost or damaged	All	defoliators ID, foliage diseases DF.	
Stem or Branch	ADELGID GOUTING	• Any adelgid gouting occurs on a stem or branch.	Ba, Bg, Bl	balsam woolly adelgid IAB.	Gouting is defined as excessive swelling on 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	These criteria apply to layer 2, 3 & 4 trees: • Any infection occurs on the stem or a live branch, or • A susceptible tree is located within 10 m of a higher layer tree that is infected with dwarf mistletoe. These criteria apply to layer 1 trees: • Hawksworth rating >3, or severe stem infections (major swelling or deformity) present.	Hw, Pl, Lw, Fd	hemlock dwarf mistletoe DMH, lodgepole pine dwarf mistletoe DMP, larch dwarf mistletoe DML, Douglas-fir dwarf mistletoe DMF.	Note: To confirm infection, the surveyor must observe mistletoe aerial shoots or basal cups on regeneration or on live or dead fallen brooms. The Hawksworth rating system is described in the FPC Dwarf Mistletoe Management Guidebook.

TABLE X. Tree wounding criteria for layers 1-4. Trees are unacceptable if any ONE criterion is met.

STAND MANAGEMENT OBJECTIVE[1]				
TREE SPECIES	SHORT TERM RETENTION[2] (Layers 1 & 2)	LONG-TERM RETENTION[3] (Layers 1 & 2)	UNEVEN-AGED [4] (Layers 1 & 2)	LAYERS 3 & 4
B, H, Lw, Ss and Cw <60 years	W.>33%C., or MRW 1m, or G.	W.>33%C., or MRW 1m, or G. 1 W.>400cm²	W.>33%C., or MRW 1m, or G. 1 W.>400cm²	See table 21
Cy, Sx and Cw >60 years	W.>33%C., or MRW 1m, or G	W.>33%C., or MRW 1m, or G. 1 W.>400cm²	W.>33%C., or MRW 1m, or G. 1 W.>400cm²	
Fd, Pw	W.>50% C.	W.>33%C., or MRW 1m, or G.	W.>33%C., or MRW 1m, or G. 1 W.>400cm²	
Pl, Py	W.>50% C.	W.>50% C.	W.>33%C., or MRW 1m, or G.	

[1] The stand management objective should be specified in the site plan. Where it is not, the criteria for uneven-aged management should be applied.
[2] Where tree will be removed within 20 years.
[3] Where tree will be removed in more than 20 years.
[4] Where stand is managed in a true uneven state.
[5] A gouge involves a wound where penetration is into the sapwood or deeper.

W. = Wound C.= Circumference G. = Gouge[5]
MRW = Major Root Wound within1 m of the stem.

Location of damage	Type of damage	Tree being assessed is UNACCEPTABLE if:	Host species	Possible damage agents & damage agent codes	Comments
Roots	ROOT DISEASE	• Sign(s) or definitive combinations of symptoms of root disease are observed.	All	armillaria root disease DRA, laminated root rot DRL, tomentosus root rot DRT, annosus root disease DRN, blackstain root disease DRB.	Signs are direct evidence of the pathogenic fungus including fruiting bodies, distinctive mycelium or rhizomorphs. Symptoms include foliar thinning or chlorosis, pronounced resin flow near the root collar, reduced recent leader growth, a distress cone crop, and wood decay or stain. Symptoms alone are not usually sufficient to identify root disease. Both signs and symptoms may be detected from old stumps, root balls, or other post-harvest remains.
		• Infected conifer found in plot. See Table Y for well-spaced tree net down calculation by layer.	All	armillaria root disease DRA.	Note: All conifer species are considered susceptible. Broadleaf species are considered not susceptible for survey purposes only.Example: How to apply net down for root disease.If root disease-infected trees are found in the plot: 1.Determine the number of healthy, well-spaced trees in each layer using the prescribed minimum inter-tree distance (MITD) (e. g., 3 layer 1, 3 layer 3 and 4 layer 4 = 10 healthy, well-spaced) ignoring the M-value; 2.Count the number of infected trees (e. g., 1 layer 1 tree and 1 layer 3 tree); 3.Working from the uppermost layer down, apply the multiplier in Table Y to each lower layer. Subtract the resultant from each layer in turn, for susceptible species only (e. g., if all trees are susceptible, 1 infected layer 1 tree removes 1 healthy, well-spaced layer 1 tree plus 3 layer 3 trees plus 4 layer 4 trees). Note the effects are cumulative, not exclusive and lower layers do not effect higher layers; 4.Calculate the remaining healthy, well-spaced trees once all removals due to infected trees are completed (e. g. 10 – 8 = 2). The result is the maximum number of free growing trees tallied for the plot.
		• Infected conifer found in plot. See Table Y for well-spaced tree net down calculation.	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.
		• Infected conifer or stump found in plot. See Table Y for well-spaced tree net down calculation.	Se, Sx, Pl	tomentosus root rot DRT.	Note: Ba, Bl, Cw, Fd, Pw, Py and broadleaf species are considered not susceptible for survey purposes only.
		• Infected conifer found in plot. See Table Y for well-spaced tree net down calculation.	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.

Table Y Deductions from number of acceptable well spaced uninfected stems for trees infected by root disease in unevenaged stand layers.

Infected trees or stumps	Multiplier to determine number of trees to be deducted from:			
	Layer 1	Layer 2	Layer 3	Layer 4
Layer 1	1	2	3	4
Layer 2	-	2	2	3
Layer 3	-	-	2	2
Layer 4	-	-	-	2

* Taken from Sections 21 and 26 FS 660

http://www.for.gov.bc.ca/hfp/silviculture/Silviculture_Surveys.html,

http://www.for.gov.bc.ca/isb/forms/lib/FS660.PDF