

A. PROJECT IDENTIFICATION		
<b>PREPARED BY:</b> Louis Orioux, RPF <a href="mailto:l_orieux@bablackwell.com">l_orieux@bablackwell.com</a> Monica Nederend, FIT Bruce Blackwell, RPF, RPBio <a href="mailto:bablackwell@bablackwell.com">bablackwell@bablackwell.com</a>	<b>SUBMITTED TO:</b> Shaun Koopman Protective Services Coordinator – Strathcona Regional District 301-990 Cedar Street, Campbell River, BC V9W 7Z8 250-830-6702	
<b>PROJECT ID AND UNIT ID:</b> Cortes Island FMPs “RECY” unit	<b>LAND OR TENURE HOLDER:</b> Cortes Forestry General Partnership (“CFGP”) (K4G – Community Forest)	
<b>LATITUDE/LONGITUDE:</b> <b>RECY</b> 50° 5'43.79"N, 124°54'47.39"W	<b>GEOGRAPHIC DESCRIPTION:</b> Located on the east side of Cortes Island approximately 2.4 km south of Squirrel Cove (and on the east side of Squirrel Cove Rd), the RECY (Recycling) treatment unit is a polygon that buffers the island community’s recycling centre – identified as hazardous material infrastructure in the 2020 Cortes Island CWPP.	
<b>HIGHER-LEVEL PLAN(s):</b> <ul style="list-style-type: none"> <li>Community Forest (CF) Operating Plan (2014)</li> <li>CFGP Community Forest K4G FSP (2019)</li> <li>CFGP Five Year Plan (2018)</li> <li>Vancouver Island Land Use Plan (2000)</li> <li>Cortes Landscape Unit Plan (2012)</li> <li>Strathcona Regional District Strategic plan 2020 - 2024</li> </ul>	<b>MAP REFERENCE NUMBER:</b>  92K.006	
B. PROJECT DESCRIPTION		
<b>OBJECTIVE:</b>	<b>PUBLIC SAFETY</b> <input checked="" type="checkbox"/>	<b>RANGE IMPROVEMENT</b> <input type="checkbox"/>
	<b>ECOSYSTEM RESTORATION</b> <input type="checkbox"/>	<b>RECREATION</b> <input type="checkbox"/>
	<b>WILDLIFE HABITAT</b> <input checked="" type="checkbox"/>	<b>OTHER:</b> <i>protection of hazardous critical infrastructure</i>

**DESCRIPTION:** This prescription addresses the area surrounding the Cortes Island recycling centre, as identified in the Cortes Island 2020 CWPP due to the strategic location for public protection of hazardous materials stored there that could ignite either from a wildfire, or ignite starting a wildfire. The secondary intent of this treatment is to provide the community an accessible and visible example of fuel reduction activities that they can then apply to their own properties (a demonstration project). The area under prescription is managed by the Province and the CFGP for timber harvesting and conservation objectives. The objectives of this prescription are to:

- Reduce the chances of a wildfire being propagated by the ignition of hazardous materials at the recycling centre by reducing surface, ladder, and crown fuels surrounding it;
- Reduce the chances of a wildfire being started by the ignition of hazardous materials at the recycling centre by reducing surface, ladder, and crown fuels surrounding it;
- Reduce overall wildfire behaviour threat and ignition potential in the TU;
- Reduce the wildfire risk to public use of the recycling centre.
- Create a demonstration of wildfire risk reduction activities residents can use on their own properties.
- Create job opportunities for local contractors able to implement the works outlined in this prescription.
- Minimize negative impacts to the stand, and, where possible, enhance the many values of the treated stand. Values include, but are not limited to wildlife habitat, water quality, forest health, air quality, and recreation.

**STRATEGIES:**

The proposed treatments will modify stand structure to reduce potential surface and crown fire behaviour by:

- Retaining co-dominant canopy trees to maintain a cool and moist understorey microclimate;
- Thinning from below: i.e., removing dead, suppressed and intermediate trees to reduce the risk of potential crown fire behaviour associated with high crown bulk density and fire laddering into crowns;
- Reducing fine surface fuel loading to limit potential **head fire intensity** to a critical threshold of 2,000 kW/m - Rank 3 or less, reduce potential fire severity, and increase potential control;
- Reduce fine surface fuel loading to limit **critical surface fire intensity** between 1,000 - 2,000 kW/m; and
- Retaining wildlife habitat features (e.g. wildlife logs and wildlife trees);
- Retaining live deciduous tree and shrub species with a high moisture content to reduce potential fire behaviour, maintain biodiversity and provide wildlife habitat.

**METHODS:** **HTR**= Hazard tree removal, **TFB**=Thin from below, **PR** = Pruning, **SFR**= Surface fuel removal.

**FIELD MARKING:** Ribboning on trees: external boundary edges marked by black/red candy-stripe ribbon, falling corners have been demarcated with two red/black candy stripes and one labeled white ribbon in between; stand plot centers have been flagged with a double yellow ribbon. Streams have been flagged with blue ribbon.

C. TREATMENT UNIT (TU) SUMMARY							
TU	NET AREA (ha)	GROSS AREA (ha)	LEAVE AREAS (ha)	NP (ha)	NAR (ha)	TREATMENT REGIME (i.e. PRU, THIN, PIL, BURN)	GENERAL DESCRIPTION
RECY	3.34	3.36	0.02	0.00	0.00	TFB, PR, SFR, HTR Manual Treatment	This TU is characterized by a mature (~120-140 yrs. old) Douglas-fir (Fd) leading stand with lesser components of western red cedar (Cw) and western hemlock (Hw) and a small component of lodgepole pine (PI) and western white pine (Pw). Crown closure is variable (35-65%), more open on bedrock dominated expressions (dry, thin soils). The understory (poles and saplings) is dominated by dead stems and western hemlock. Surface fuel loading is generally low-moderate across all size classes (averaging 2.4 kg/m <sup>2</sup> ). The average density of dominant and co-dominant trees (>17.5cm DBH) is 570 sph, and across all diameter classes is 2,730 sph. Hemlock mistletoe is present across the stand, with mature stems showing intense infections (large branch brooms and bole swelling).

D. SITE CHARACTERISTICS							
TU	CFFBPS FUEL TYPE	TIMBER TYPE (>17.5cm dbh)	BGC SUBZONE, VARIANT& SITE ASSOC.	ELEVATION RANGE (m)	SLOPE POSITION	SLOPE RANGE (%)	ASPECT
RECY	C-3/C-5	Fd40 Cw33 Hw13 PI7 Pw3 Dead3	CWHxm1 03(01/02)	125-155m	Mid (upper/lower)	0-70	ALL variable
FUEL TYPE DETERMINATION		Fuel type was determined based on field inspection, field photos, and interpretation of empirical stand measurement data undertaken in March 2021.					

E. SOIL CHARACTERISTICS							
TU	SOIL TEXTURE	DUFF DEPTH (cm)	COARSE FRAGMENTS (%)	SOIL DISTURBANCE LIMIT (%)	SOIL HAZARD RATING		
					Compaction	Erosion	Displacement
RECY	LS	6	15%	5	Low	High	High

**F. VALUES – FOREST AND RANGE PRACTICES ACT**

**RIPARIAN & LAKESHORE AREAS** - Forest Planning and Practices Regulation (FPPR) division 3, Government Action Regulation (GAR) section 6, Forest and Range Practices Act (FRPA) sections 180 and 181

Is the proposed cutting, modification or removal of trees, or site preparation, in an area that contains streams, lakes or wetlands?	Yes	<u>No</u>	None were identified during field work.
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**RIPARIAN MANAGEMENT AREAS (RMAs)** - FPPR sections 51 and 52

STREAM, LAKE, WETLAND	CLASS	RRZ (m)	RMZ (m)	RMA (m)	SPECIFICATIONS FOR RIPARIAN OR LAKESHORE MANAGEMENT AREAS
None-classified wetland	-	-	-	-	<p>To protect water quality, within the RMA or 40 m of all mapped and unmapped water courses (with or without water present), the following specifications apply:</p> <ul style="list-style-type: none"> <li>No refuelling of any equipment (chainsaws, chippers, brush saws, pole saws, etc.);</li> <li>No burn piles or distribution of chips;</li> <li>No use of heavy machinery;</li> <li>Do not construct trails;</li> <li>Fall trees away from the stream.</li> </ul>
No streams identified					

**TEMPERATURE SENSITIVE STREAMS** - FPPR section 53, GAR section 15, FRPA sections 180 and 181

Are there temperature sensitive streams or direct tributaries to temperature sensitive streams within or adjacent to the proposed treatment area?	Yes	<u>No</u>	All TUs: iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
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**ROAD CONSTRUCTION IN RIPARIAN MANAGEMENT AREAS** - FPPR section 50

Is road construction proposed in riparian management areas within the treatment area or an associated road permit (RP)?	Yes	<u>No</u>	n/a
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**STREAM CROSSINGS** - FPPR section 55

Will stream crossings be constructed within the proposed treatment area or a road permit road providing access to the treatment area?	Yes	<u>No</u>	n/a
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**MAINTAINING STREAM BANK AND CHANNEL STABILITY ON S2, S3, S4, S5, and S6 STREAMS** - FPPR section 52 (2)

Is the proposed treatment in the RMZ of an S4, S5 or S6 stream that is directly tributary to an S1, S2 or S3 stream and the activity is likely to contribute significantly to the destabilization of the stream bank or the stream channel?	Yes	<b>No</b>	n/a
<b>DOMESTIC WATER LICENCES</b> (inside or outside of community watershed) - FPPR section 59			
Does the proposed treatment area contain water sources that are diverted for human consumption by a licensed waterworks?	Yes	<b>No</b>	<b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
<b>LICENCED WATER WORKS</b> (inside or outside of a community watershed) - FPPR section 60			
Does the proposed treatment include areas that are within 100 m of a licensed waterworks?	Yes	<b>No</b>	<b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
<b>FISHERIES SENSITIVE WATERSHED</b> - GAR section 14, FPPR section 8.1			
Are any activities proposed within a fisheries sensitive watershed?	Yes	<b>No</b>	<b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
<b>COMMUNITY WATERSHED</b> - GAR section 8, FPPR section 8.2, 61, 62 and 84			
Does the proposed treatment area include areas that are within a community watershed?	Yes	<b>No</b>	<b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
Will this project require road construction or deactivation within a community watershed?	Yes	<b>No</b>	<b>All TUs:</b> No work is planned within a community watershed.

WATERSHED ASSESSMENT CONSIDERATIONS - FRPA section 180 areas with "significant watershed sensitivity"				
Does the proposed treatment area include areas that have watershed assessment considerations?	Yes	<u>No</u>	All TUs: iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.	
SOIL DISTURBANCE AND PERMANENT ACCESS STRUCTURES - FPPR sections 35 and 36				
Treatment Unit	Proposed Max. Allowable Soil Disturbance (%) (5% or 10%)	Proposed Max. Soil Disturbance for Roadside Work Areas (%)	Proposed Max. Permanent Access Structures (%)	Comments
RECY A-1	5%	25%	0	Hand work only.

Do the proposed Permanent Access Structures exceed 7% of the total area?	Yes	<u>No</u>	<b>All TUs:</b> No permanent access structures are proposed as part of this prescription.
<b>LANDSLIDES AND TERRAIN STABILITY - FPPR section 37</b>			
Does the proposed treatment area include areas where terrain stability is a concern?	Yes	<u>No</u>	<b>All TUs:</b> There are no terrain stability areas of concern within the TU.
<b>SUITABLE SECONDARY STRUCTURE - FPPR section 43.1</b>			
Does the proposed treatment area include a “targeted pine leading stand”?	Yes	<u>No</u>	<b>All TUs:</b> Section 43.1 and 43.2 of FPPR were reviewed and no portions of the proposed treatment area are designated as targeted pine leading stands.
<b>UNGULATE WINTER RANGE - GAR section 12, FRPA sections 180 and 181, FPPR section 69</b>			
Does the proposed treatment area include areas within an Ungulate Winter Range?	Yes	<u>No</u>	<b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
<b>WILDLIFE HABITAT AREA - GAR section 10, FRPA sections 180 and 181, FPPR section 69</b>			
Does the proposed treatment area include any wildlife habitat areas (WHA)?	Yes	<u>No</u>	<b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.
<b>OBJECTIVES SET BY GOVERNMENT FOR WILDLIFE - FPPR section 7</b>			
Does the proposed treatment area include areas to which objectives for wildlife under FPPR section 7 apply?	Yes	<u>No</u>	<b>All TUs:</b> iMapBC and Conservation Data Centre spatial layers were reviewed on Feb. 25, 2021 and no species at risk occurrences exist.
<b>OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Landscape Level) - FPPR section 9</b>			
Does the proposed treatment area include areas to which objectives for landscape level biodiversity under FPPR section 9 apply?	<u>Yes</u>	No	<p><b>All TUs:</b> The TU lies within the CWHxm1 subzone. The CWHxm1 subzone is characterized as an ecosystem with infrequent stand-initiating events, or Natural Disturbance Type (NDT) 2. NDT2 ecosystems can be generalized as even-aged forest stands with extended post-fire regeneration periods. As a result, uneven-aged tendencies (i.e., patch dynamics) can occur when forested areas remain undisturbed for significant periods of time. Fires are often moderate in size (20 – 1000 ha), with unburned areas resulted from sheltering terrain features and high site moisture. Fires have historically resulted in a mosaic of mature forests across the landscape interspersed with younger forests. The mean return interval for fires and disturbances in the NDT2 has generally been 200 years. The fire regime in the CWHxm1 has been modified by human activities during the last century, which include forest harvesting and fire suppression.</p> <p>The proposed treatments will maintain existing even-aged stand characteristics by targeting understorey stems for removal and prioritizing the retention of co-dominant and dominant mature trees. This approach is consistent with the spatial and temporal patterns of natural disturbance in the CWHxm1 ecosystem.</p>

OBJECTIVES SET BY GOVERNMENT FOR BIODIVERSITY OBJECTIVES (Stand Level) - FPPR section 9.1			
Are considerations for maintaining stand structure (wildlife trees, wildlife tree reserves, etc.), coarse woody debris, and maintaining tree and vegetation species composition incorporated into this prescription?	<u>Yes</u>	No	<p><b>All TUs:</b> Prior to the commencement of treatment activities, a Wildlife Danger Tree Assessment must be completed. Wherever safe and practicable, trees with wildlife attributes such as internal decay, crevices, evidence of wildlife use, or a structure preferred by wildlife, will be retained. Retention of coarse woody debris is recommended, particularly logs &gt;22.5 cm in diameter, but must follow prescription specifications for fuel loading (see Section H: Surface Fuel Loading). This prescription also calls for the retention of all fire-resistant tree and shrub species (deciduous). Wherever possible, the prescription recommends the removal of suppressed or dead stems, and the retention of a variety of tree species to ensure biodiversity levels are maintained across the treatment areas. All decaying (Class III and above) logs and stumps should be left in place to avoid disturbing wildlife habitat.</p>
RECREATION FEATURES - FRPA section 56 and 149, FPPR section 70			
Does the proposed treatment area contain interpretive sites, recreation trails, recreation sites, recreation facilities that are considered to be of significant recreation value and are designated a resource feature?	Yes	<u>No</u>	<p><b>All TUs:</b> iMapBC layers were reviewed on Feb. 25, 2021 and the treatment area does not overlap with any provincially designated recreation features. However, the treatment area is adjacent to public use hiking (summer) and skiing (winter) trails.</p>
VISUAL QUALITY OBJECTIVES - GAR section 7, FRPA sections 180 and 181, FPPR section 9.2			
Is the proposed treatment within a scenic area?	<u>Yes</u>	No	<p><b>All TUs:</b> The TU partially overlaps two EVQO polygons: VLI #592 – Retention; and VLI #608 – Partial Retention). The prescription aims to retain ~425 sph (75%) of L1 (dominant and co-dominant) trees which will retain the visual characteristics of the stand and meet the established visual quality objectives.</p>
ARCHAEOLOGICAL RESOURCES/CULTURAL HERITAGE RESOURCES - FPPR section 10			
Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area?	Yes	<u>No</u>	<p><b>All TUs:</b> A shapefile of the proposed treatment areas was submitted to the MFLNRORD Archaeology Branch on Feb. 25, 2021, to assess any overlaps with archaeological sites or cultural heritage resources. A response was received on March, 2021, indicating that no known archaeological sites overlapped. Archaeological sites (both recorded and unrecorded) are protected under the <i>Heritage Conservation Act</i> and must not be altered or damaged without a permit from the Archaeology Branch.</p> <p><i>Fuel treatment operations have the potential to find and disturb currently unrecorded heritage sites, above and below ground. If archaeological materials or other heritage remains are uncovered during treatment, work in the area of the find must cease immediately, the location shall be secured, and the Archaeology Branch contacted for direction at 250-953-3334.</i></p>

INVASIVE PLANTS - FRPA section 47 and FPPR section 17			
Is the introduction and spread of invasive plants likely as a result of the proposed treatment?	Yes	<b>No</b>	<p>The Invasive Alien Plant Program (IAPP) did not identify occurrences of species within the treatment areas, however there are known invasive plant occurrences along public roads used to access the TU (Canada thistle, Oxeye daisy, and Sheep Sorrel). Best management practices should be followed (listed below). Invasive plant sightings should be reported through <a href="http://reportaweedbc.ca">reportaweedbc.ca</a> or by calling 1-888-WEEDSBC.</p> <p><i>General best management practices to reduce the introduction and spread of invasive plants include:</i></p> <ul style="list-style-type: none"> <li>• Any equipment used in fuel modification works must be clean of excess soil and plant material prior to transport to site.</li> <li>• Minimize trips through identified invasive plant sites. If known invasive plant sites are traversed by foot crew or machinery, clean clothing, boots, and equipment thoroughly before transitioning within and between treatment units.</li> <li>• Avoid driving through or parking on weed infestations.</li> <li>• Areas of soil exposed as part of undertaking this treatment that are within 50 m of known invasive plant infestations may be considered for planting with native deciduous trees/shrubs. If required, a planting prescription should be developed by a Registered Professional Forester with consideration for site specific ecology and applicable species mix.</li> </ul>
NATURAL RANGE BARRIERS - FRPA section 48, FPPR section 18			
Are there natural range barriers within the proposed treatment area that are likely to be removed or rendered ineffective?	Yes	<b>No</b>	<p><b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.</p>

LAND USE OBJECTIVES (Higher Level Plans and objectives set by Government under the <i>Land Act</i> )			
Are there land use objectives (higher level plans or objectives under the <i>Land Act</i> ) that apply to the proposed treatment area or a Road Permit necessary to provide access to the treatment area?	Yes	<b>No</b>	<p><b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.</p>
Do the proposed activities conflict with land use objectives (higher level plans or objectives under the <i>Land Act</i> )?	Yes	<b>No</b>	<p><b>All TUs:</b> iMapBC spatial layers were reviewed on Feb. 25, 2021 and no overlaps nor adjacencies exist.</p>
G. OTHER CONSIDERATIONS AND REQUIREMENTS			



CONSULTATION – FIRST NATIONS			
FIRST NATION		CONCERNS IDENTIFIED AND MEASURES TO ADDRESS	
Stz'uminus First Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. A read receipt was received from the referral coordinator.	
Penelakut Tribe		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU.	
Lyackson First Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU.	
Halalt First Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU.	
Lake Cowichan First Nation (Ts'uubaa-asatx Nation)		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. A read receipt was received from the referral coordinator.	
Cowichan Tribes		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU.	
Nanwakolas Council		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. A read receipt was received from the referral coordinator.	
Wei Wai Kum Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. Referral coordinator called back – their traditional territory doesn't fall on Cortes, but it would surround the coast, which is probably why we got them on the CAD. <i>Will not be reviewing</i>	
We Wai Kai Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. A read receipt was received from the referral coordinator.	
Homalco First Nation (Xwemalhwu Nation)		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU.	
K'omoks First Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. A read receipt was received from the referral coordinator.	
Tla'amin Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU. A read receipt was received from the referral coordinator.	
Klahoose First Nation		<b>Feb. 16, 2021:</b> A referral package was emailed including a KML of the TU.	
First Nations consultation complete?	Yes	<b>No</b>	All First Nations associations were identified through the Consultative Areas Database. A 30-day review period will be in place from day of receivership. Any concerns identified by will be incorporated into the prescription with an amendment, and as required thereafter.
CONSULTATION – GENERAL			
British Columbia Wildfire Service (BCWS) – Prince George Fire Centre		<b>Tony Botica (Wildfire Prevention Officer – Coastal Fire Centre)</b>  The prescription was referred on Feb. 18, 2021.	

<b>CFGP (Community Forest)</b>	<b>Mark Lombard</b> The prescription and associated maps and spatial data were referred to Mark and the CFGP on March 8, 2021.		
<b>BC Hydro</b>	<b>Chris MacNeal (Vancouver Island &amp; Sunshine Coast - Transmission Manager_</b> An email explaining the project and the BC Hydro wooden pole overhead primary powerline bisecting it was sent to Chris on March 4, 2021.  <i>TO BE UPDATED UPON BC HYDRO REVIEW COMPLETION</i> <i>The following BC Hydro overhead powerline standard best management practices apply:</i> <i>A Certified Utility Arborist (CUA) working with an Assurance of No Reclose Permit (ANRP) issued to them by the BC Hydro [Regional] Operations must perform all tree falling within two tree lengths (50 m) of overhead lines.</i>		
<b>Adjacent Private Landowners</b>	n/a		
<b>EXISTING TENURE HOLDERS (Forest, Range, Guide Outfitters, Trappers)</b>	<b>Trapline (TR0115T964):</b> No contact data available via Sunshine Coast NRD  <b>Guide Outfitter – Certificate Holder: 1054991 BC Ltd / Guiding Certificate #100685:</b> No contact data available via Sunshine Coast NRD		
<b>PRIVATE PROPERTY</b>			
Does private property border the proposed treatment area?	Yes	<u>No</u>	<b>All TUs:</b> No private property borders.

<b>SMOKE MANAGEMENT</b>			
Does a smoke management plan exist for the proposed treatment area?	<u>Yes</u>	No	<b>All TUs:</b> Province of BC Open Burning Smoke Control Regulation applies.  <i>Open burning for wildfire fuel reduction must be done in accordance with the provincial Open Burning Smoke Control Regulation. This prescription lies within a “High Smoke Sensitivity Zone”, but allowances are made for open burning under a fuel reduction prescription. The operations contractor must be compliant in all aspects of this regulation, including notifications.</i>
<b>SAFETY</b>			
Have any specific safety concerns been identified in or adjacent to the proposed treatment area?	<u>Yes</u>	No	<b>All TUs:</b> Public access for recycling drop-off. Potential hazardous materials within the recycling centre drop-off area.  <i>See Section G. ‘Access Control’ and ‘Traffic Control’ below for safety and operating recommendations.</i>
<b>UTILITIES</b>			

Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc.	<u>Yes</u>	No	<b>All TUs:</b> A wooden-pole residential overhead powerline transects part of the TU (as shown on map).
<b>ACCESS CONTROL</b>			
Are there any foreseen issues with access and access control during and post treatment?	<u>Yes</u>	No	<b>All TUs:</b> Public access is open via a road into the recycling centre. Access will need to be restricted during operations and blocked during all tree felling activities. There is an active gate at the road entrance that can be locked to accomplish this.  <i>For all units, See Section I. 'Roads, Landings, and Trails' for more detail on access and staging.</i>
<b>TRAFFIC CONTROL</b>			
Is traffic control required at any point during operations?	<u>Yes</u>	No	<b>All TUs:</b> See above.
<b>OTHER</b>			
<p>Wildfire response: All operations must be in compliance with the <i>Wildfire Act</i> and <i>Regulation</i>. Use of machinery (power saws, ATV's, etc.) and pile burning is associated with higher risk for accidental wildfire ignition if conducted during the fire season. When treatment activities take place during the fire season, it is recommended that a project notice is sent to the Cortes Island Fire Rescue and the BCWS Coastal Fire Centre.</p>			

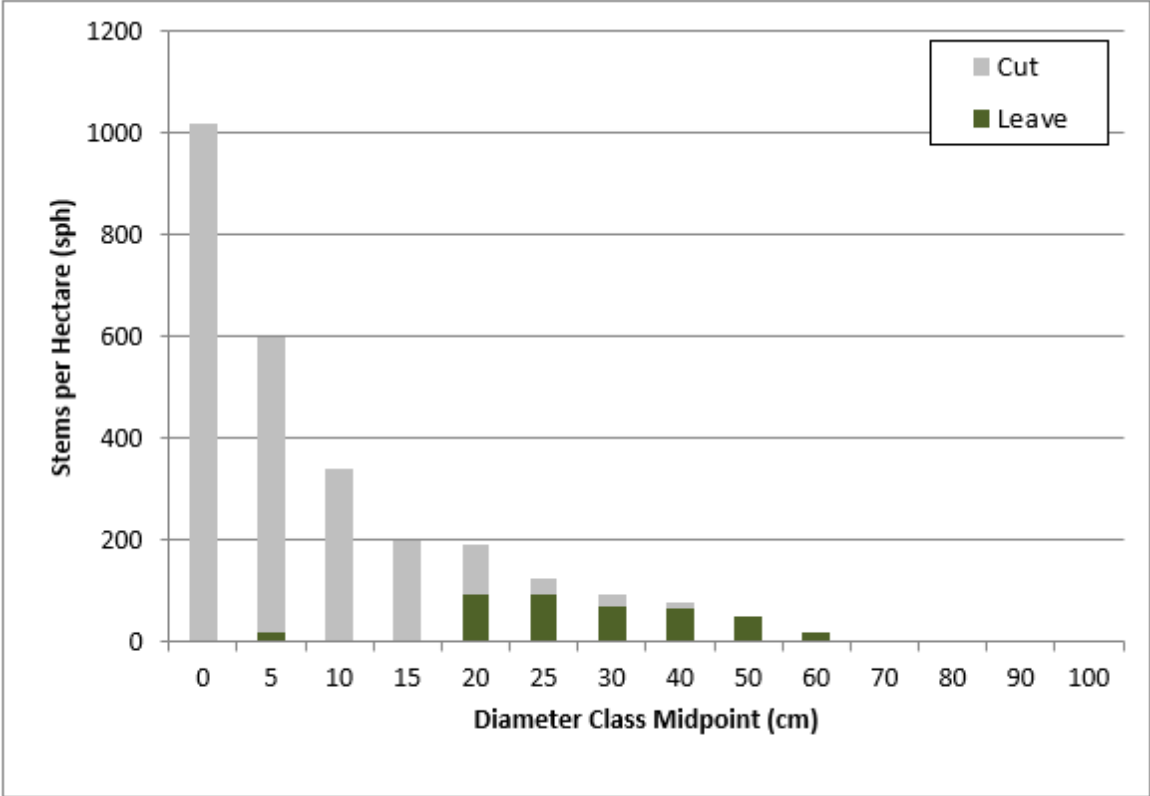
## H. STAND AND STOCK TABLE: TU 1

Statement of Limitations: Stand descriptions and pre-harvest stand structure numbers are estimates only and should not be relied upon by Contractors for estimating budgets used in bidding or tender preparation. Contractors are responsible for conducting site visits to gather sufficient information for tender preparation.								
Species and Diameter Class	Average Crown to Base Height (m)	Average Tree Height (m)	STEMS PER HECTARE (sph)			VOLUME PER HECTARE (m³/ha)		
			Existing	Cut	Leave	Existing	Cut	Leave
Layer 1 (> 27.5 cm dbh)*								
Fd	12.0	26.9	115	0	115	140	0	140
Cw	1.5	29.0	58	0	58	97	0	97
Hw	6.0	31.5	38	38	0	30	30	0
Pl	2.0	27.0	24	0	24	13	0	13
Pw	16.0	24.5	16	0	16	12	0	12
Total All Species	-	-	251	38	213	292	30	262
Total Conifers (live)	-	-	251	38	213	292	30	262
Layer 1 (> 22.5 cm - 27.5 cm dbh)*								
Fd	10.0	20.5	35	0	35	9	0	9
Cw	1.5	21.0	58	0	58	19	0	19
Hw	5.0	27.0	30	30	0	13	13	0
Total All Species	-	-	123	30	93	41	13	28
Total Conifers (live)	-	-	123	30	93	41	13	28
Layer 1 (> 17.5cm dbh - 22.5 cm dbh)								
Cw	1.0	14.0	47	0	47	6	0	6
Hw	3.0	24.0	52	52	0	11	11	0
Pl	3.0	24.0	46	0	46	13	0	13
Dead	-	15.0	47	47	0	5	5	0
Total All Species	-	-	192	99	93	35	16	19
Total Conifers (live)	-	-	145	52	93	30	11	19
Layer 1s (≥ 12.5 cm - 17.5 cm dbh)								
Fd	4.0	16.0	100	100	0	9	9	0
Cw	1.0	12.0	40	40	0	4	4	0
Dead	-	12.0	60	60	0	5	5	0
Total All Species	-	-	200	200	0	18	18	0
Total Conifers (live)	-	-	140	140	0	13	13	0
Total Layer 1								
Total Layer - All Species	n/a	n/a	766	367	399	386	77	309
Total Layer – Live Conifers Only	n/a	n/a	659	260	399	376	67	309
Layer 2 (≥ 7.5 - 12.5 dbh)								
Fd	.5	8.0	80	80	0	-	-	-
Cw	.5	5.0	80	80	0	-	-	-

Hw	.5	6.0	20	20	0	-	-	-
Dead	-	5.0	160	160	0	-	-	-
<b>Total Layer 2 - All Species</b>	-	-	<b>340</b>	<b>340</b>	<b>0</b>	-	-	-
<b>Layer 3 (≥ 1.3m height - 7.5cm dbh)</b>								
Cw	0.2	2.0	60	60	0	-	-	-
Hw	0.2	2.0	240	240	0	-	-	-
Pw	0.5	2.0	20	0	20			
Dead	-	2.0	280	280	0	-	-	-
<b>Total Layer 3 - All Species</b>	-	-	<b>600</b>	<b>580</b>	<b>20</b>	-	-	-
<b>Layer 4 (&lt;1.3m height)</b>								
Cw	0.0	<0.5	80	80	0	-	-	-
Hw	0.0	<0.5	880	880	0	-	-	-
Dead	-	<0.5	60	60	0	-	-	-
<b>Total Layer 4 - All Species</b>	-	-	<b>1020</b>	<b>1020</b>	<b>0</b>	-	-	-
<b>SURFACE FUEL LOADING (kg/m²)</b>	<b>Existing average total fuel loading:</b> Fine + Medium = 0.5 kg/m² Coarse = 0.2 kg/m²		<b>Fine and medium woody debris (&lt;7.0 cm diameter):</b> Retain at ≤ 0.5 kg/m². <b>Coarse woody debris (CWD) (&gt;7.0 cm diameter):</b> retain at ≤ 0.5 kg/m². Wildlife logs will not be counted in the loading target, but instead have a piece target listed below. <b>Wildlife Logs (CWD) (&gt;22.5 cm diameter):</b> 50 – 150 pieces/ha					
	<b>Distribution:</b> Fine and medium debris is scattered throughout the unit, but hazardous build-ups occur in depressions, in areas of clumped trees, and where dead trees have fallen.		<b>Distribution:</b> Fine and medium woody debris should be reduced in depressions and concentration areas where build-up has occurred and left scattered throughout the unit. CWD should be spaced at a minimum 1 m from other pieces along its length and left on or as close to the ground as possible. CWD that is decay class III or greater does not count towards CWD fuel loading.					
	Method used to measure: US Forest Service (Rocky Mountain Research Station) Photoload Sampling Technique							
<b>Crown Closure (%) (dom, co-dom)</b>	Existing: 50%		Target: No target is set for post-treatment crown closure as the tree removal strategy is based on species and diameter class, not crown position. However, it is expected that an incidental reduction in crown closure will occur in the range 5-10%					

#### BIODIVERSITY AND FOREST HEALTH CONSIDERATIONS AND TARGETS

<b>WILDLIFE LOG RETENTION TARGET - SPH and Distribution</b>	<p>Wildlife logs provide valuable habitat for small mammals, plants, insects and other organisms. Larger pieces are particularly valuable as habitat elements. <b>A minimum of 50 pieces/ha and a maximum of 150 pieces/ha of wildlife logs should be retained, with a preference for larger (&gt;22.5 cm diameter, measured at one butt end of log) pieces.</b> These wildlife logs should have a minimum length of 3 m <i>with longer pieces preferred</i>. Retained wildlife logs should be bucked if necessary, so that they lay flat on the ground along 70% or more of their length. Distribution of CWD should be scattered (not piled or continuous) and logs should be separated by a minimum of 1 m. Existing decayed (class III and above) large diameter wildlife logs will be retained to enhance wildlife habitat and provide ecosystem values and will not be counted in the target.</p> <p><b>All TUs:</b> CWD above the retention targets must be bucked, piled, and burned on site, or removed off-site to an approved green waste or incineration facility.</p>
<b>WILDLIFE TREE RETENTION TARGET</b>	<p>The contractor(s) must conduct a Wildlife/Danger Tree Assessment to identify and retain high value wildlife trees in the treatment area, without unduly reducing the effectiveness of the fuel management treatment. The retention of trees with cavities or broken tops should be maximized. Hazardous trees (as defined in the Workers' Compensation Board Occupational Health and Safety Regulation Part 26: Forestry Operations and Similar Activities) must be assessed for risk, and if determined to pose a risk to workers, be removed or have a No Work Zone (NWZ) established of suitable size to protect workers. This assessment must be done by a qualified individual who has completed a training program acceptable to the WorkSafeBC Board. The responsibility of ensuring this assessment is completed lies with the Designated Prime Contractor of the forestry operation.</p> <p><i>No more than 5% of the treatment area may be designated as NWZs without review and approval from by a contract supervisor.</i> The shape and size of the NWZ should be determined based on the nature of the hazard and the lean of the tree and should aim to reduce the amount of area removed from the treatment.</p>
<b>FOREST HEALTH</b>	<p><b>All TUs:</b></p> <p>The following forest health strategies will be applied: dead stems will be targeted for removal before healthy stems unless they are identified as a high value wildlife tree and are assessed as safe to retain.</p> <p>Hemlock mistletoe is present in all overstory (and most understory) western hemlocks in the TU. The resulting branch brooms and weakened boles make the hemlock a risk to continued fuel loading in the TU. <i>For this reason</i>, all hemlocks have been targeted for removal.</p> <p>Western white pine is scattered in the over and understory. Due to continuing white pine blister rust infection, all western white pine has been targeted to remain in the TU, giving every chance for resistant individuals the chance to grow and keep their genetic resistant genes (seeds) available to the area in the future.</p> <p><u>Windthrow:</u> Windthrow hazard was rated as Low.</p>

TREATMENT SPECIFICATIONS SUMMARY	
TU	TREE REMOVAL/RETENTION STRATEGY BY SIZE/SPECIES (Summarize specifications identified in table above)
RECY	<p>Thin from below to a maximum diameter of 17.5 cm dbh, using the following guidelines:</p> <ul style="list-style-type: none"> <li>• From all layers (L1-L4), regardless of dbh: remove all dead stems (unless assessed as wildlife trees).</li> <li>• From all layers (L1-L4), regardless of dbh: retain all deciduous stems (i.e., arbutus trees).</li> <li>• From all layers (L1-L4), regardless of dbh: retain all western white pine trees.</li> <li>• &gt;22.5 cm dbh, remove only western hemlock and dead trees.</li> <li>• Post-treatment target density (L1-L4) of <b>425 sph</b> (~400sph &gt; 17.5cm dbh)</li> <li>• Target intertree distance (L1-L4) of <b>5.2 m</b>.</li> </ul> <p>Although uniform thinning is preferred, it is likely not possible due to stand variability. The Site Supervisor may approve clumpy retention where appropriate. Refer to Section H above and figure below for existing stocking and prescribed cutting specifications by diameter class.</p>  <p><b>Figure 1. Cutting specifications for RECY: stems per hectare (sph) cut and leave</b></p>
TREATMENT SPECIFICATION RATIONALE (See notes to assist)	

The unit under prescription is intended to limit fire behaviour potential and provide suppression crews with an improved opportunity to protect hazardous materials in the Cortes Island recycling centre from propagating a wildfire (flame or ember shower) or starting a wildfire from ignition/explosion within the recycling centre. The prescription calls for a reduction in surface fuel loading (mostly in hazardous clumps/depressions), ladder fuels and vertical and horizontal fuel continuity, to create a surrounding polygon fuel-break. Fuel management in the treatment unit will function to reduce aggressive fire behaviour to an extent that will limit crown fire behaviour, improve fire-retardant efficacies, and the ability of fire crews to apply direct attack at the fire front. This fuel management prescription provides the prescriptive guidelines as well as the recommended treatment activities to implement a proactive wildfire hazard reduction project.

The overall intents of this prescription are to:

- 1) Develop a fuel treatment area that will meet the objective of public safety and wildfire risk reduction while maintaining ecosystem structure and function by pruning and removing dead and suppressed understory stems, fuel continuity, and ladder fuels, thereby increasing the fuel strata gap. In conjunction with reducing surface fuel loading (fine, medium, and coarse woody debris), the critical surface fire intensity threshold is raised, thereby reducing the probability of crown fire initiation.
- 2) Create a demonstration project in a publicly accessible and easy to view area that shows wildfire risk reduction and FireSmart activities that Cortes Island residents can employ on their own properties.
- 3) Create work for applicable local contractors as part of the FireSmart Economic Recovery Fund.

## **I. TREATMENT DESCRIPTION**

### **MERCHANTABLE TIMBER HARVEST**

#### **ROADS, LANDINGS AND TRAILS:**

No road construction nor trails will need to be created within the TU. Removed fibre can be pulled to the treeline edge of the recycling centre and chipped/binned as required. Access to the recycling centre and treatment unit is via a small road off of Squirrel Cove Road.

**FELLING:** Hand felling with chainsaw or brush saw is the preferred and prescribed tree felling method. Prescribed maximum stump height is 20 cm, cut at an angle <10 degrees.

#### **YARDING/SKIDDING:**

n/a

#### **LOADING AND HAULING:**

Loading and hauling of all merchantable and alternate fibre usage stems is preferred.

#### **SLASH DISPOSAL:**

Pruning, regen brushing, bucking, and piling and burning of slash and surface fuel should be done outside the fire season. If slash is too wet or venting is too poor to burn, then alternate debris disposal methods must be applied. Although based on existing CWD loadings, fire hazard from piled slash may not exceed the fuel hazard threshold for the area. However, the proximity of the area to residences and to hazardous materials warrants extra caution.

Options for slash disposal are described in sections below. The contractor may remove wood waste (non-merchantable timber, branches etc.) via the use of a large bin or container. If this is proposed, the Site Supervisor and Prime Contractor (Contract Supervisor), in consultation with the CFGP and Strathcona Regional District, will agree on the location(s) for the bin or container within the recycling centre facility to facilitate the safe and efficient transport of wood waste to a local composting or fuel facility. Slash may be chipped or mulched prior to transport. If this is not feasible, then pile and burn is prescribed.



<p><b>SITE DISTURBANCE:</b></p> <p>During burning, debris hauling, and/or equipment transport:</p> <ul style="list-style-type: none"> <li>Minimize soil disturbance (&lt;5%, see Section F-Values and <i>Forest and Range Practices Act</i>) and forest floor displacement.</li> <li>Minimize visual impact of harvest and maintain cut stump height at less or equal to 20 cm from ground.</li> <li>Should an unacceptable level of soil disturbance occur within the treatment area, the Contract Supervisor will develop an appropriate rehabilitation plan.</li> <li>At the minimum, pre-existing trails will be maintained in or restored to pre-treatment condition. The Site Supervisor has the discretion to specify a higher standard of trail restoration or rehabilitation after the completion of fuel management activities.</li> </ul>
<p><b>SPECIAL MEASURES:</b> n/a</p>
<p><b>STAND MODIFICATION TREATMENTS</b></p>
<p><b>MERCHANTABLE TIMBER UTILIZATION:</b> Was commercial timber harvest considered? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>Estimate volumes (m<sup>3</sup> /ha) to be removed (*This estimate assumes all live standing conifers with a dbh &gt;= 17.5cm to be merchantable):</p> <p><b>All TUs:</b></p> <p>Live merchantable volume = 54 m<sup>3</sup>/ha</p> <p>Dead fibre utilization volume = 0 m<sup>3</sup>/ha</p>
<p><b>BRUSHING:</b> Brushing activities to achieve thinning targets is allowed.</p>
<p><b>PRUNING:</b> Prune branches on retained conifers to 3 m above ground.</p>
<p><b>THINNING:</b> Existing stand condition and target retention density for the treatment units are described in detail in Section H of this prescription. The target density was determined with consideration for existing stand structure, wildlife habitat, visual quality, and wildfire threat reduction objectives.</p>
<p><b>DEBRIS PILING:</b> Manual debris piling will be used as necessary to facilitate chipping and hauling of debris.</p>
<p><b>PILE BURNING:</b> Pile burning may be employed as a debris disposal method if slash cannot be hauled away. These procedures should be followed:</p> <ul style="list-style-type: none"> <li>All burning is to be conducted in compliance with the BC Wildfire Act and Wildfire Regulation, and the Environmental Management Act Open Burning Smoke Control Regulations (OBSCR) 405/19 (enacted September 15, 2019).</li> <li>A Category 3 burn registration number must be obtained by calling 1 888 797-1717.</li> <li>Burn piles must be constructed to facilitate effective ignition and complete combustion with minimal tending by groundcrews. Piles will feature a mix of small/large and live/dead stem and branch sections arranged to burn efficiently with minimal smoke production. No piles will contain bole sections &gt; 3m in length.</li> <li>Burn piles must not be located within 3 m of any trail, 3 m of animal burrows, 3 m of snags, and must not result in scorching of or heat damage to more than 5% of retained trees.</li> <li>Burn piles must be within the treatment area boundary, in minimal number of piles, and adhere to a maximum size of 3 m x 3 m x 2 m tall. To reduce the number of piles, burning should occur concurrently with thinning operations using the hot-fed technique.</li> <li>The ventilation index should be indicated as 'good' (&gt; 64) on the day of burning prior to igniting burn piles. Burning can only continue if indices remain at 'fair' or 'good' for the day after. The site supervisor should ensure that there are no fire restrictions (i.e. fire bans) in the area prior to burning. The site supervisor may halt burning at their discretion if concerns related to public safety or health are identified;</li> <li>Piles should not be left unburned within 15 m of any road or trail in order to reduce the likelihood of arson, and;</li> <li>Burning cannot occur within 100 m of private residences unless an exemption is obtained.</li> </ul>
<p><b>MULCHING/CHIPPING:</b> Prescribed, in conjunction with removal via a bin, truck, or container.</p>
<p><b>MASTICATION:</b> Not prescribed.</p>

<b>GRINDING:</b> Not prescribed.
<b>PRESCRIBED FIRE:</b> Not prescribed.
<b>PLANTING:</b> Not prescribed.
<b>OTHER:</b> There is potential for firewood production through thinning, especially of non-merchantable dead wood. If firewood production occurs, firewood will be left at designated locations to facilitate pickup by community members. The pickup location must be approved by the contract supervisor, CFGP, and Strathcona Regional District. Piece size should not exceed 1.5 m in length. The contractor must ensure that all wood is removed from the site prior to project completion.
<b>AUTHORIZATION AND TIMBER TENURE</b>
<b>FRPA Section 52:</b> Potentially Applicable .
<b>Forestry Licence to Cut (FLTC):</b> Potentially Applicable
<b>Park Use Permit:</b> Not applicable.
<b>Road Permit or Road Use Permit:</b> Not applicable.
<b>Other (i.e. local government, utilities, etc.):</b> CFGP approval.
<b>J. POST TREATMENT</b>
<b>EXPECTED VEGETATION RESPONSE:</b> This prescription is expected to achieve the outlined fuel management objectives for a period of approximately 15-20 years. After this time, it is expected that understorey regeneration in gaps may create ladder fuels that are likely to incrementally increase hazard and potential fire behaviour. Natural overstorey mortality will lead to an increase in coarse woody debris and surface accumulations over this time frame. A moderate response in the growth of understorey herbs and shrubs is expected due to increased light penetration to the forest floor.
<b>ADDITIONAL TREATMENTS OR MAINTENANCE:</b> Maintenance may be required at about the 15-20 year mark following treatment implementation. Maintenance required at a future time may include understorey thinning, brushing and removal of flammable vegetation, and/or surface fuel disposal to perpetuate the effectiveness of the treatment.
<b>SILVICULTURE OBLIGATIONS:</b> Do silvicultural obligations apply to the treatment area? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<b>PLANTING:</b> Is planting a treatment identified in this prescription or required as a legislative obligation? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>*Planting is a legislative obligation, but is not required.</i>
<b>STOCKING STANDARDS:</b> Do standards apply to the treatment area? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> <i>This prescription retains a fully stocked stand as per the Cortes Forestry General Partnership FSP, Appendix B: Stocking Standards for the CWHxm 03:</i> <ul style="list-style-type: none"> <li>Ecologically suitable species = Fd, Pl (if on nutrient poor sites), Cw, Hw</li> <li>Target sph = 800 / Minimum sph = 400</li> <li>The resulting stand (outlined above in H. STAND AND STOCK TABLE: TU 1 and summarized in H: TREATMENT SPECIFICATIONS SUMMARY) is expected to maintain 400 sph in the L1 and L1s layers consisting of Fd, Pl, and Cw [all Hw is prescribed to be removed due to hemlock mistletoe infection].</li> </ul>
<b>K. Outstanding Works</b>

1. A forest License to Cut or Section 52 License to Cut must be approved by the MFLNRORD.
2. Flagging/Ribboning:
  - Immediately prior to treatment implementation, flagging of boundaries and falling corners must be checked and 'refreshed' where required.
3. Prior to the commencement of treatment activities, a Wildlife/Danger Tree Assessment must be performed by a person who holds a valid certificate issued under the Wildlife/Danger Tree Assessor's Certificate Program. At this time, L1 and L2 western hemlocks should be identified (to be removed as per prescription cutting specifications).
4. Prior to the commencement of treatment activities, access, staging, and landings must be confirmed with the CFGP and Strathcona Regional District.
5. Consultation with First Nations and stakeholders is ongoing. If any concerns are identified following prescription finalization which impact the prescription specifications described herein, the prescription will be amended to reflect these changes.
6. Consultation with BC Hydro is ongoing. If any concerns are identified following prescription finalization which impact the prescription specifications described herein, the prescription will be amended to reflect these changes.
7. All operations must be conducted in compliance with the Migratory Bird Convention Act and the BC Wildlife Act. If treatment activities are proposed during the bird breeding season (March 15 – August 15), breeding bird activity must be monitored by a qualified professional. Nest sites may be temporarily excluded from the treatment area. Operators must adhere to survey results and recommendations including reserve zones, should they be necessary to protect breeding birds.
8. All burn permits must be approved and obtained prior to burning commencement.

## L. ADMINISTRATION

### PREPARATION

Louis Orioux, RPF  
Monica Nederend, FIT  
Bruce Blackwell, RPF, RPBio

FOREST PROFESSIONAL NAME (*Printed*)

Louis Orioux

FOREST PROFESSIONAL SIGNATURE

MEMBER NUMBER

DATE

M. ATTACHMENTS	
MAPS: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	FIELD DATA CARDS: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
WUI WTA Plots and Photos: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CRUISE DATA: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
AIR PHOTOS/IMAGERY: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	BURN PLAN: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
MODELING/DATA ANALYSIS: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	OTHER: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
TERRAIN STABILITY ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Completed By: Date:	VISUAL IMPACT ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Completed By: Date:
ARCHAEOLOGY IMPACT ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Completed By: Date:	BIOLOGIST ASSESSMENT Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Completed By: Date:
ADDITIONAL COMMENTS:	

Appendix A: Photographs of Treatment Units



Appendix B: Wind Rose

Figure 1: Initial Spread Index (ISI) roses depicting the average frequency of ISI values by wind direction for four 6-hour periods over the fire season April – October. Data taken from the Maurelle Island weather station (~24 km northeast of the treatment unit) from 1996 to 2015.

