A&A Trading (Haida Gwaii) Ltd.

Forest Stewardship Plan Supporting Information

October 26, 2017

Table of Contents

List of Tables

List of Figures

Supporting Information

1.0 Preamble

This FSP Supporting Information document is meant to assist reviewers in the FSP approval process. Where necessary, rationales have been provided for results and strategies within the FSP that may require added clarification and background information, in order for FSP reviewers to fully understand the intent and direction proposed by the plan Holder.

2.0 Application

Definitions

"integrity" means the state or condition of the feature or habitat has not been materially affected by the activity.

"practicable" means practicable as defined in the FRPA General Bulletin #3 June 9, 2005.

Cumulative Targets

It is understood that A&A Trading (Haida Gwaii) Ltd. (AAHG) operations must factor in adjacent licensees operations so that shared landscape unit objectives targets are managed consistent with the Haida Gwaii Land Use Order Objectives (HGLUOO). The AAHG Forest Stewardship Plan (FSP) Forest Development Unit (FDU) is located entirely within the Skidegate Landscape Unit Plan (LUP) area. Other licensee operating within the Skidegate LUP include Taan Forest and BC Timber Sales. AAHG is committed to working together with these licensees in a cooperative and collaborative manner to ensure objectives are consistently achieved. AAHG will account and report annually on cumulative targets for the Skidegate Landscape Unit.

Park, Protected Areas and other Designations in Effect

Parks, protected areas and other designations in effect are included on the FSP Forest Development Unit map using current spatial information downloaded from the BC Geographic Warehouse. Where AAHG proposes development areas near parks, protected area or other designations in effect that preclude harvesting and road construction, AAHG will plan and implement operations in a manner that will ensure the adjacent areas are not materially impacted by planned activities. Legal survey boundaries will be located in the field and confirmed prior to application for permit approvals. Boundary locations for designations without a legal survey will be located and mapped using a commercial grade GPS unit.

3.0 Results & Strategies

Objectives Prescribed Under FRPA Section 149

Soils – Forest Planning & Practices Regulation (FPPR) S. 35 & 36

AAHG has decided to comply with FPPR Sections 35 and 36. In order to comply with Section 35 a soil sensitivity rating must be determined. Soil sensitivity is determined through the completion of a soil hazard assessment. The methodology used to complete this assessment is described in the Forest Practices Code of British Columbia, Hazard Assessment Keys for Evaluating Site Sensitivity to Soil

Degrading Processes Guidebook, Version 2.1 March, 1999.

In complying with FPPR S.35, AAHG must not cause the amount of soil disturbance on the net area to be reforested to exceed the following limits:

(a) if the standards unit is predominantly comprised of sensitive soils, 5% of the area covered by the standards unit, excluding any area covered by a roadside work area;

(b) if the standards unit not is not predominantly comprised of sensitive soils, 10% of the area covered by the standards unit, excluding any area covered by a roadside work area;

(c) 25% of the area covered by a roadside work area.

Compliance with FPPR S. 36 requires AAHG to ensure that the area in a cutblock that is occupied by permanent access structures built by the holder or used by the holder does not exceed 7% of the cutblock, unless

(a) there is no other practicable option on that cutblock, having regard to

(i) the size, topography and engineering constraints of the cutblock,

(ii) in the case of a road, the safety of road users, or

(iii) the requirement in selection harvesting systems for excavated or bladed trails or other logging trails, or

(b) additional permanent access structures are necessary to provide access beyond the cutblock.

Soil disturbance limits and site degradation amounts are documented in the Site Plan for each development area.

Cultural Objectives (LUO)

Prior to commencing timber harvesting or road construction activities in a development area, AAHG will ensure that a Cultural Features Identification Survey and if required an Archaeological Impact Assessment (AIA) has been completed for the proposed area by a surveyor certified by the Council of the Haida Nation and share the results of the survey with the Haida Nation and include the results in the submission for application approval.

Haida Traditional Heritage Features (HTHF)

The Council of the Haida Nation's Cultural Features Identification Survey manual indicates that where potential HTHFs are identified during a survey an independent AIA will be required/conducted. Where AIAs are completed, it is standard practice for the archaeological report to indicate the cultural significance of features that are identified. Therefore, the AIA will be considered the source for determining the significance of the identified feature and whether it is ultimately considered an HTHF (i.e., as listed in Schedule 2 of the LUO and is determined to be of continued cultural significance to the Haida Nation).

<u>Karst</u>

"Karst Features" are identified in the HGLUO as Class 2 HTHFs, and have results specific to the LUO Objectives for HTHFs. Under the LUO, Karst Features are not well defined and would therefore include all potential karst occurrences.

"Karst Resource Features" have also been established through GAR Order where Karst is given a more specific definition. Additional results have been specified for the FRPA requirements.

Proposed harvesting and road development in mapped areas of "karst potential" will be surveyed by a qualified professional prior to submission of plans for approval. Karst resource features will be managed consistent with the HGLUO and GAR Orders. Where there is a discrepancy between requirements for protection of the feature under the GAR Order and HGLUOO, the higher level of protection will prevail.

Haida Traditional Forest Features (HTFF Class 2 & 3)

Stand level retention, where practicable, will be used to protect class 2 and 3 HTFF. A minimum of 50% of all class 2 HTFF will be protected. To maximize HTFF protection, HTFFs that require stand level retention to protect the integrity of the feature will be given priority over those that don't within development areas. Whenever possible stand level resource values will be co-located in development areas. Some examples of stand level resource values include yew tree patches, HTFF, bear dens and aquatic reserves.

Cedar Retention

Figure 1 provides an example of the methodology used for determining cedar retention area in development areas. Cedar retention areas will be representative of the pre-harvest stand condition and include a range of diameters similar to the areas being harvested.

Figure 1 Cedar Retention Methodology

Sample Development Area

Development Area = 35.0ha, consisting of 3 inventory polygons

Polygon A= 15.0ha - Inventory= C_{10}

Polygon B = 10.0ha - Inventory= H_5B_5

Polygon C = 10.0ha - Inventory = H_5C_5

No-harvest zones established for Type I Fish Habitat= 3.5ha (Inventory = C_{10}) Monumental Cedar No-harvest zone= 2.5ha (Inventory = H_5C_5)

Weighted Cedar Content Calculation

The weighted pre-harvest cedar composition for the Development Area is calculated as follows:

Cedar % = (sum areas of inventory polygons * associated % cedar content)/area of Development Area

= [(Polygon A* Cw inv. for A) + (Polygon B * Cw inv. for B) + (Polygon C * Cw inv. for C)]/ area of Development Area

= [(15.0ha*100%) + (10.0ha*0%) + (10.0ha*50%)]/35.0ha

= [(15.0 + 0 + 5.0ha)]/35.0ha

= 20.0ha/35.0ha

= 57% = pre-harvest combined cedar content for the Development Area (or 20.0ha, measured in area)

Therefore, as the Development Area is > 10.0ha and the combined pre-harvest cedar content is> 30%, the 15% cedar retention requirement applies.

Calculation of Cedar Area Required

In order to meet the cedar retention requirement, Plan Holder must retain a minimum of 15% cedar, measured in hectares, consistent with the FSP Strategies. For the example above, the minimum cedar retention area required would be calculated as follows:

The minimum Cedar Retention Area required = 15% * the weighted cedar content for the Development Area. As calculated above, the weighted cedar content was 57%, or 20.0ha

= 15%*20.0ha

= 3.0ha

Therefore, for the Development Area, 3.0ha of cedar area must be reserved (i.e., 3.0ha of C_{10} inventory; or 6.0ha of H_5C_5).

Establishing Cedar Reserves

In this example, there are two retention areas already established. The sum of the weighted cedar retention areas associated with the established retention areas is calculated as follows:

Cedar content for Type I Fish Habitat no-harvest zone = (area* cedar inventory for polygon)

= 3.5ha*100%

= 3.5ha

Cedar content for Monumental Cedar no-harvest zone = (area* cedar inventory for polygon)

= 2.5ha*50%

=1.25ha

Therefore, the total weighted area of existing cedar retention areas = 3.5 + 1.25ha = 4.75ha

Summary

Given that there are > 3.0ha of cedar retention areas established for the Development Area and that both of the designated cedar retention areas are greater than 1.0ha in size, for this example, provided that the prescribing Forester confirms that the cedar retention stands contain a range of diameters of cedar that are representative of the pre-harvest stand, all of the strategies for the 15% cedar retention requirement are deemed to be met.

Cedar Regeneration Requirements

Red and Yellow cedar stand composition for the harvest area will be determined based on average live stems per hectare of red and yellow cedar as indicated in the individual block cruise compilation. Cedar reforestation efforts will be documented following planting, indicating amount and location of cedar planted and at scheduled milestone declarations (regeneration delay and free growing) in RESULTS. Planted and natural cedar determined through survey will be counted towards the regeneration requirements. Final cedar species composition will be measured across the block consistent with the pre-harvest cedar composition target. It's anticipated, due to ecological site conditions that not every hectare of the block will be stocked to the minimum amount of cedar stems per hectare. Some areas of the block will have a higher percentage versus areas of lower amounts, as measured across the block.

Cedar regeneration requirements for a block will be calculated by multiplying the net area to be reforested (NAR) times the appropriate Minimum Post-Harvest Cedar Composition, as indicated in Table 1 below. In cases where pre-harvest cedar composition percentage is not representative using stems per hectare, an alternative method to calculate cedar percentage will be uses, such as basil area. Cedar seedlings will be planted in suitable micro-sites that ensure the highest rate of survival. Cedar acceptability criteria is as defined in the Ministry of Forests Guide to Establishment to Free Growing Guidebook for the Vancouver Forest Region-V2.3. If the regeneration survey indicates cedar stems per hectare are below the prescribed minimum number a fill plant will be implemented.

Table 1: 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

Retention of Western Yew

To address objective 8(3), considering operational factors (e.g. harvest method, falling method, and yew tree location) and safety (e.g. danger tree hazards, hazards associated with cable yarding etc.), individual yew trees will be maintained in stand level retention or left standing within the block. Upon request, individual yew trees that had to be cut due to operational factors or for safety reasons will be yarded to roadside and be made available to the Haida Nation. Operational factors can include but are not limited to harvest method, falling method and yew tree location. Safety consideration are those factors that create a hazard to worker safety that must be addressed as per the OH&S Regulation and can include snags, live yew trees that are deemed a hazard to falling and hazard associated with cable yarding such as

line clearance.

Monumental Cedars

AAHG will do the following to track the harvesting and provide Monumental Cedars to the Haida Gwaii Cultural Wood Access Program.

1. Monumental Cedars will be identified during the block planning stage by certified CFI surveyors. Monumental Cedars will be given feature numbers that are easy to scribe into the butt of the log so as to make identification easier (ie. M1 vs. M276).
2. Prior to harvesting, Monumental Cedars will be marked in the field using unique ribbon and/or paint.
3. At time of harvest if there is any confusion on the part of the crew or supervisor work in the area will be suspended and the prescribing forester will be contacted for clarification.
4. Once felled, Monumental Cedars will be marked on the ends with a chainsaw to ensure that the mark can be determined even after it has been moved off site.
5. Stumps will be marked with a chainsaw to show what tree was located in that location.
6. Upon harvesting, Monumental Cedars will be provided to Haida Nation Cultural Wood Program and an estimated availability date will be proposed. All efforts will be made to provide the Monumental Cedars in a timely manner, however due to potential scheduling issues the delivery may be delayed.
7. The Cultural Wood Program will be provided the Monumental Cedar for an amount equal to the associated logging costs

Aquatic Habitats (LUO) & Riparian Areas (FRPA)

Stream Riparian Classifications and Management – HGLUO vs. FRPA

There is significant "overlap" between the requirements under the HGLUO and FRPA (including the FPPR). For most objectives, reconciling the differences between the HGLUO and FRPA is straight forward. However, there is significant conflict between the HGLUO and FRPA regarding stream classification, and to a lesser extent, stream management requirements.

The HGLUO and FRPA both establish stream classification systems, which do not correlate 100% of the time. Both the HGLUO and FRPA establish reserve and management zones, which again, do not correlate (FRPA zones are measured in meters and LUO zones are measured in tree-lengths, which are linked to site series and seral stage). Lastly, the HGLUO and FRPA both establish restrictions and management requirements within riparian areas, but again, these do not necessarily correlate.

Table **2**, below provides a brief comparison of the riparian requirements between the HGLUO and FRPA. For analysis purposes, the tree-length height for LUO streams was assumed to be 40m, based on an average tree- height for zonal sites across all BEC units and seral stages. If anything, this assumption is conservative, as most riparian areas are likely richer than zonal sites, resulting in taller tree-heights.

Table **2** shows that in most cases, the riparian reserve requirements meet or exceed those established under FRPA, especially for Type I and II Fish Habitat streams, thus justifying the strategy that gives the HGLUOO precedence over the FRPA.

Table 2: LUO vs. FRPA Stream Management Comparison

	Stream Class	RRZ / No-Harvest Zone	RMZ	RMA	RMZ BA Retention
Comparable large fish stream classes and management zones (LUO vs. FRPA)	FRPA - S1	50m	20m	70m	0-100
	FRPA - S2	30m	20m	50m	0-100
	FRPA - S3	20m	20m	40m	0-100
	LUO - Type I Fish Habitat	2.0 Tree-lengths (80m)	-	2.0 Tree-length (80m)	N/A
Comparable small fish stream classes and management zones (LUO vs. FRPA)	FRPA - S4	-	30m	30m	0-100
	LUO - Type II Fish Habitat	1.0 Tree-length (40m)	0.5 Tree-length (20m)	1.5 Tree-lengths (60m)	~100%
Comparable "non-fish" stream classes and management zones (LUO vs. FRPA)	FRPA - S5	-	30m	30m	0-100
	FRPA - S6	-	20m	20m	0-100
	LUO - Upland Stream	-	-	30m	N/A
Wetland classes and management zones (LUO and FRPA)	FRPA – W1	10m	40m	50m	-
	FRPA – W2	10m	20m	30m	-
	FRPA – W4	0m	30m	30m	-
	FRPA – W5	10m	40m	50m	-
	LUO - Type I Fish Habitat	2.0 Tree-lengths (80m)	-	2.0 Tree- length (80m)	N/A
	LUO – Type II Fish Habitat	1.0 Tree-length (40m)	0.5 Tree-length (20m)	1.5 Tree- lengths (60m)	N/A
Lake classes and management zones (LUO and FRPA)	FRPA – L1-A	0m	0m	0m	-
	FRPA – L1-B	10m	0m	10m	-
	FRPA – L2	10m	20m	30m	-
	FRPA – L4	0m	30m	30m	-
	LUO - Type I Fish Habitat	2.0 Tree-lengths (80m)	-	2.0 Tree- length (80m)	N/A
	LUO – Type II Fish Habitat	1.0 Tree-length (40m)	0.5 Tree-length (20m)	1.5 Tree- lengths (60m)	N/A

In complying with FPPR S.50, AAHG must not construct a road in a riparian management area, unless one of the following applies:

(a) locating the road outside the riparian management area would create a higher risk of sediment delivery to the stream, wetland or lake to which the riparian management area applies;

(b) there is no other practicable option for locating the road;

(c) the road is required as part of a stream crossing.

If a road is constructed within a riparian management area, a person must not carry out road maintenance activities beyond the clearing width of the road, except as necessary to maintain a stream crossing.

A person who is authorized in respect of a road must not remove gravel or other fill from within a riparian management area in the process of constructing, maintaining or deactivating a road, unless

(a) the gravel or fill is within a road prism,

(b) the gravel or fill is at a stream crossing, or

(c) there is no other practicable option.

Compliance with FPPR S.51 requires AAHG to not cut, modify or remove trees in a riparian reserve zone, except for the following purposes:

(a) felling or modifying a tree that is a safety hazard, if there is no other practicable option for addressing the safety hazard;

(b) topping or pruning a tree that is not wind firm;

(c) constructing a stream crossing;

(d) creating a corridor for full suspension yarding;

(e) creating guyline tiebacks;

(f) carrying out a sanitation treatment;

(g) felling or modifying a tree that has been windthrown or has been damaged by fire, insects, disease or other causes, if the felling or modifying will not have a material adverse impact on the riparian reserve zone;

(h) felling or modifying a tree under an occupant licence to cut, master licence to cut or free use permit issued in respect of an area that is subject to a licence, permit, or other form of tenure issued under the *Land Act*, *Coal Act*, *Geothermal Resources Act*, *Mines Act*, *Mineral Tenure Act*, *Mining Right of Way Act*, *Ministry of Lands, Parks and Housing Act* or *Petroleum and Natural Gas Act*, if the felling or modification is for a purpose expressly authorized under that licence, permit or tenure;

(i) felling or modifying a tree for the purpose of establishing or maintaining an interpretive forest site, recreation site, recreation facility or recreation trail.

If AAHG fells, tops, prunes or modifies a tree under subsection (1) (above) may remove the tree only if the removal will not have a material adverse effect on the riparian reserve zone.

AAHG must not carry out the following silviculture treatments in a riparian reserve zone:

(a) grazing or broadcast herbicide applications for the purpose of brushing;

(b) mechanized site preparation or broadcast burning for the purpose of site preparation;

(c) spacing or thinning.

Establishing reserve and management zones for aquatic habitat

The horizontal distance defined as "tree length" in the HGLUOO to establish aquatic habitat reserve and management zones will be determined using Schedule 5, column A and B of the HGLUOO. The predominate site series will be determined through field assessment and be the dominate site series adjacent to the aquatic habitat feature. It is not the intention to use average or NAR site series for the development areas to establish aquatic habitat reserve and management zones.

Retention of Trees in a Riparian Management Zone FPPR s.12(3)

Retention of trees in a riparian management zone (RMZ) will be completed by a Qualified Professional. In determining retention of trees in the RMZ the following factors will be considered:

(a) the type of management regime that is required for a riparian area, having regard to

> (i) the need to buffer the aquatic ecosystem of a stream, wetland or lake from the introduction of materials that are deleterious to water quality or fish habitat,
> (ii) the role played by trees and understory vegetation in conserving water quality, fish habitat, wildlife habitat and biodiversity,
> (iii) the need to maintain stream bank and stream channel integrity, and
> (iv) the relative importance and sensitivity of different riparian classes of streams, wetlands and lakes in conserving water quality, fish habitat, wildlife habitat and biodiversity;

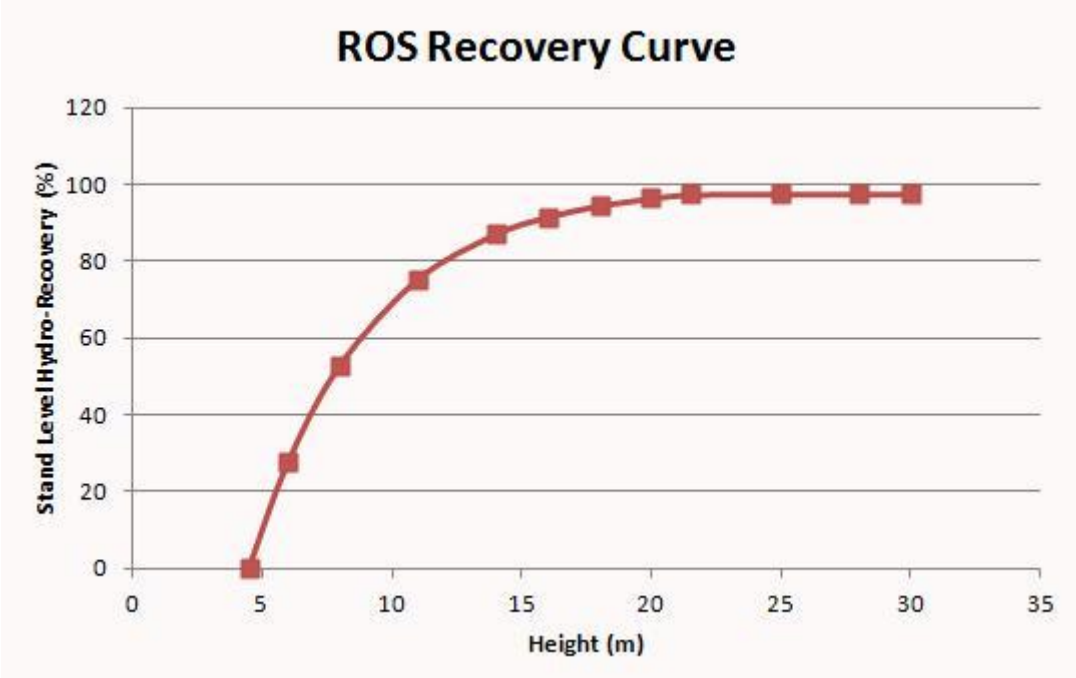
(b) the type, timing or intensity of forest practices that can be carried out within the context of a management regime referred to in paragraph (a);

(c) the role of forest shading in controlling an increase in temperature within a temperature sensitive stream, if the increase might have a deleterious effect on fish or fish habitat.

Upland Stream Areas

Prior to initiating developments within a designated watershed-sub-unit, AAHG will complete an analysis of the watershed sub-unit to determine percent hydrologic recovery. Consistent with the Order a minimum of 70% of the forest in the upland stream area will be maintained. To complete the analysis the following methodology will be used:

- The most current VRI will be used, downloaded from BC Geographic Warehouse updated with new harvest disturbances from RESULTS, blocks submitted for approval in FTA and proposed licensee blocks obtained from licensees operating in the same sub-unit watershed.
- The VRI disturbance layer will be compared with the most recent Landsat imagery to ensure correct block shapes used reflect actual disturbance area and that no areas have been missed.
- Non-timbered polygons such as lakes, swamps, SUPs and polygons with low crown closure (<30%) will be assigned a "0" height in the analysis.
- Natural forests > 250 yrs. old with no harvest history will be assigned an ECA value of 100%, with previously harvested stands receiving a score based on the Bill Floyd curve for determining hydrologic recovery. Previously harvested stands will have a maximum Equivalent Clear-cut Area (ECA) value of 97.5%. Below is the recovery curve used for analysis:



Upland streams that are direct tributaries to Type 1 and Type 2 fish habitat will be managed to ensure that sufficient vegetation is maintained adjacent to the stream and that stream bank and stream channel integrity is maintained. Options include mechanical falling and removal of mature over story trees while maintaining non-merchantable understory trees and vegetation with an established five meter machine free zone adjacent to the channel. Directional hand falling and yarding away from the stream channel while maintaining understory vegetation will be used when mechanical falling is not an option. No falling or yarding will be permitted within deeply incised stream channels (e.g. class S5 or S6 streams) that have direct connectivity to Type 1 and Type 2 fish habitat or that have plant communities that are dependent on high humidity micro-climates. Wind firm treatments will be prescribed and measures implemented along streams where mature trees a left standing and have a high risk of blowdown. In areas with a moderate risk of blowdown treatments will be prescribed based on the type of feature and the potential consequence to that feature. Designated machine stream crossing will only be prescribed when there is no other practicable option or when there is a safety concern. Machine stream crossings will be removed concurrent with use.

Sensitive Watersheds

ECA calculations will be completed using the same methodology described in the Upland Streams section of this FSP Supporting Information document.

Active Fluvial Units

AFUs will be delineated following the principles outlined in the report titled, "Defining Active Fluvial Units" prepared by Glynnis Horel, P.Eng., Ostapowich Engineering Services Ltd, dated April 1, 2006 and updated for Haida Gwaii, dated June 2016.

Biodiversity (LUO and FRPA)

Forested Swamps

Prior to initiating developments within the management zone of a forested swamp, AAHG will complete an analysis of the management zone to determine the percent of the forest that is mature or old forest. Consistent with the Order a minimum of 70% of the forest within the management zone will be maintained as mature or old forest. To complete the analysis the following methodology will be used:

- The most current VRI will be used, downloaded from BC Geographic Warehouse updated with new harvest disturbances from RESULTS, blocks submitted for approval in FTA and proposed licensee blocks obtained from licensees operating in the same sub-unit watershed.
- The VRI disturbance layer will be compared with the most recent Landsat imagery to ensure correct block shapes used reflect actual disturbance area and that no areas have been missed.
- Mature or old forest (age classes 5, 6, 7, 8, and 9) will be summed to determine the % of mature or old forest present.

Ecological Representation

Old forest ecological representation analysis for each common and rare site series will be completed in collaboration with other licensees working in the Skidegate Landscape Unit and updated for each new proposed development area. Common and rare site series old forest will first be identified in spatial reserve areas designated for wildlife habitat, old forest representation and other areas reserved from harvesting. No harvesting will be proposed in areas of common and rare site series where analysis indicates target amounts are near or below threshold amounts. For sites series with insufficient old forest to meet target amounts, forest stands will be recruited using an oldest first approach considering existing reserve areas in relation to areas considered for harvest.

Stand level biodiversity/Wildlife tree retention areas

Section 66 of the FPPR outlines requirements for stand level wildlife tree retention (wildlife tree retention areas) requirements. AAHG has developed stand level biodiversity guidelines that when implemented will result in areas being set aside for one rotation or longer that contribute to stand level biodiversity (e.g. future coarse woody debris, wildlife trees, stand structure etc.) and provide suitable habitat for stand level species. The guidelines provide direction on suitable stand level attributes to select when selecting wildlife tree retention areas (WTRA). Where possible WTRAs will maximize overlap with other resource values such as the protection of Western yew tree patches, Haida Traditional Forest Features and aquatic habitat reserves. It is not AAHGs intent to overlap stand level biodiversity with areas established for the protection of landscape level biodiversity (e.g. forest reserves).

Northern Goshawk, Great Blue Heron and Northern Saw-whet Owl

The plan Holder will manage for the habitats of Northern Goshawk, Great Blue Heron, and Northern Saw-whet Owl consistent with the objectives outlined in the HGLUOO. Experienced and trained field staff and outside qualified professionals will be used to identify nests and nest habitat during the planning and development phases. Consideration to identifying core Northern Saw-whet Owl habitat will be done during landscape planning with core nesting areas spatially identified across the landscape with a maximum inter-patch spacing distance of 1,400 meters. Core Northern Saw-whet Owl nesting habitat will include mature and old forest generally below 300 meters in elevation and be a minimum

of 10 hectares in size. If a potential nest site is identified, the Holder will have the nest and surrounding nest area assessed by a qualified registered professional. Upon confirmation of a Northern Goshawk, Great Blue Heron or Northern Saw-whet Owl nest, the nest and habitat adjacent to the nest will be protected as per the requirements listed in the HGLUOO.

Marbled Murrelet Nesting Habitat

An amount of Marbled Murrelet nesting habitat consistent with the amount listed in Schedule 9 of the HGLUOO for the Skidegate Landscape Unit will be maintained. The areas selected to be maintained as nesting habitat will be from those shown in Schedule 11. Prior to harvesting activities, an analysis for the landscape unit will be completed to determine that sufficient habitat is being maintained in patches of sufficient size and distribution to ensure the prescribed amount of habitat is being maintained. Previously harvested and proposed cutblocks from licensees operating within the shared landscape unit will be included in the analysis. Source information will be from requests made to licensees, RESULTS and FTA.

Black Bear Dens

A qualified professional (e.g. R.P. Bio.) or person, that has completed black bear den identification training or has equivalent experience, will as part of the block assessment complete a black bear den reconnaissance of the block to identify black bear dens and future denning habitat. The prescribing forester, considering the recommendations from a qualified professional will establish a reserve zone and management zone adjacent to the feature consistent with the objective for the protection of black bear dens. Where they exist within the management zone, preserve western red and yellow cedar trees that are suitable for future black bear denning. Suitable black bear denning trees are red and yellow cedar trees or snags greater than 0.8 meters in diameter with a hollowed out cavity. Black bear features will be clearly identified on the harvest plan map and management prescription communicated to road construction and harvesting crews during the pre-work harvest meeting. Harvesting and road construction crews will be provided information within the pre-work information package on the identification and measures associated with black bear dens. The AAHG standard operating procedures applicable to primary forest activities include the requirement to “stop” and notify AAHG in the event a previously unidentified wildlife or resource feature is discovered during primary forest activities.

Species at Risk, not covered by this FSP

AAHG is committed to working in collaboration with the CHN, Federal and Provincial governments for the protection of species at risk. Landscape and stand level protection measures established through the HGLUOO and through FRPA and other Acts will contribute to the protection of SAR and their habitat.

Wildlife species and critical habitat designated under the Federal Species at Risk Act (SARA) will be protected following recovery strategy recommendations. Ermine *haidarum* (Ermine) and Western Toad are two examples of species designated under SARA that are known to occur on Haida Gwaii and may be present within the proposed FDU area. There is currently no known critical habitat proposed under Federal recovery strategy for Ermine or Western Toad within FDU 1. If an Ermine or Ermine hole or Western Toad or other SARA species is discovered within a development area a qualified professional (e.g. R.P. Bio.) working together with the CHN and government will complete an assessment of the block and provide recommendations for its protection. The prescribing forester, considering the recommendations from a qualified professional will implement adequate protection measures.

The AAHG standard operating procedures applicable to primary forest activities include the requirement to "stop" and notify AAHG in the event a previously unidentified wildlife or resource feature is discovered during primary forest activities.

Regionally Important Wildlife (not yet designated)

Regionally important wildlife, including but not limited to Sandhill Crane, Bald-eagle, Sharp-shinned Hawk, Sooty Grouse, Hairy Woodpecker and the Hibernacula for bats will be managed through the establishment of wildlife habitat features, wildlife tree retention areas, riparian areas, forest reserve areas and other stand and coarse filter provisions. If a nest is discovered a qualified professional (e.g. R.P. Bio.) will complete an assessment of the block and provide protection recommendations. The prescribing forester, considering the recommendations from a qualified professional will implement adequate protection measures.

The AAHG standard operating procedures applicable to primary forest activities include the requirement to "stop" and notify AAHG in the event a previously unidentified wildlife or resource feature is discovered during primary forest activities.

Annual Reporting and Data Submission

AAHG will submit documentation and digital spatial data as per the HGLUOO reporting requirements to the CHN and to the Province. When reporting requirements dictate, AAHG will work together with other licensees operating in the Skidegate Landscape Unit to provide consistent and accurate information. Information will be summarized and reported annually prior to the end of each calendar year.

Tracking Ledgers - General

A tracking ledger will be maintained either by AAHG or in coordination with other licensee as a means to track and manage HGLUOO requirements. Examples of information tracked include order objectives related to Cedar Stewardship Areas, ECAs for Upland Stream and Sensitive Watershed Areas, Ecological Representation and Marbled Murrelet nesting habitat.

AAHG operations will be planned and implemented consistent with the intent of the HGLUOO.

Windthrow Management & Management Prescriptions

It is recognized that windthrow is a significant management concern within the plan area and the importance of maintaining wind firm boundaries as a means to achieve specific objectives. Windthrow assessments will be completed by qualified professionals to standards as outlined in windthrow assessment training on Haida Gwaii and include an assessment of hazard and risk during the planning and layout phases of block development. Windthrow assessment recommendations will be incorporated into block design to as a means to manage the impacts from windthrow.

4.0 Visual Resource Management

The Plan Holder recognizes the significance of managing visual resource values within the FDU. The result specified within the FSP for the management of visuals makes reference to the scenic area established through GAR s.7.2, dated December 22, 2005 and visual quality objectives for visual quality polygons. The visual quality polygons and objectives are shown on the FDU map. As part of the result, the Holder makes commitments to managing visuals consistent with the established VQO for visual polygons and to follow the guiding principles outlined in the Haida Gwaii Resource District Manager Policy for the Management

of Visual Quality Objectives, dated April 17, 2013. In addition, blocks adjacent to mainline roads will incorporate where possible practices such as screening (e.g. leaving non-merchantable trees and vegetation along the roadside), not piling debris close to the roads, prompt planting and ensuring that harvested areas when completed are tidy in appearance.

5.0 Measures for Invasive Plants

Awareness & Identification

Information on the identification, spread and what to do in the event you encounter an invasive plant will be made aware to contractors and subcontractors employed by AAHG through the delivery of a pre-harvest information package (prework) and invasive plant identification training. AAHG is working with the North West Invasive Plant Council (NWIPC) to determine the top 6 invasive plants on for Moresby Island that will be included in our invasive plant training program. In addition to the top 6 invasive plants, contractors and subcontractors will be made aware of any previously known invasive plants in the area. AAHG will periodically update our invasive plant identification training program and documentation.

Monitoring

As part of AAHG's Environmental Management System (EMS) we perform interim and final inspections on all of our harvesting and road building operations. Through EMS inspections AAHG will monitor contractors and subcontractors compliance with our invasive plant commitments. EMS inspections will also provide an opportunity for AAHG staff to survey for invasive plants.

Management of Invasive Plants

As per FPPR Section 17 the Measures outlined in Section 4.4.1 of AAHG's FSP are specific to circumstances where the introduction or spread of invasive plant species is likely to be the result of AAHG's forest practices.

However, AAHG is committed to working with the CHN, MFLNRO, the NWIPC and other Licensees to manage invasive plants that are a result of prior tenure holders or the public within FDU 1. AAHG is aware of the current issues regarding invasive plants within FDU 1 and is actively participating in management strategies such as restricting public access to known invasive plant areas, providing invasive plant education through signage and developing invasive plant treatment plans. If approved by the CHN and MFLNRO, AAHG would support targeted use of herbicides on invasive plants.