

Forests for Tomorrow

Aerial Forest Fertilization Prescription

ADMINISTRATION/AREA DESCRIPTION			
Resource District	TSA/TFL/Licensee	Location	Field Work Completed by and date
Chilliwack	Fraser TSA	Middle Creek	Jeff McWilliams RPF Louis Orioux RPF Heli Feb 3 2020
Mapsheet	RESULTS Opening ID	Treatment Unit/Block	Project Number/Plan name
92H.050	1234834	CHE6	CS19LMN004 (20)
Gross Opening(s) Area (ha)		No Treatment Area (ha)	Net Treatment Area (ha)
1.7		0.0	1.7
Stand Tending History		Aspect	Topography
N/A		E	Even to gently rolling
Latitude:	49°27'3.8"N	Longitude:	122°1'40.8"W
Elevation (min):	320m	Elevation (max):	340m

*The net treatment area accounts for areas removed for NP (natural), permanent access structures, riparian reserve zones, and areas identified as not suitable for treatment. Area estimates are based on digitized (non-traversed) treatment boundaries.

STAND DESCRIPTION ¹				
Dom/Co-Dom trees of target species expected to respond to fertilization (sph)	Live Crown % (of crop trees)	Crown Closure %		Age (yrs)
Fd600-800	50	60-80		50
Estimate Species Composition/Inventory Component (based on volume or basal area)	Estimated Height (top height of leading species)	Total Estimated (sph)	Estimated SI ² (Fd)	Ht to Diam (DBH) Ratio
Fd60-80(HwCw)	29.5-30.5	800-1000	32-34	0.6 - 0.8

ECOSYSTEM INFORMATION ¹						
Polygon	Net Area(ha)	Zone Subzone Variant	Site Series	Edatope Moisture/Nutrients	Slope Position	Slope Avg. % & Range
C	1.7	CWHvm1	01(03,05)	(2)3-4/B-C(D)	Mid Slope	25 (20-30)

¹ Stand and ecological descriptions and stand tending history estimates are based on VRI, RESULTS information, aerial photo review and helicopter and/or field recce assessments.

² Based on "Site Index Estimates Derived from RESULTS or field measurements and Site Index Curves or Growth Intercept data.

TREATMENT DETAILS					
Foliar Analysis: (reference any foliar analysis work) N/A Re-Treatment: (indicate if area has been previously treated; number of times; years since last treatment and fertilizer used) Aerially fertilized in 2014 with Urea.					
Polygon	Net Treatment Area(ha)	Type of Fertilizer	Prescribed Application Rate	Season/ Timing	Fertilizer Amount (kg)
C	1.7	Urea	435 kg/ha	Fall or spring. Repeated every 7-10 years, up to 10 years prior to harvest.	740
Total Area:	1.7	Urea	435 kg/ha	Total kg:	740

Forests for Tomorrow

Aerial Forest Fertilization Prescription

RISK ASSESSMENT: FOREST HEALTH, WILDFIRE
Forest Health RR <5%
Wildfire (e.g. risk ranking) Moderate
Private Property There are no private properties directly adjacent to the treatment area.

MANAGEMENT OBJECTIVES/IRM VALUES
Treatment Objective(s) and Future Regime: The treatment objective is to increase the diameter and height growth of dominant and co-dominant Douglas-fir and western red cedar crop trees resulting in an increased merchantable volume per hectare. The benefit of treatment is that either the same volume (as with no treatment) can be harvested at an earlier age, or more volume will be available at the originally planned harvest age.
Research Installations or Permanent Sample Plots: The treatment area does not conflict with any research installations or permanent sample plots.
Visuals: The treatment unit is within a partial retention visual quality objective polygon.
Cultural Heritage: A First Nations referral will be completed prior to each treatment.
Recreation: The treatment area 145m W of the Skwellepil Creek Recreation Site.
Wildlife/Biodiversity/Species at Risk: The treatment area does not conflict with managed areas for wildlife, biodiversity or species at risk.
Range: The treatment area is not within an established range tenure.
Other Resources or Tenure/Issues: (e.g. Karst; Trappers; hydro rights-of-way; weather stations) The treatment area is within identified Trapline TR0209T004. Fertilization is not expected to have significant detrimental effects on wildlife in the area.
Water Bodies/Fish/Water Quality: Management Objectives: 1. To maintain the water quality of streams flowing in and adjacent to this unit

Riparian Classes	Location/Measures Prescribed/ Buffers/ Comments
Streams (NCD, S4, S6)	Streams identified in the vicinity of the treatment area during field reconnaissance have been excluded from treatment. Streams found to be visible from the air during the pre-treatment aerial recce will be protected by establishing 10-20 m no treatment zones. Streams not visible from the air will be treated over. Fertilizer loading zones will not be located within Riparian Management Zones.
Wetlands W1-W5	N/A
Lakes L1-L5	N/A
Non-classifiable wetland (NCW; NCL; NCD)	N/A
Residential Water Intakes	N/A
Watersheds & Water Quality Sampling (if in community watershed)	
The treatment area is not within a community watershed.	

Forests for Tomorrow Aerial Forest Fertilization Prescription

LOGISTICS AND SAFETY	
General Access:	
Distance from Nearest Town (Chilliwack)	<p>Approximately 70 km from Chilliwack.</p> <p>Get on Hwy/BC-1 E for 14 km and take exit 135 for BC-9 toward Agassiz/Harrison/Hot spring road. Continue for 8 km and turn right onto Agassiz-Rosedale Hwy/Evergreen Dr/BC-9 N.</p> <p>Continue for 2 km and turn right onto Agassiz-Rosedale Hwy/Cheam Ave/BC-9 N and after 350 m turn right at the 1st cross street onto Agassiz-Rosedale Hwy/Evergreen Dr/BC-9 N for 1.7 km. Turn left onto BC-7 W for 15 km. Turn right onto Chehalis FSR (8241 01 0) and continue for ~29 km to the treatment area.</p>
Access Condition	4x4
Access Improvements Required	None required at this time. Access and stagings should be re-confirmed prior to treatment.
Potential Staging Areas	Che4 - 122°2'8.3"W 49°27'52.6"N
Staging Improvements Required	None required at this time. Access and stagings should be re-confirmed prior to treatment.
Comments:	
Safety: (Distance to hospital and contact information; radio frequencies for access; any safety specific protocols; snags)	
<p>Approximately 70km to Chilliwack General Hospital.</p> <p>45600 Menholm Rd, Chilliwack, BC V2P 1P7 (604) 795-4141</p>	
STORAGE/HANDLING OF FERTILIZER	
Storage/Transport: (e.g. type of fertilizer; any regulations as far as transport; conditions of storage)	
<p>Forest-gradefertilizers are not regulated for rail or road transportation. Because of water solubility, blended fertilizer must be stored in dry containers and protected from moisture. Storage areas must be secure to prevent cattle or wildlife from eating fertilizer – small doses of the urea component of blended fertilizers are lethal to cattle and ungulates.</p>	
Accidental Spills: (e.g. ground, water)	
To be handled consistent with the applicator's spill and safety protocols.	

Forests for Tomorrow Aerial Forest Fertilization Prescription

FOREST FERTILIZATION PRESCRIPTION CERTIFICATION	
<p>Attachments: 1:5,000 Aerial Fertilization Prescription Map</p> <p>Plan Prepared By: Alex Ainsworth, FIT</p> <p>Date: March 13, 2020</p>	<p>RPF's Signature and Seal</p> <div style="text-align: center;">  </div> <p>RPF Name: Louis Orioux, RPF</p> <p>Date Signed: March 27, 2020</p> <div style="text-align: right; margin-top: 20px;">  <p style="font-size: small;">B.A. Blackwell & Associates Ltd.</p> </div>