WORKER ALERTS

All live, green trees (all species), and a small component of large diameter dead Fd is to be retained; 5% removal has been allotted for the live, green retention to allow for incidental removal due to operation or safety constraints. The stems per hectare (sph) listed below are an approximation of the leave trees post-harvest based on the cruise compilation, using an estimated percentage of what may be actually available for retention at time of harvest, actual numbers may vary.

Douglas-fir (dead) – Retain 90% of all dead stems >/=67.5cm dbh; which equates to 3 sph.
Douglas-fir (live) – Retain 95% of all live merch stems; which equates to 1 sph.
Spruce – Retain 95% of all live merch stems; which eqautes to 5 sph.
Lodgepole pine – Retain 95% of all live merch stems; none were tallied.
Aspen – Retain 95% of all live merch stems; none were tallied.

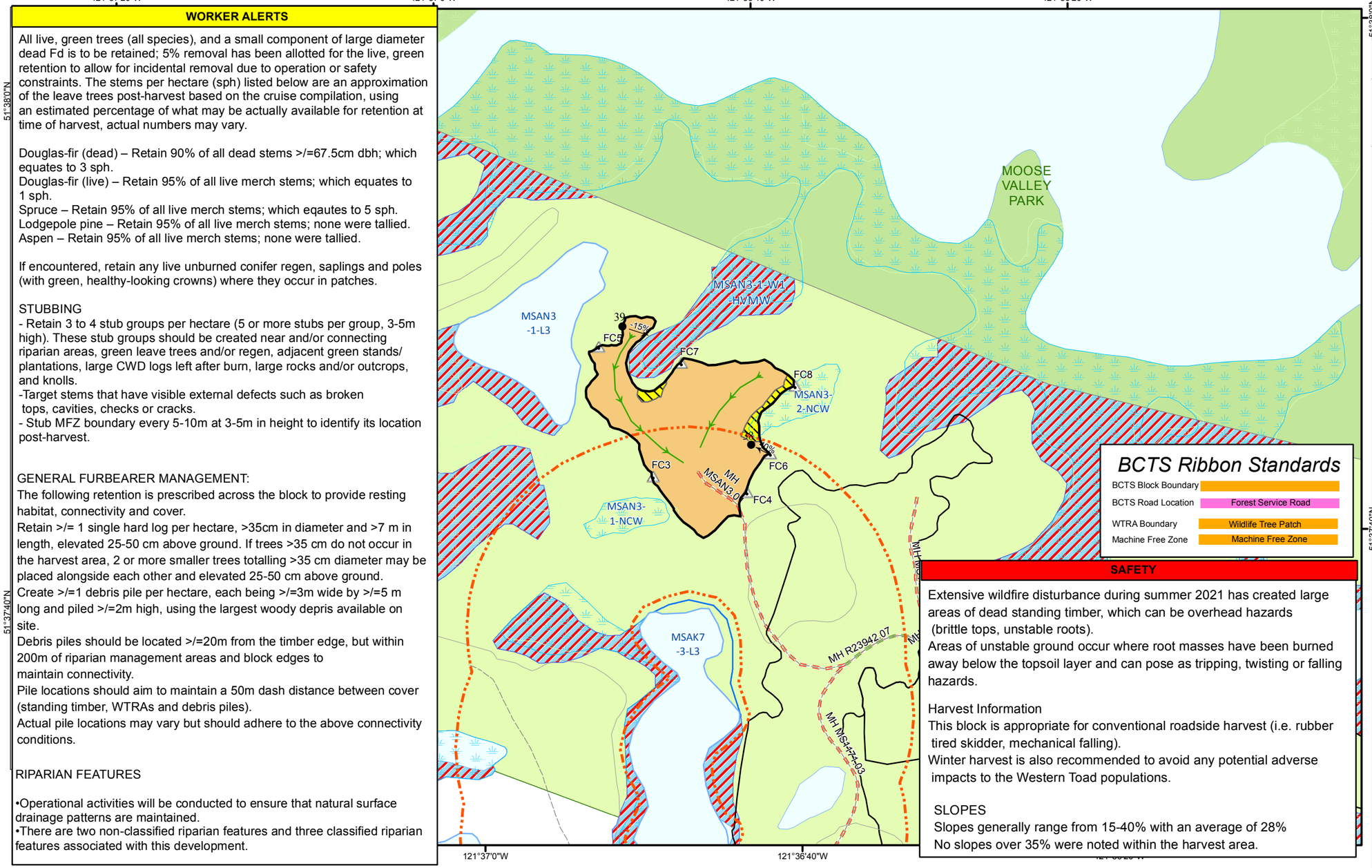
If encountered, retain any live unburned conifer regen, saplings and poles (with green, healthy-looking crowns) where they occur in patches.

STUBBING
- Retain 3 to 4 stub groups per hectare (5 or more stubs per group, 3-5m high). These stub groups should be created near and/or connecting riparian areas, green leave trees and/or regen, adjacent green stands/ plantations, large CWD logs left after burn, large rocks and/or outcrops, and knolls.
-Target stems that have visible external defects such as broken tops, cavities, checks or cracks.
- Stub MFZ boundary every 5-10m at 3-5m in height to identify its location post-harvest.

GENERAL FURBEARER MANAGEMENT:
The following retention is prescribed across the block to provide resting habitat, connectivity and cover.
Retain >/= 1 single hard log per hectare, >35cm in diameter and >7 m in length, elevated 25-50 cm above ground. If trees >35 cm do not occur in the harvest area, 2 or more smaller trees totalling >35 cm diameter may be placed alongside each other and elevated 25-50 cm above ground.
Create >/=1 debris pile per hectare, each being >/=3m wide by >/=5 m long and piled >/=2m high, using the largest woody depris available on site.
Debris piles should be located >/=20m from the timber edge, but within 200m of riparian management areas and block edges to maintain connectivity.
Pile locations should aim to maintain a 50m dash distance between cover (standing timber, WTRAs and debris piles).
Actual pile locations may vary but should adhere to the above connectivity conditions.

RIPARIAN FEATURES

•Operational activities will be conducted to ensure that natural surface drainage patterns are maintained.
•There are two non-classified riparian features and three classified riparian features associated with this development.



BCTS Ribbon Standards

BCTS Block Boundary	
BCTS Road Location	Forest Service Road
WTRA Boundary	Wildlife Tree Patch
Machine Free Zone	Machine Free Zone

SAFETY

Extensive wildfire disturbance during summer 2021 has created large areas of dead standing timber, which can be overhead hazards (brittle tops, unstable roots).
Areas of unstable ground occur where root masses have been burned away below the topsoil layer and can pose as tripping, twisting or falling hazards.

Harvest Information
This block is appropriate for conventional roadside harvest (i.e. rubber tired skidder, mechanical falling).
Winter harvest is also recommended to avoid any potential adverse impacts to the Western Toad populations.

SLOPES
Slopes generally range from 15-40% with an average of 28%
No slopes over 35% were noted within the harvest area.

ID	Class	RMA	Width (m)	Comments
MSAN3-1-L3		RMZ	30	Located west of the development >/=20m from the harvest boundary. Any RMZ overlap within the harvest area will be treated the same as the remainder of the HU. No additional management is required.
MSAK7-3-L3		RMZ LMZ	30 200	MSAK7-3-L3 is located approx. 80m south of the block boundary. There is no RMA overlap but the block does overlap the LMZ, all the timber is severely burnt. Any LMZ overlap within the harvest area will be treated the same as the remainder of the HU. No additional management is required.
MSAN3-1-W1 HVMW		RRZ RMZ	10 40	Located north of the block near FC7. The harvest boundary is >/=10m from the edge of the wetland. Any RMZ overlap within the harvest area will be treated the same as the remainder of the HU. No additional management is required.
MSAN3-ALL-NCW		MSZ	5	There are 2 non-classified wetland features associated with this block, located entirely outside the harvest area. Where the boundary location doesn't provide a sufficient buffer, a 5-8 m MFZ has been established. Stub the MFZ boundary every 5-10m at 3-5m in height and retain all existing CWD within the MFZ.

Access Instructions

From the junction at Exeter Station Rd and Hwy 97, travel west on Exeter Station Rd for 6.1 km (gravel surface begins at 3.8 km) to the start of the 1100 Rd (Gustafsen Lake FSR). Continue straight onto the 1100 Road and travel for approx. 21.5km. Turn right (north) onto road MH R23942.07 and continue for approx. 0.8km. Walk 180m northwest to access the south boundary of MSAN3.

Harvest Plan Map

BCTS BC Timber Sales

TSL	Block ID
TA2093	**MSAN3**
Business Area: Kamloops	UBI: BEAN3
Operating Area: Moose Valley (MH)	Location: Flat Lake Fire - Gustafsen/Dog Creek FSR 26-27 km
Management Unit: 100 Mile House	FIZ: D
Gross Block Area (ha): 3.20	Geographic Center — Latitude: 51° 37' 46" — Longitude: -121° 36' 46"

Unit	Area	Season	Method	Strategy
1	3.06	Any Season	Ground	Standard Practice
MFZ	.14	Any Season	Ground	Machine Free Zone

Harvest Unit ID
1; A
Harvest Method
Ground

Non Productive SU

BCTS Cruise Features
Dropped Plot
Count Plot
Measure Plot
PoT / PoC
Photo Tie point
Slope Arrow

BCTS All Blocks
Block of Interest
BCTS RG Block
BCTS FG Block

BCTS GPS Stations
GPS Station
Block Bdy Hub
Falling Corners
Reference Trees

BCTS Layout Points
Woody Debris
Landing Cable
Landing Ground
R/W Landing
Slump/Slide Area
Stub Tree
Tower Settings
Fish Barrier
Reach Breaks
Road Barrier
Rock Outcrops
Gate
Cattle Guard
Pipeline Crossing
Prop Skid Bridge
Prop Skid Crossing
Major Culvert
MInor Culvert
Drain Culvert
Snow Fill
Bridge
Cave/ Den
Mineral Lick
Nest
Wildlife Tree
Wildlife Feature
Access Control

BCTS Line Features
Cat Trail
Back Spar Trail
Bladed Skid Trail
Forwarding Trail
Deflection Line
PP Temp Skid Trail
Non-Bladed Skid Trail
Skid Trail
Other Trail
Pipe Line
Seismic Line
Cultural/Heritage
Rec Trail
Fence Line
Cliff
Draw
Embankment
Gully
Ridge
Seepage
Slide
Slope Break
Rest. Side Decking
Stubbed Boundary
Road Permit
Skid/Yarding Direction
Wildlife Trail
Fireguard

BCTS Layout Polygons
Existing Permanent Landing
Existing Temporary Landing
Proposed Permanent Landing
Proposed Temporary Landing

TRIM Features
Contour - Index
Road Permit
Contour - Intermediate
Forest Service Road
Highway/Main/Paved Road
Gravel/Resource Road
Trail
Bridge
Rail Line
Pipeline / Wellsite

Visuals Mgmt Class
Partial Retention
DMH -Critical Fish Habitat Cariboo (BCGW)
Recreation Reserve
Recreation Site
Woodlots/ Community Forest
Buffered Trail Areas

Area of Concern
Slope Area (>35%)
SAR Cliff
SAR Forested
SAR Rare Ecosystems
Special Mgmt Area
Special Forest Mgmt Area
Biodiversity, Mining and Tourism Areaa
Private Land
Conservancy Areas
Protected Areas /Parks
Tailing Pond
Lake/Watercourse
Marsh
Swamp
OGMA - Legal
High Value Wetlands for Moose (CCLUP)

BCTS Roads - Road State
Deactivated Road
Existing Road
Proposed Road
Unknown/NULL
Cross Ditch
Arch Pipe
Arch Pipe, Proposed
Culvert
Culvert, Proposed
Bridge, Proposed
Bridge, Condemned
Removed Structures

Riparian Features
MFZ / MSZ
RMZ
RRZ

BCTS Streams Class
Unknown
INT;NCD
S1;S2;S3;S4
S5;S6
Lakeshore Mgmt Zone
WUFN

0 50 100 150 200 250 Meters
1:5,000

Date 2022-11-28 **User** DGANNER
Template Name HarvestPlanMap_11x17L
Coordinate System NAD 1983 BC Environment Albers