

SMP – RIPARIAN FORMAT Yakoun River

A. LOCATION AND GENERAL DESCRIPTION OF AREA

SU	TREATMENT AREA (TA) IDENTIFIER (General Location, Licensee, Stream Reaches, Other – e.g., GPS coordinates., photo number)	TA	TREATMENT AREA (Net) (to the nearest 1 or 0.1 ha)
1	This polygon is located 0.8km upstream from the Canyon Main bridge over the Yakoun river at 53° 29' 06.9"; 132° 14' 56.2" coordinates. It stretches for approximately 1.3 km along the river on the eastern side of the Yakoun river. It consists of mainly flat terrain with some rolling hilly portions in the midsection. There is side stream channel in the southern portion of the polygon. This side channel was picked by Lidar as an active flood plain unit (AFU), but there is elevated land between it and the Yakoun River. Most of the polygon is well drained although there are some sporadic sites with poor drainage within the polygon. Stand density ranges from patchy to dense patches at 3000 sph with hemlock leading.	42	9.6 Ha
Total			9.6 Ha

B. MANAGEMENT OBJECTIVES

B-1. HIGHER LEVEL PLANS

ARE ANY OF THE TREATMENT AREAS SUBJECT TO A HIGHER-LEVEL PLAN? (x) YES () NO

	PLAN NAME	Year	Month	Day
IF YES:	Haida Gwaii Forest Stewardship Plan	2011	Nov.	
	Haida Gwaii Land Use Objectives Order (Consolidated Version)	2017	Sept	21
	Haida Gwaii Land Use Objectives Order (Minor Amendment Order)	2014	April	2

B-2. STAND-LEVEL OBJECTIVES

ARE CURRENT STAND-LEVEL OBJECTIVES AVAILABLE FROM SILVICULTURE PRESCRIPTIONS? () Yes (x) No IF 'YES,' SEE ATTACHED FS 711A.

ARE CURRENT STAND-LEVEL OBJECTIVES STILL APPROPRIATE FOR THIS SUs? () Yes () No (x) N/A

USE THIS SECTION TO SUMMARIZE OBJECTIVES FROM HIGHER LEVEL PLANS AND TO CLEARLY STATE STAND-LEVEL OBJECTIVES BY CATEGORY

TIMBER MANAGEMENT OBJECTIVES

No Harvesting trees from` the riparian areas.

BIODIVERSITY OBJECTIVES

The intent of the biodiversity objectives in LUO Part 4 Section 16 and 17 will be met by the treatment prescribed for SU and described in more detail below in Section D

AQUATIC AND RIPARIAN OBJECTIVES

Emulating and accelerating the natural thinning process by creating stands with a heterogenous vertical and horizontal complexity typical of old-growth forests.

This project will completely be within the riparian area and therefore subject to Aquatic Objectives as per Type II Fish Habitat of the Haida Gwaii Land Use Objectives Order (Consolidated Version) Part 3 (11) and Schedule 4. The treatment proposed is intended to accelerate the development of riparian old growth characteristics, thereby enhancing the habitat functionality. Section 47 of the Forest Planning and Practices Regulations of the Forest and Range Act provides guidance for riparian area sizes and boundaries. Other resource objectives described in these Regulations will apply in the riparian areas as well.

CULTURAL RESOURCES OBJECTIVES

The following plants which are valued for cultural use purposes will be protected wherever they will be found: Devils club (*Oplapanax horridus*) Pacific Crab Apple (*Malus fusca*) False Hellebore (*Veratrum viride*) Stink Currant (*Ribes bracteosum*) and Pacific Yew (*Taxus brevifolia*). Western Red Cedar (*Thuja plicata*) will be exempt from thinning.

STAND MANAGEMENT PRESCRIPTION – RIPARIAN

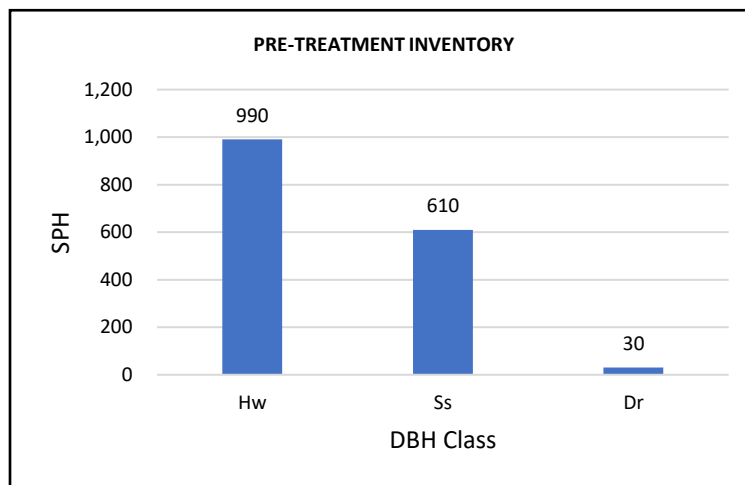
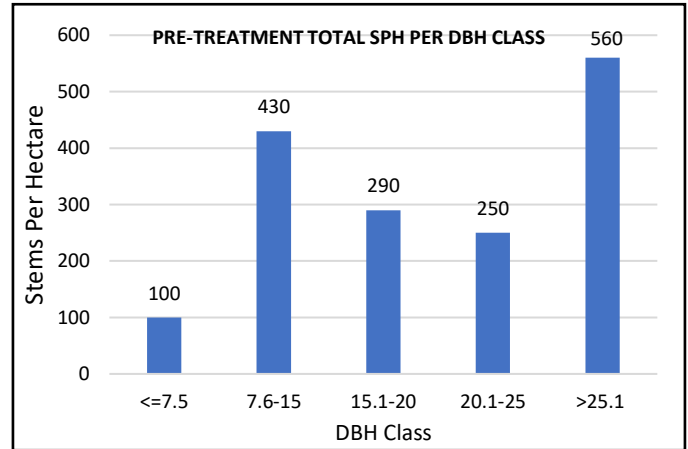
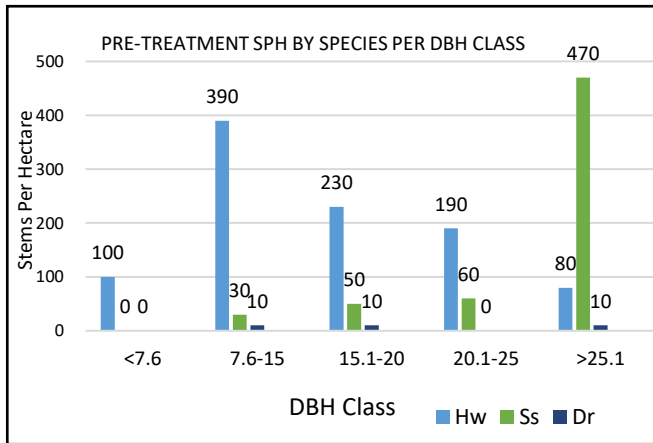
WILDLIFE MANAGEMENT OBJECTIVES		
<p>Wildlife objectives are implicit in the treatment the riparian areas will receive. A much more open stand will facilitate easier wildlife movement both on the ground and in flight. A well vertically structured forest will facilitate use of different tree layers by different bird and small animal species. Eventually the standing dead trees will provide habitat for cavity makers such as woodpeckers, and cavity dwellers, such as Keen's Mouse (<i>Peromyscus Keenii</i>) and the coarse woody debris will provide sheltered habitat for various small mammals. Opening the stand up will also encourage shrub and herbaceous plants which in turn will provide forage for black bears (<i>Ursus americanus</i>), deer* (<i>Odocoileus hemionus, sitkensis</i>), and elk (<i>Cervus elaphus, nelson</i>). As this is a potential Marbled Murrelet (<i>Brachyramphus marmoratus</i>) and the Northern Goshawk (<i>Accipiter gentilis</i>) habitat and the Northern Saw-whet Owl (<i>Aegolius acadicus</i>) nesting habitat, (LUO Part5: 18-22 and Schedules 9,11,12) accelerating the development of old growth conditions will be beneficial to the survival of these species.</p> <p>* <i>Deer browsing has reduced abundance and vigour of virtually all species of shrubs and herbs; in extreme cases, the understory structure of the forest is absent (Daufresne and Martin 1997). The direct effects of browsing are obvious and can range from reduced vigour to elimination of certain species. (Introduced Species Management in Haida Gwaii (Queen Charlotte Islands- Todd E. Golumbia)</i></p>		
FOREST RESERVES OBJECTIVES		
<p>The treated riparian area will be a No-Harvest-Zone as per FSP Section 6.18. It will consist of an area extending 50-meter from the Yakoun River. Functionally, the riparian area will meet the objectives of Forest Reserves.</p>		
WATERSHED MANAGEMENT OBJECTIVES		
<p>The watershed management objectives are to maintain a steady supply of water into the river systems through out the year. This SU is in an area designated as a Sensitive Watershed in LUO and Schedule 7. The Haida Gwaii FSP Sections 6.29 to 6.33 outlines the assessment and approval procedures for sensitive watersheds. This area will be managed under the direction of these two documents. No assessments need to be performed regarding possible degradation of the watershed at this time since no harvesting is planned and the 400-500 sph post treatment stocking will continue to provide sufficient crown cover thereby maintaining the current hydrology.</p>		
VISUAL LANDSCAPE MANAGEMENT OBJECTIVES (VQO)	LANDSCAPE SENSITIVITY	VISUAL QUALITY OBJECTIVE
THESE OBJECTIVES APPLY TO: SU (s) N/A		
RECREATION MANAGEMENT OBJECTIVES	FEATURE SIGNIFICANCE	MANAGEMENT CLASS
	N/A	N/A
THESE OBJECTIVES APPLY TO: SU (s) N/A		
OTHER RESOURCE VALUES/INTERESTS - MANAGEMENT OBJECTIVES		
THESE OBJECTIVES APPLY TO: SU (s) N/A		

STAND MANAGEMENT PRESCRIPTION – RIPARIAN

TREATMENT AREA (TA) DESCRIPTION For SU1 YAKOUN														
Within any standards unit there can be multiple geographically distinct treatment areas (TA).														
Poly # 42		TA area (ha)			Area location – description - 53° 29' 06.9"; 132° 14' 56.2"									
C-1. AREA DESCRIPTION														
ZONE, SUBZONE, VARIANT CWH wh 1					SITE SERIES (RANGE) 112/113/114					MOIST/NUTR. GRID - range 04-05/D-E				
ELEVATION					ASPECT	SLOPE DATA					SLOPE			
Min: 45m Max:85m Avg.: 52m					Flat/West	Min. %: 0 Max. %: 30 Avg. %: 15			POSITION		LENG TH	UNIFORMITY		
									Toe		50m	variable		
HUMUS FORM Moder		ROOTING DEPTH >100cm			SOIL DEPTH TO RESTRICTING LAYER >100cm			SOIL TEXTURE Sandy Loam		SOIL COARSE FRAGMENT 0%			DRAINAGE Good	
WATER COURSES Water Gullies			MECHANIZED STAND TENDING () Yes () No			IF YES, SEE OPERATIONAL PLANNING REGULATION FOR FURTHER CONTENT REQUIREMENTS								
C-2. CURRENT STAND DESCRIPTION – use table and/or describe in words														
Hw		DBH			Ht			AGE						
Polygon	DBH Class	Avg.	Min.	Max.	Avg	Min	Max.	Avg	Min	Max	LC	Total sph	Residul sph	Site Index
42	<7.5											100		
42	7.6-15	8.8	5.0	12.0	9.7	3.7	14.7	24.7	21	28	18	390	40	
42	15.1-20	18	18	18	261	22	22	36	31	41	23	230	60	
42	20.1-25	21.7	20.7	22.9	21.2	20.1	22.8	34	26	39	25	190	50	
42	>25.1	28.3	28.3	28.3	0	0	0	0	0	0	0	80	40	
Total												990	190	
Ss		DBH			Ht			AGE						
42	<7.5													
42	7.6-15	11.8	11.8	11.8	7.9	7.9	7.9	21	21	21	15	0	10	
42	15.1-20	18.3	18.3	18.3	21.5	21.5	21.5	42	42	42	15	30	10	
42	20.1-25	21.5	21.5	21.5	26.8	26.8	26.8	41	41	41	50	60	50	
42	>25.1	43.4	26	54.7	29.32	22	37.3	39.57	30	47	32.14	470	160	
Total												610	230	
Dr		Ss			Ss			Ss						
42	<7.5													
42	7.6-15											10	0	
42	15.1-20											10	10	
42	20.1-25											0	0	
42	>25.1											10	10	
Total												30	20	

Stand Descriptions

Stand Description in words: This is a mid seral stand with maximum age of 47 years. The trees in this polygon are almost evenly distributed between those that are less than 20cm in diameter (740 sph) and those that are greater than 20 cm in diameter (850 sph). Spruce has the largest number of trees that are greater than 25 cmm in diameter. The stand inventory however is Hw 55 Ss43 Dr2



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C-3. FOREST HEALTH AND PROTECTION							
FOREST HEALTH							
SU		AGENT NAME	HOST SPECIES	TOTAL TREES AFFECTED (%)	TOTAL CONIFERS AFFECTED (%)	HOST TREES AFFECTED (%)	AREA (ha)
<p>FOREST HEALTH STRATEGIES: The Ministry of Forests Lands Natural Resource Operations & Rural Development on the following website has identified pests threat that can be found on Haida Gwaii. None of them where observed. https://www.for.gov.bc.ca/dgc/Forest%20Health.htm#Links to Documents, Guidebooks, and Studies</p> <p>Hemlock Dwarf Mistletoe (<i>Arceuthobium tsugense</i>), The western blackheaded budworm (<i>Acleris gloverana</i>) and hemlock sawfly (<i>Neodiprion tsugae</i>) which both defoliate hemlock and spruce trees can be found on Haida Gwaii. Both western blackheaded budworm (<i>Acleris gloverana</i>) and hemlock sawfly (<i>Neodiprion tsugae</i>) do not cause tree mortality except on poor, rocky and high elevation sites. More attention will be paid to observing the likely pests. Hemlock Dwarf Mistletoe (<i>Arceuthobium tsugense</i>) may be found. If found, affected trees will be marked for priority falling or girdling to prevent the spread of the Dwarf Mistletoe. The dead and dying trees will be left standing.</p>							
PROTECTION							
<p>FIRE HAZARD ASSESSMENT & PROTECTION STRATEGIES: N/A</p>							

STAND MANAGEMENT PRESCRIPTION – RIPARIAN

D. TREATMENTS TO ACHIEVE TARGET STAND CONDITIONS AND OBJECTIVES

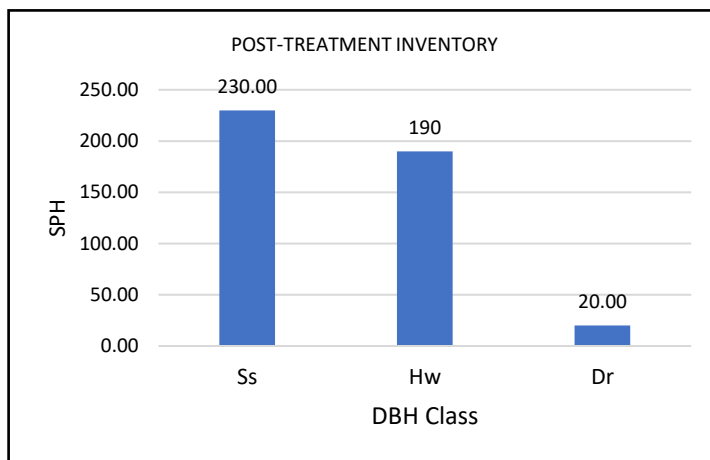
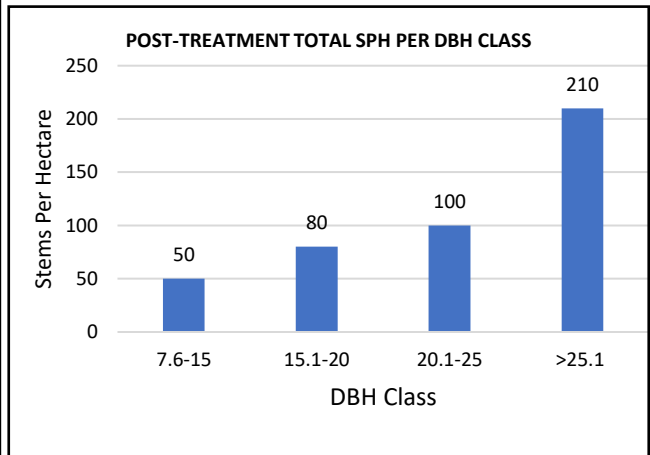
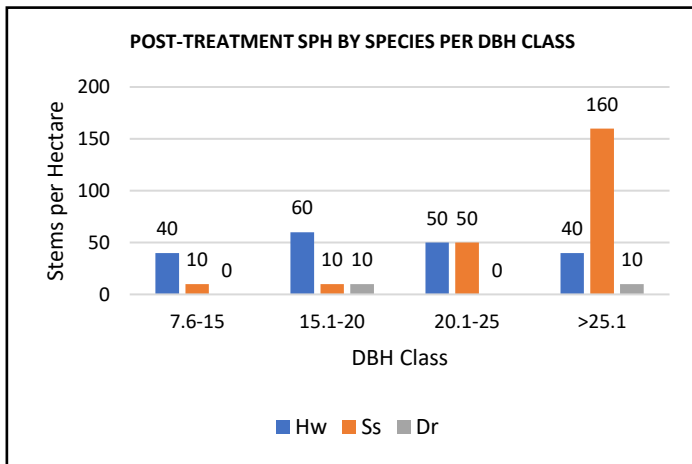
STAND TREATMENT REGIME —

Treatment is aimed at achieving the following target stand condition and characteristics:

1. Variable to uniform density retention of dominant, co-dominant and intermediate trees.
 - **Dominants:** Retain 210 sph > 25.1 cm dbh or 2-3 stems per .01 ha plot
 - **Co-Dominants:** Retain 180 sph from 15 cm dbh to 25.0 cm dbh or 1-2 stems per .01 ha plot
 - **Intermediates:** Retain 50sph or 1 stem per .01 ha plot
 - **Suppressed:** Fall all stems < 7.5 cm dbh

In a situation where there are less trees in a certain diameter class to achieve the prescribed number of stems per hectare, a compensatory number of trees from adjacent higher or lower class(es) will be retained to maintain the overall stocking at 400-500 stems per hectare.

2. Ss and Cw are priority climax species
3. Dr, where present, will be retained at 20-25 sph
4. Natural gaps and clusters will be allowed to maintain and promote variable stand densities
5. Five 0.1 untreated plots per 10 hectares (50 m x 20 m running perpendicular to the river), will be established.
6. All dead and dying trees will be left standing as wildlife trees.
7. Presence of the following cultural resources will be maintained • Devils club • Pacific Crab Apple • False Hellebore • Stink Currant • and Pacific Yew.
8. The post treatment inventory will be targeted at Ss52 Hw43 Dr5



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TREATMENT STANDARDS:

1. Ribbon out active fluvial units and avoid treatment within the all flood plains.
2. Leave all large "Legacy Trees" standing,
3. Mark every leave tree at stump level with paint.
4. Thin from the bottom favouring larger stems,
5. No harvesting or extraction of trees,
6. Watch out for bird nests and wildlife trees,
7. Minimize bucking to two or three pieces, where possible. Longer boles will resist movement in high flow and trap fine debris. This is especially important on medium benches.
8. On high benches, reduce slash build-up by bucking initial trees felled and limbing them such that the stems come in close contact with the ground
9. High stumps up to 50 cm are acceptable where lower stumps cannot be attained,
10. Identify and take coordinates of substantial presence of plant species identified under Cultural Resources Objectives Section.
11. Dress girdle with a chain saw to mimic natural wounds.
12. To the extent possible, fall trees at right angles to the floodplain to maximize overflow sediment storage capability of downed slash and
13. Dr will be regarded as a ghost tree and not contribute leave tree tally calculations except in the inventory

D-1. POST-TREATMENT STANDARDS

Use the table below to enter the schedule of stand-level treatments and appropriate standards - add rows if needed

Treatment and timing	Attributes of what is to be treated (spp, ht, age)	Area (est) ha	Standards – Stand Structural Attributes – use columns and space below.				
			Pref Spp	Acc Spp	Target	Min	BA
Spacing in Spring 2018	Based on DBH and Species	9.6	Cw, Ss, Hw	Dr	400-500	100-200 in gaps	N/A

D-2. SPECIAL AREAS - (TREATMENT PROPOSED)

TREATMENT AREA #	TYPE OF SPECIAL AREA TYPE OF SPECIAL AREA	
	The riparian zone is a special area. Therefore, this whole prescription is for a special area.	
AREA NO.	SIZE ha	N/A

D-3. RESERVE AREAS – (NO TREATMENT PROPOSED)

TREATMENT AREA # 0.5ha	TYPE OF RESERVE AREA	
	Five 0.1 ha reference strips will be established across the treatment area to compare treated and untreated stand development. However, the whole treatment area is a No-harvest-Zone as per Haida Gwaii FSP Section 6.18.	
AREA NO.	SIZE ha	Description of reserve area (Show approximate location on map)

Active Fluvial Units: These are areas which have been identified and mapped. Any portion of this polygon that falls in the AFU will be delineated and ribboned off as not treated.

STAND MANAGEMENT PRESCRIPTION – RIPARIAN

E-3. ADMINISTRATION	
PRESCRIPTION PREPARED BY	
<p>_____</p> <p>NAME (<i>Printed</i>)</p> <p>Date of field work: _____</p>	<p>(RPF SIGNATURE AND SEAL):</p> <p>_____</p> <p>NAME (<i>Printed</i>)</p> <p>_____</p> <p>RPF SIGNATURE</p> <p>DATE: _____ RPF NO.: _____</p>
PRESCRIPTION ATTACHMENTS:	MAJOR LICENSEE SIGNING AUTHORITY:
<ul style="list-style-type: none"> <input type="checkbox"/> ADDITIONAL SMP COMMENTS <input type="checkbox"/> SMP MAP(S) <input type="checkbox"/> FIELD DATA CARDS <input type="checkbox"/> TERRAIN STABILITY FIELD ASSESSMENT <input type="checkbox"/> FOREST HEALTH/PEST INCIDENCE ASSESSMENT <input type="checkbox"/> ECONOMIC ANALYSIS <input type="checkbox"/> RIPARIAN ASSESSMENT <input type="checkbox"/> OTHER: SPECIFY: _____ 	<p>_____</p> <p>Licence Holder Signing Authority Signature (<i>delete if not applicable</i>)</p> <p>_____</p> <p>Licence Holder Signing Authority Name (Printed) (<i>delete if not applicable</i>)</p> <p>_____</p> <p>Date</p>
<p>AGREEMENT IN WRITING (required for felling or modification of trees in a Riparian Reserve Zone <i>Silviculture Practices Regulation section 4</i>)</p>	<p>PRESCRIPTION APPROVED BY:</p>
<p>_____</p> <p>Designated Environment Official Signature</p> <p>_____</p> <p>Designated Environment Official Name (Printed)</p> <p>_____</p> <p>Date :</p> <p>Original approval date (if amended): _____</p>	<p>_____</p> <p>District Manager's Signature</p> <p>_____</p> <p>District Manager's Name (Printed)</p> <p>_____</p> <p>Date :</p> <p>Original approval date (if amended): _____</p>