

STAND MANAGEMENT PRESCRIPTION – RIPARIAN

**SMP – RIPARIAN FORMAT Mamin 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	Poly 54 is located 1 km upstream from the bridge where Port Mainline crosses the Mamin river. The polygon continues upstream for 2.8 km and the GPS coordinates of the polygon are lat 53°35'08.9" lon -132°18'54.6" at the rough center of the area. Over the course of it's length, this polygon has variable terrain and stand characteristics. Over the course of it's length, this polygon has variable terrain and stand characteristics. The terrain ranges from 5% to 40% with areas with high water table and poor drainage scattered throughout the polygon, wherever the slope is more level. The stand is in the early seral stage and is more densely stocked at the upstream end, and mid seral at the downstream, with lower stocking and more developed stems. . Please see photos in Appendix B	54	9.2 Ha
Total			9.2 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
<b>TIMBER MANAGEMENT OBJECTIVES</b>
No Harvesting trees from` the riparian areas.
<b>BIODIVERSITY OBJECTIVES</b>
The intent of the biodiversity objectives in LUO Part 4 Section 16 and 17 will be met by the treatment prescribed for polygon and described in more detail below in Section D

<b>AQUATIC AND RIPARIAN OBJECTIVES</b>
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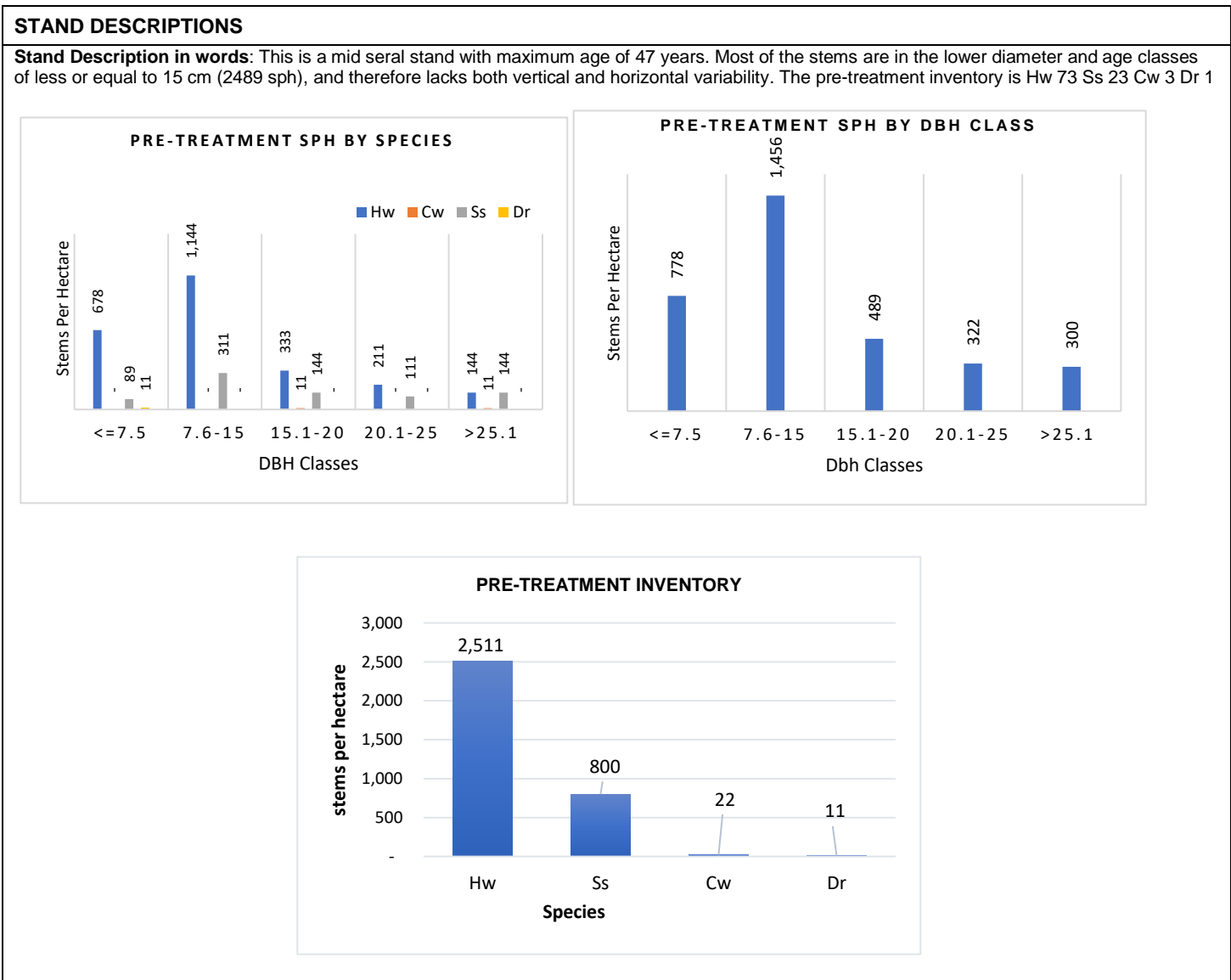
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<p>Emulating and accelerating the natural thinning process and creating stands with a heterogenous vertical and horizontal complexity typical of old-growth forests.</p> <p>This project will completely be within the riparian area and therefore subject to Aquatic Objectives as per Types I &amp; II Fish Habitat of the Haida Gwaii Land Use Objectives Order (Consolidated Version) Part 3 (10 &amp; 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 document will apply in the riparian areas as well.</p>		
<b>CULTURAL RESOURCES OBJECTIVES</b>		
<p>The following plants will be protected wherever they are found: Devils club (<i>Oplopanax horridus</i>) Pacific Crab Apple (<i>Malus fusca</i>) False Hellebore (<i>Veratrum viride</i>) Stink Currant (<i>Ribes bracteosum</i>) Pacific Yew (<i>Taxus brevifolia</i>) Western Red Cedar (<i>Thuja plicata</i>) will be exempt from thinning.</p>		
<b>WILDLIFE MANAGEMENT OBJECTIVES</b>		
<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 species. Eventually the standing dead trees will provide habitat for cavity makers such as woodpeckers, and cavity dwellers, such Keen's Mouse (<i>Peromyscus Keenii</i>) and the coarse woody debris will provide sheltered habitat for small mammals such as. Opening the stand 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>*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)</p>		
<b>FOREST RESERVES OBJECTIVES</b>		
<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 away from the Yakoun River. Functionally, the riparian area will meet the objectives of Forest Reserves.</p>		
<b>WATERSHED MANAGEMENT OBJECTIVES</b>		
<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>		
<b>VISUAL LANDSCAPE MANAGEMENT OBJECTIVES (VQO)</b>	<b>LANDSCAPE SENSITIVITY</b>	<b>VISUAL QUALITY OBJECTIVE</b>
THESE OBJECTIVES APPLY TO: SU (s) N/A		
<b>RECREATION MANAGEMENT OBJECTIVES</b>	<b>FEATURE SIGNIFICANCE</b>	N/A
<b>KEY FEATURE</b>	N/A	<b>MANAGEMENT CLASS</b> N/A
THESE OBJECTIVES APPLY TO: SU (s) N/A		
<b>OTHER RESOURCE VALUES/INTERESTS - MANAGEMENT OBJECTIVES</b>		
THESE OBJECTIVES APPLY TO: SU (s) N/A		

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<b>TREATMENT AREA (TA) DESCRIPTION For SU</b>															
Within any standards unit there can be multiple geographically distinct treatment areas (TA).															
Poly # 54		TA area: 9.2 (ha)			Area location – description - lat 53°35'08.9" lon -132°18'54.6"										
<b>C-1. AREA DESCRIPTION</b>															
ZONE, SUBZONE, VARIANT CWH wh 1					SITE SERIES (RANGE) 111/116					MOIST/NUTR. GRID - range 05-06/C-E					
ELEVATION					ASPECT		SLOPE DATA					SLOPE			
Min: 20m Max: 54m Avg.: 35m					South east		Min. %: 5 Max. %: 40 Avg. %: 20					POSITION Toe to Flood plain	LENGTH 50-70m	UNIFORMITY Variable	
HUMUS FORM Moder		ROOTING DEPTH 50-60cm			SOIL DEPTH TO RESTRICTING LAYER 50-60cm			SOIL TEXTURE Silty loam		SOIL COARSE FRAGMENT 0%			DRAINAGE Variable, but mostly poor		
WATER COURSES Water Gullies			MECHANIZED STAND TENDING ( ) Yes (x) No			IF YES, SEE OPERATIONAL PLANNING REGULATION FOR FURTHER CONTENT REQUIREMENTS									
<b>C-2. CURRENT STAND DESCRIPTION – use table and/or describe in words</b>															
Hw		DBH			Ht			AGE							
Polygon	DBH Class	Avg.	Min.	Max.	Avg	Min	Max.	Avg	Min	Max	LC	Total sph	Residual sph	Site Index	
54	<7.5											678			
54	7.6-15	10.0	8.7	10.6	7.8	8.8	12.7	27.7	22	32	17	1144	53		
54	15.1-20	17.5	16.8	18.2	169.7	16.7	17.7	33.0	24.0	42.0	33	333	33		
54	20.1-25	0	21.6	21.6	0	0	0	0	0	0	0	211	67		
54	>25.1	26.1	25.5	27.2	21	19.1	22.9	34	25	43	40	144	67		
Total												2511	222		
Cw		DBH			Ht			AGE							
54	<7.5											100			
54	7.6-15	0	0	0	0	0	0	0	0	0	0	0			
54	15.1-20	18	18	18	15.6	15.6	15.6	38	38	38	35	11	11		
54	20.1-25	0	0	0	0	0	0	0	0	0	0	0			
54	>25.1	0	0	0	0	0	0	0	0	0	0	11	11		
Total												122	22		
Ss		DBH			Ht			AGE							
54	<7.5											89			
54	7.6-15	7.3	7.3	7.3	12.4	12.4	12.4	24	24	24	30	311	44		
54	15.1-20	19.3	18.6	20	17.8	16.4	19.1	30	21	39	25	144	56		
54	20.1-25	22.7	20.5	25	17.8	15.5	20	37.3	25	43	28.8	111	55		
54	>25.1	37.3	25.2	44.8	22.8	18.8	24.9	34.7	27	47	36.7	145	67		
Total												800	222		

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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><b>FOREST HEALTH STRATEGIES:</b> The Ministry of Forests Lands Natural Resource Operations &amp; Rural Development on the following website has identified pests that can be found on Haida Gwaii. None of them were observed.  <a href="https://www.for.gov.bc.ca/dqc/Forest%20Health.htm#Links%20to%20Documents,%20Guidebooks,%20and%20Studies">https://www.for.gov.bc.ca/dqc/Forest%20Health.htm#Links to Documents, Guidebooks, and Studies</a></p> <p><b>Hemlock Dwarf Mistletoe</b> (<i>Arceuthobium tsugense</i>), <b>The western blackheaded budworm</b> (<i>Acleris gloverana</i>) and <b>hemlock sawfly</b> (<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>							
<b>PROTECTION</b>							
FIRE HAZARD ASSESSMENT & PROTECTION STRATEGIES: N/A							

**D. TREATMENTS TO ACHIEVE TARGET STAND CONDITIONS AND OBJECTIVES**

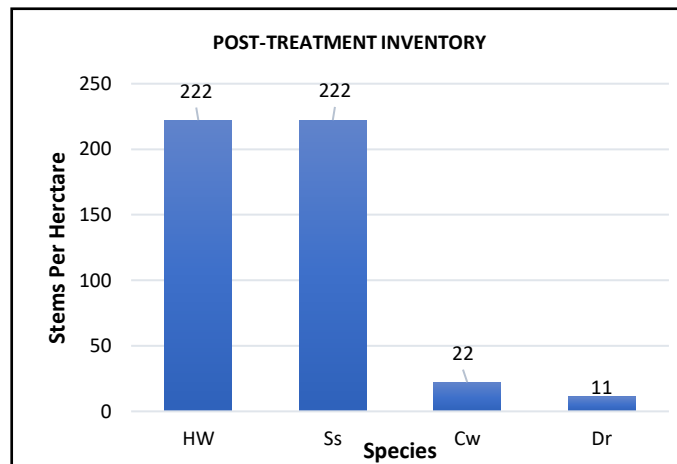
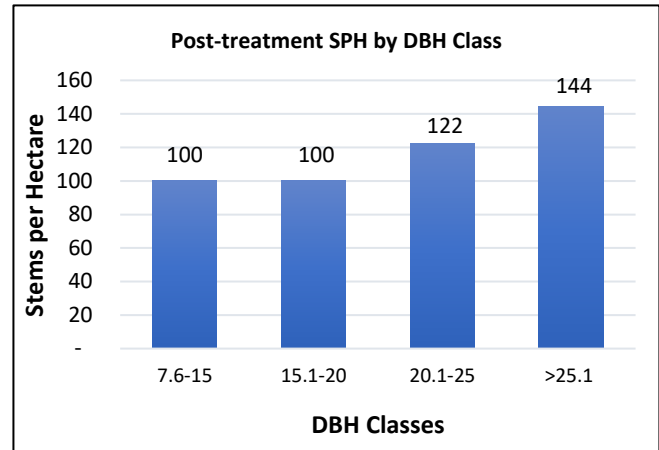
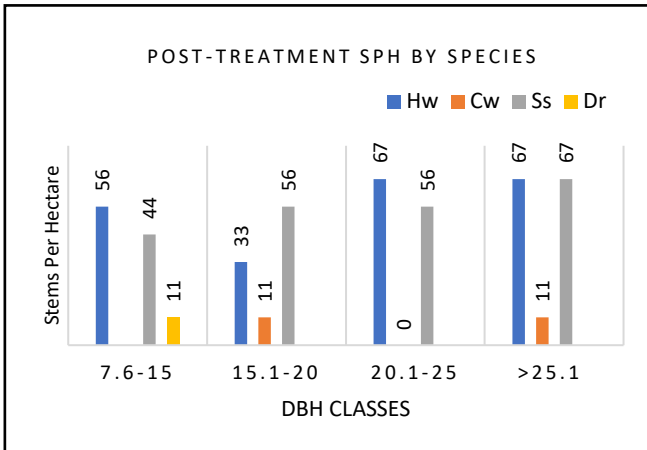
**STAND TREATMENT REGIME**

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 144 sph > 25.1 cm dbh or 1-2 stems per 0.01 ha plot
  - Co-Dominants: Retain 222 sph from 15 cm dbh to 25.0 cm dbh or 2-3 stems per 0.01 ha plot
  - Intermediates: Retain 100 sph or 1 stem per 0.01 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 for biodiversity 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 retained as wildlife trees.
7. The following plants will be encouraged and maintained • Devils club • Pacific Crab Apple • False Hellebore • Stink Currant • Pacific Yew
8. The post-treatment inventory is expected to be Ss47 Hw46 Cw5 Dr2.



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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	9.2 hectares	Cw, Ss, Hw	Dr	400-500	100-200 in gaps	N/A

### D-2. SPECIAL AREAS - (TREATMENT PROPOSED)

TREATMENT AREA # 54	TYPE OF SPECIAL AREA
AREA NO.      SIZE 9.2 ha	The riparian zone is a special area. Therefore, this whole prescription is for a special area.

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

TREATMENT AREA # 54	TYPE OF RESERVE AREA
AREA NO.      SIZE 0.5ha	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.

**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.

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<b>E-3. ADMINISTRATION</b>	
<b>PRESCRIPTION PREPARED BY</b>	
<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> NAME <i>(Printed)</i>  Date of field work: _____	<b>(RPF SIGNATURE AND SEAL):</b>  <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> NAME <i>(Printed)</i>  RPF SIGNATURE DATE: _____ RPF NO.: _____
<b>PRESCRIPTION ATTACHMENTS:</b>	
<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: _____	<b>MAJOR LICENSEE SIGNING AUTHORITY:</b>  <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Licence Holder Signing Authority Signature <i>(delete if not applicable)</i>  <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Licence Holder Signing Authority Name (Printed) <i>(delete if not applicable)</i>  Date
<b>AGREEMENT IN WRITING</b> (required for felling or modification of trees in a Riparian Reserve Zone <i>Silviculture Practices Regulation section 4</i> )	
<hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Designated Environment Official Signature  <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> Designated Environment Official Name (Printed)  Date : _____  Original approval date (if amended): _____	<b>PRESCRIPTION APPROVED BY:</b>  <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> District Manager's Signature  <hr style="border: 0; border-top: 1px solid black; margin-bottom: 5px;"/> District Manager's Name (Printed)  Date : _____  Original approval date (if amended): _____