

# Fuel Management Prescription West Arm Provincial Park

## 5 Mile Creek

### Treatment Unit 2 – 2021

*Revised June 2021*

*Revised August 2022*



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<p><b>Location:</b> Treatment Unit 2 is located in Five Mile Creek surrounding of the City of Nelson Water Intake Plant.</p>	
<p><b>Amendment #1.</b> This FMP was amended in June 2021. Boundaries were modified to incorporate lessons learned in previous projects in West Arm Park.</p> <p><b>Amendment #2.</b> This FMP was amended in August 2022. Cutting specifications were modified for TU 2B to increase the retention, reduce the diameter at breast height of trees to be retained and change the treatment method from mechanical to manual treatment.</p>	

**Note:** Fuel Management Prescriptions have been prepared for 5 Treatment Units in the Svoboda Road / Five Mile Creek area. This prescription covers Treatment Unit 2.

#### A. Treatment Rationale and Site Summary

The West Arm Provincial Park Fire Management Plan (2017) identified the northeast corner of the Park as a critical area for the establishment of landscape level fuel breaks. The stand structure in this area— mature coniferous forest with extensive ladder and surface fuels (in-growth)— will support high to extreme potential fire behaviour under 90th percentile summer fire weather conditions. The implementation of this prescription will significantly reduce fuel hazards (surface fuels and canopy bulk density) in this area and contribute to the development of an integrated network of fuel breaks within the Park and adjacent to the City of Nelson.

TREATMENT UNIT (TU) AREA SUMMARY				
TU	Gross Area (ha)	Biodiversity or riparian reserves (ha)	Net Treatment Area (ha)	Prescription summary
2A	9.0	1.3	7.7	Manual treatment: understory thinning, and debris clean up. No Treatment within reserves.
2B	7.7	0.4	7.3	Manual treatment: understory thinning, and debris clean up. No Treatment within reserves.
2C	2.6	0	2.6	Manual treatment: understory thinning, and debris clean up
2D	1.9	0	1.9	Manual treatment: understory thinning, and debris clean

TREATMENT UNIT (TU) AREA SUMMARY				
TU	Gross Area (ha)	Biodiversity or riparian reserves (ha)	Net Treatment Area (ha)	Prescription summary
				up
FireSmart	0.2	0	0.2	Mechanical treatment: Overstory removal of all trees withing range of striking critical infrastructure.
RRZ	1.4	1.4	0	No Treatment
<b>TOTAL</b>	<b>22.8</b>	<b>3.1</b>	<b>19.7</b>	

ECOSYSTEM / SITE CHARACTERISTICS							
TU	BEC subzone	Site Series	Overstory species composition by basal area	Elevation range (m)	Slope range (%)	Aspect	Terrain/ Soils
2A	ICHdw1	101	Hw60Cw15Fd15Lw10	1100-1170	40-65	NE	(fine) sandy loam over loamy sand
2B	ICHdw1	101	Cw45Hw30Lw10Fd10 Sx5	1060-1180	10-55	NE	(fine) sandy loam over loamy sand
2C	ICHdw1	104	Cw30Fd30Lw15Hw10 Pw10Sx5	1100-1180	35-60	W/SW	(fine) sandy loam over loamy sand
2D	ICHdw1	104	Cw30Fd30Lw15Hw10 Pw10Sx5	1080-1140	35-60	W/SW	(fine) sandy loam over loamy sand

## B. Management Objectives and Strategies

This prescription is designed to be consistent with the objectives in the West Arm Provincial Park Management Plan (2007) and the objectives in the Kootenay-Boundary Land Use Plan.

While this prescription has been developed primarily to address fuel hazards and wildfire risk, it is also designed to maintain or enhance key Park values including biodiversity and wildlife habitat, and to promote ecosystem resilience.

### Fuel Management Objectives

This Fuel Management Prescription is consistent with the objectives of the West Arm Provincial Park Fire Management Plan (2017).

Specifically, the objectives of this prescription are to:

- Help protect West Arm Provincial Park's natural values from high intensity wildfire;
- Improve public safety in the Harrop area as well as within West Arm Provincial Park;
- Improve the ability of the BC Wildfire Service to protect Park values and private land in the adjacent community;
- Enhance natural barriers to reduce the continuity of fuel loads;
- Demonstrate the principles and practices of FireSmart and fuel/ vegetation management to local community members and the broader public;

## **Biodiversity and Other Objectives**

- Emulate the pattern of natural disturbances that have historically acted upon Park ecosystems;
- Accelerate succession to mature and older-growth forest structural conditions with generally lower stand densities;
- Increase the availability and diversity of wildlife habitat through the restoration of more natural mixed or semi-open forest conditions;
- Minimize negative impacts to, and where possible enhance, Park values including cultural heritage, recreation and visual quality;
- Minimize negative impacts to, and where possible enhance, the many values of the treated forest, including source water protection and forest health.

## **Management Strategies**

The objectives stated above will be achieved by implementing the following strategies:

- Reduce crown continuity with a typical target of 30 - 40% crown closure to reduce the risk of crown fire;
- Create small gaps and patch openings in the forest canopy to emulate natural disturbances;
- Protect sensitive areas, including riparian ecosystems and areas with sensitive soils;
- Retain veteran and wildlife trees throughout the treatment areas;
- Preferentially retain large mature Ponderosa pine, Douglas-fir and larch, while preferentially removing less drought- and fire-adapted tree species such as cedar, hemlock and true firs;
- Significantly reduce understorey conifer density to minimize ladder fuels;
- Reduce fine surface fuels (<12.5 cm) and flammable understorey vegetation to reduce the risk and expected intensity of surface fire;
- Retain and promote regeneration and growth of deciduous tree and shrub species to reduce fire risk and improve wildlife habitat.
- Create shaded fuel break conditions to reduce expected wildfire intensities and provide a safer environment for fire fighters to anchor tactical fire suppression actions.

## **C. Forest Composition and Structure**

### **Photographs of typical stand conditions**

#### **TU-2A**



TU-2B



TU-2C



**TU-2D**



**Overstory summary (based on 13 prism sweeps)**

TU	SPECIES COMPOSITION (OVERSTORY by VOLUME)	AVERAGE LIVE BASAL AREA	CROWN CLOSURE	NOTES
2A	Hw60 Fd15 Cw15 Lw10	72 m <sup>2</sup> /ha	70%	Fd average ~40cm dbh, 25-32 meters tall Cw average ~30cm dbh, 20-25 meters tall. Hw average 30cm dbh, 25-28 meters tall. Lw average 40cm dbh, 37 meters tall
2B	Cw45 Hw30 Lw10 Fd10 Sx5	56 m <sup>2</sup> /ha	55%	Cw Average 35-45cm dbh, 26 meters tall Hw Average 35-45cm dbh, 32 meters tall Lw Average 35-45cm dbh, 33 metes tall Fd Average 35-45cm dbh, 25 meters tall Sx Average 27cm dbh, 20 meters tall
2C	Fd35 Cw30 Hw15 Lw10 Sx10	38 m <sup>2</sup> /ha	40-70%	Fd average ~40cm dbh, 25 – 32 meters tall Cw average ~30cm dbh, 20-25 meters tall. Hw average 30cm dbh, 25-28 meters tall. Lw average 40cm dbh, 37 meters tall

TU	SPECIES COMPOSITION (OVERSTORY by VOLUME)	AVERAGE LIVE BASAL AREA	CROWN CLOSURE	NOTES
2D	Fd35 Cw30 Hw15 Lw10 Sx10	38 m <sup>2</sup> /ha	40-70%	Fd average ~40cm dbh, 25 – 32 meters tall Cw average ~30cm dbh, 20-25 meters tall. Hw average 30cm dbh, 25-28meters tall. Lw average 40cm dbh, 37 meters tall

#### D. Reserve Areas

I.D.	ha	Ecosystem type / reserve description
R1	0.4	Steep, ephemeral draw, with a mixed coniferous stand throughout the unit.
R2	0.9	Extremely steep, limitations for debris management and pile burning.
R3	0.2	Sub-Hyrgic swale with large spruce, cedar veteran and wildlife trees
R4	0.2	Sub-Hyrgic swale with large spruce, cedar veteran and wildlife trees
<b>TOTAL</b>	<b>1.7</b>	



*Reserve area (R3) in TU-2*

## E. Assessments

SOIL ASSESSMENTS							
TU	Hazard Ratings			Maximum Allowable Soil Disturbance (%)	Sensitive Soils (Y/N)	Texture	Coarse Fragments
	Soil Compaction	Soil Erosion	Soil Displacement				
2A	M	M – H	M	5%	N	SL/ LS	25 – 60%
2B	M	M – H	M – H	5%	N	SL	25 – 40%
2C	L-M	M – H	M – H	5%	N	SL/ LS	25 – 60%
2D	M	M – H	M – H	5%	N	SL/ LS	25 – 60%
COMMENTS		All detrimental soil disturbance above specified maximum must be fully rehabilitated.					

TERRAIN STABILITY ASSESSMENTS		
DATE	CONSULTANT	COMMENTS / RECOMMENDATIONS
		N/A
COMMENTS	<p>Within the Moderate terrain in TU-2B; no potentially unstable slopes have been identified. No indicators of slope instabilities.</p> <p>Steep slopes characterize TU-2A, C and D which are all manual treatment units.</p>	

RIPARIAN ASSESSMENTS					
TU	Riparian I.D. and Class.	RRZ Width (m)	RMZ Width (m)	BA or SPH Retained in RMZ	Comments (Indicate if in a community watershed)
2B	S-2	30	20	>60% BA retention in RMZ	5 Mile Creek is the main water source for the City of Nelson, is within a Community Watershed, and has no Points of Diversion downslope.
COMMENTS		TU-2 – S2 is located between TU-2A and TU-2C, both understory hand-treatment areas. No treatment will take place within the RRZ. Vegetable oil will be used in chainsaws and brushsaws within the RMZ. No construction of bladed or excavated trails in RMA.			

### VISUAL IMPACT ASSESSMENTS

COMMENTS	No VQO's legally established; however area will be managed to a Retention VQO to the extent feasible.  Retention VQO is expected to be met in the treatment area due to the high levels of overstory retention, generally moderate terrain, and multiple reserves..
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### FOREST HEALTH ASSESSMENTS

AGENT	SPECIES AFFECTED	% INCIDENCE	MORTALITY
Armillaria root rot	Fd, others	<10	Moderate
Douglas-fir bark beetle	Fd	<2	Light
COMMENTS	Root disease will not be specifically managed. While it is possible that the thinning treatment may contribute to the spread of Armillaria root rot, moderate levels of Armillaria mortality are acceptable in the Park, and thus the potential impact on root disease mortality is outweighed by the public safety and broad environmental benefits of the prescribed treatment.		

### ARCHAEOLOGICAL ASSESSMENTS

DATE	CONSULTANT	COMMENTS / RECOMMENDATIONS
December 2017	Ursus Heritage Consulting	Archaeological Overview Assessment and Preliminary Field Review indicate 'Low' potential for presence of archaeological sites. No further archaeological work recommended.
COMMENTS	The Ursus Heritage Consulting Report assessed TU 2 'with low potential for the presence of archaeology sites.	

### WINDTHROW ASSESSMENTS

COMMENTS	Windthrow hazard is Low to Moderate based on the location of the treatment units on the slope, the low absence of observed windthrow and the soil texture of the treatment units.
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## F. Prescription: Understory removal and ladder / surface fuel reduction

### TU-2A

Layer	Cw	Dead	Total
<b>Layer 3 (2.5-7.49)</b>	133	333	467
<b>Layer 2 (7.5-12.49)</b>	67	133	200
<b>Layer 1 (12.5-17.5)</b>	333	0	333
<b>TOTAL</b>	<b>533</b>	<b>466</b>	<b>1000</b>



## TU-2B

Layer	Cw	Hw	Total
Layer 4 (<1.3m)	350	250	600
Layer 3 (2.5-7.49)	250	0	250
Layer 2 (7.5-12.49)	50	0	50
Layer 1 (12.5-17.5)	150	50	200
<b>TOTAL</b>	<b>800</b>	<b>300</b>	<b>1100</b>

## TU-2C,D

Layer	Cw	Hw	Bg	Total
Layer 4 (1.0 – 1.3 m tall)	100	450	100	650
Layer 3 (<7.5cm dbh and ≥ 1.3 m tall)	300	0	100	400
Layer 2 (7.5 cm – 12.5 cm dbh)	300	0	0	300
Layer 1 (12.5 cm – 17.5 cm dbh)	100	0	0	100
<b>Total</b>	<b>800</b>	<b>450</b>	<b>200</b>	<b>1450</b>

### Summary:

- Cut Cw, Hw and Bg understory trees to reduce total conifer stocking to maximum 400 sph (all layers)
- Reduce fine fuels (<12.5 cm) to maximum of 2 kg/ m<sup>2</sup>
- Pile woody debris for clean burning

Activity	Treatment Specifications
Understory removal	<p>Cut Cw, Hw, and Bg understory trees until the target density of 400 sph total conifer stems has been achieved. All conifers &gt;0.5 m tall contribute to the sph count. Douglas-fir, western larch, and pine species should be prioritized for retention.</p> <p>Western yew and all deciduous tree species should be retained as “ghost trees”, i.e. do not contribute to target densities.</p> <p>All understory trees damaged by treatment operations must be removed.</p> <p>A target of 5 clumps per hectare of healthy regeneration should be retained. This should represent approximately 2% of the treatment area.</p> <p>Retain all trees with flagging identifying plot locations. Stumps must be less than 10cm tall from the ground surface, and cut at an angle less than 10 degrees.</p>
Wildlife/ Danger Trees	Retention of high-value wildlife trees should be maximized provided that no more than 10% of each Treatment Unit is designated as a no-work zone.
Coarse Fuels (>12.5 cm diameter)	Coarse woody debris (CWD) is an important habitat element. Where available, retain 50 – 100 pieces/ ha > 25 cm diameter and > 3 meter in length (equates to average ~10 meter spacing). CWD should be well distributed throughout the area. Prefer retention of larger and decaying pieces. Retained CWD should be left unbucked whenever possible but bucked if necessary so that it lays flat to the ground along the majority of its length.
Fine Fuels (<12.5 cm)	<p>Post-treatment surface fuels should not exceed the following loadings:</p> <ul style="list-style-type: none"> <li>• Woody debris &lt;7.5 cm should not exceed 0.5 kg/m<sup>2</sup> (5 tonnes/ha)</li> </ul>

Activity	Treatment Specifications
diameter)	<ul style="list-style-type: none"> <li>Woody debris 7.5 – 12.5 cm diameter should not exceed 1.5 kg/m<sup>2</sup> (15 tonnes/ha)</li> </ul> All woody debris in excess of those targets must be removed.
Pruning	Prune to 2.5 m or 40% of live crown height.
Debris piling	Woody debris must be neatly piled for efficient burning. Piles must be at least as tall as they are wide and must have clearly distinct edges.  No soil, stumps or rotten wood may be placed in the piles. Avoid placing larger CWD (>25cm diameter) in burn piles.
Debris Disposal - Burning	Where burning is used to dispose of woody debris within treatment units, the following requirements apply: <ul style="list-style-type: none"> <li>All burning is to be conducted in compliance with the BC Wildfire Act and Wildfire Regulation and any applicable Bylaws. Burning practices must comply with the Environmental Management Act Open Burning Smoke Control Regulations except for practices explicitly managed under a smoke management plan.</li> <li>Burning must be executed in such a way that minimizes impacts to the site. Burn piles must not be located within 3 meters of any trail, 3 meters of animal burrows, 3 meters of snags, and must not result in significant scorching of any retained trees or CWD.</li> <li>Burn piles must be constructed to facilitate effective ignition and complete combustion. Piles must be built to burn efficiently with minimal smoke production.</li> <li>Up to 5 small piles/ha may be left unburned as “critter piles” at completion of the project, at the discretion of the contract supervisor. Critter piles are measured over each hectare, not as an average over the entire treatment area.</li> <li>The contractor is responsible for obtaining all necessary burning permits from relevant agencies before burning.</li> </ul>
Debris Disposal - Chipping	If chipping is used, chips should be distributed evenly on-site, targeting an average of 3 – 5 cm depth over the dispersal area and a maximum depth of 10 cm in any given spot. Chipped material that will result in depths greater than those outlined above must be hauled off-site.

## G. Operational Specifications

### Field Marking Conventions:

Treatment unit boundary – orange ribbon with black lettering: ‘Treatment Unit Boundary’

Reserve boundary – orange ribbon with black lettering: ‘Reserve Zone’

Sub-treatment unit boundary – orange and black striped ribbon

Sample plot – yellow and white ribbon stating plot number, unit, surveyor, and date

### Safety

Danger trees must be assessed by a certified Wildlife/ Danger Tree Assessor. No-Work Zones around retained unsafe wildlife trees must be clearly marked in the field.

Localized steep slopes (>60%) are present. No-Work Zones may be required on some steep slope areas. Steep slopes should not be worked during very wet, icy, or snow-covered conditions.

### Work Procedures within Identified Riparian Management Areas

For streams identified on the attached map, the Riparian Reserve Zone (RRZ) extends from 0 to 5m from the stream edge. The Riparian Management Zone (RMZ) extends from 5 to 30 meters from the stream edge. Treatment will not occur within the 5m RRZ.

The following specifications apply in the RMZ:

- Use of vegetable-based bar and chain oils;
- No refuelling of any equipment;
- No burn piles or chipping debris within 10m of the stream;
- No machines may be used within 10m of all streams except for designated crossings.

**Measures to Prevent the Spread of Invasive Plants**

Minimize the spread of invasive plants by taking these measures:

- All machinery must be thoroughly pressure washed prior to transport to the treatment unit;
- Apply native grass seed or rake nearby native and uncontaminated forest floor materials over exposed mineral soil, including any pile burning areas.

**Fire Prevention and Suppression**

All operations must follow to the BC Wildfire Act and Wildfire Regulation and any direction provided by the contract supervisor.

**Site Rehabilitation**

All machine access, except roads and trails identified on the prescription map, must be rehabilitated following treatment. Rehabilitation includes:

1. loosening compacted soil,
2. placing fill material on the excavated portion of the trail,
3. recontouring the slope,
4. re-establishing natural surface drainage patterns, and
5. scattering woody debris (roots, rotten wood, logs) on exposed mineral soil.

**H. FRPA Values, Higher Level Plans, Consultation and Referrals**

<b>VALUES – FOREST AND RANGE PRACTICES ACT and HIGHER LEVEL PLANS</b>			
<b>LAND USE OBJECTIVES</b> (Higher Level Plans and objectives set by Government under the Land Act)			
Do the proposed activities conflict with land use objectives (higher level plans or objectives under the <i>Land Act</i> )?		<b>NO</b>	This Fuel management prescription is consistent with the KBLUP HLPO and the West Arm Provincial Park Fire Management Plan.
<b>COMMUNITY WATERSHED</b> - GAR section 8, Implementation Strategy, FPPR section 8.2, 61, 62 and 84			
Does the proposed treatment area include areas that are within a community watershed?	<b>YES</b>		Five Mile Creek is a community watershed above the Five Mile Creek Intake.  Five Mile Creek has a 30 m RRZ, an additional no harvest reserve has been established on the west side of the creek immediately upslope of the intake, no roads will be constructed and all upslope treatment on the east side of the creek will be by hand, removing only small diameter non-merchantable timber.  This fuel management prescription is consistent with the GAR section 8, FPPR section 8.2, 61, 62 and 84.
<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?	<b>Yes</b>	<p>This Treatment Unit surrounds Five Mile Creek Intake (PD27761, License # C100548) a City of Nelson water intake.</p> <p>Five Mile Creek has a 30 m RRZ, an additional no harvest reserve has been established on the west side of the creek immediately upslope of the intake, no roads will be constructed and all upslope treatment on the east side of the creek will be by hand, removing only small diameter non-merchantable timber.</p> <p>These activities will not cause material that is harmful to human health to be deposited in, or transported to, water that is diverted for human consumption by these licensed waterworks.</p> <p>This fuel management prescription is consistent with FPPR section 59.</p>
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**LICENCED WATER WORKS (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?	<b>YES</b>	<p>This Treatment Unit surrounds Five Mile Creek Intake (PD27761, License # C100548) a City of Nelson water intake.</p> <p>FLNRORD has Water Licensed Works 296133568, 296133875 and 296133311 in or near TU 2.</p> <p>These water works will not be damaged because Five Mile Creek has a 30 m RRZ, an additional no harvest reserve has been established on the west side of the creek immediately upslope of the intake, no roads will be constructed and all upslope treatment on the east side of the creek will be by hand, removing only small diameter non-merchantable timber.</p> <p>These activities will not increase sediment delivery to the intake.</p> <p>This fuel management prescription is consistent with FPPR section 60.</p>
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**OLD GROWTH MANAGEMENT AREAS (OGMA's)**

Does the proposed treatment area include areas in a mapped OGMA?		<b>NO</b>	
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**OBJECTIVES SET BY GOVERNMENT FOR WILDLIFE - FPPR section 7**

Does the proposed treatment area include areas to which objectives for wildlife under FPPR section 7 apply?		<b>NO</b>	
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**FISHERIES SENSITIVE WATERSHED - GAR section 14, FPPR section 8.1**

Are any activities proposed within a fisheries sensitive watershed?		<b>NO</b>	
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**UNGULATE WINTER RANGE - GAR section 12, FRPA sections 180 and 181, FPPR section 69**

Does the proposed treatment area include areas within a designated Ungulate Winter Range?		<b>NO</b>	
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**WILDLIFE HABITAT AREA - GAR section 10, FRPA sections 180 and 181, FPPR section 69**

Does the proposed treatment area include any identified wildlife habitat areas (WHA)?		<b>NO</b>	
<b>WILDLIFE HABITAT FEATURES - FPPR section 70(2)</b>			
Does the proposed treatment area include any identified wildlife habitat features?		<b>NO</b>	A qualified professional must assess treatment area for wildlife habitat features prior to prescription implementation.
<b>SPECIES AT RISK – Grizzly Bear</b>			
Are there any known species at risk within the proposed area?	<b>YES</b>		This treatment unit is within priority Grizzly Bear habitat identified in the KBLUP Implementation Strategy. Proposed activities will not impact Grizzly Bear because: <ul style="list-style-type: none"> <li>• Road density, which is a key grizzly habitat indicator, will not change; and</li> <li>• The access road is gated so no public access to area</li> </ul>
<b>RECREATION FEATURES - FRPA section 56 and 149, FPPR section 70</b>			
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?		<b>NO</b>	There are no trails in this TU
<b>VISUAL QUALITY OBJECTIVES - GAR section 7, FRPA sections 180 and 181, FPPR section 9.2</b>			
Is the proposed treatment within a scenic area?		<b>NO</b>	No VQO's legally established; however area will be managed to a Retention VQO. Retention VQO is expected to be met in the treatment area due to the high levels of overstory retention, generally moderate terrain, and multiple reserves and non-mechanized treatment areas intermixed through TU 2 – B.
<b>ARCHAEOLOGICAL RESOURCES/CULTURAL HERITAGE RESOURCES - FPPR section 10</b>			
Are there any known archaeological sites or cultural heritage resources that are important to First Nations within the proposed area?		<b>NO</b>	ILRR query does not indicate the presence of any archaeological sites or cultural heritage resources. First Nation consultation to be completed prior to project implementation. Archaeological Overview Assessment and Preliminary Field Reconnaissance of West Arm Provincial Park conducted by Ursus Heritage Consulting Ltd.  The Ursus Heritage Consulting Report assessed TU 2 'with low potential for the presence of archaeology sites'.

<b>CONSULTATION and REFERRALS</b>		
<b>FIRST NATIONS</b>	<b>CONCERNS IDENTIFIED AND MEASURES TO ADDRESS</b>	
First Nations consultation complete?	<b>NO</b>	First Nations have been consulted at the prescription development phase.
<b>EXISTING CROWN TENURE OR PARK AUTHORIZATION HOLDERS</b>		
<b>Tenure Holder</b>	<b>Concerns</b>	<b>Measures proposed to address licensee's concerns</b>
Subsurface tenures		Tenure ID# 332360
Nelson Cycle Club		

Trapline			George Trainor, TR0407T006, PUP # 102413  QTrap Tag: TR0407T008  QTrap Tag: TR0407T010
Guide Outfitter			Tim Faiers, Territory ID: 407G001
Range			N/A
City of Nelson			Park Permit Use #103114
<b>PRIVATE PROPERTY</b>			
Does private property border the proposed treatment area?		<b>NO</b>	
<b>MINISTRY OF TRANSPORTATION</b>			
Does treatment area overlap a Ministry of Transportation and Infrastructure Right of Way?		<b>NO</b>	
<b>ACCESS CONTROL</b>			
Are there any foreseen issues with access and access control during and post treatment?	<b>YES</b>		BC Parks maintains a gate at the Park boundary at the end of Svoboda Road.
<b>TRAFFIC CONTROL</b>			
Is traffic control required at any point during operations?	<b>YES</b>		Svoboda Road is a steep, narrow, winding road and traffic control will be required when logs are being hauled.
<b>PRIVATE PROPERTY</b>			
Does private property border the proposed treatment area?		<b>No</b>	
<b>MINISTRY OF TRANSPORTATION</b>			
Does treatment area overlap a Ministry of Transportation and Infrastructure Right of Way?		<b>No</b>	
<b>UTILITIES</b>			
Are utilities located in or adjacent to the proposed treatment area? i.e. power lines, gas lines, etc.	<b>Yes</b>		Nelson Hydro Power lines run adjacent to the access road. A utility arborist will be required to conduct falling near this power line.  The treatment unit is adjacent to, and surrounds, the City of Nelson Five Mile Creek water intake.
<b>ACCESS CONTROL</b>			
Are there any foreseen issues with access and access control during and post treatment?	<b>Yes</b>		There is a locked gate at the Park entrance.  Property owners/ residents must be consulted prior to project implementation to ensure that treatment operations are compatible with private land access requirements.
<b>TRAFIC CONTROL</b>			
Is traffic control required at any	<b>Yes</b>		Road safety and access issues must be discussed with

point during operations?

the Svoboda Road Real Property owners .

## I. Post-treatment and Silviculture

EXPECTED VEGETATION RESPONSE
Patchy growth of deciduous shrubs and herbs is likely in response to somewhat more open growing space and more diffuse light near ground level. Continued growth of the overstory canopy will likely increase ground level shade over time. Moderate ingrowth of conifer regeneration is also likely to occur over time.
ADDITIONAL TREATMENTS, ASSESSMENTS, OR MAINTENANCE
Treatment area should be assessed approximately 10 years post-treatment. Follow-up understory treatments may be required in approximately 15 to 20 years.
SILVICULTURE OBLIGATIONS
Do silvicultural obligations apply to the treatment area? <b>No</b>
PLANTING
Is planting a treatment identified in this prescription or required as a legislative obligation? <b>No</b>

## J. Outstanding works

### Additional reserves to be identified

The prescription area must be field reviewed by a qualified professional prior to implementation with the objective of delineating additional small retention areas / no work zones (~0.1 to 0.5 ha) based primarily on identification of high-quality wildlife trees and/or presence of wildlife habitat features. This will also be based on the capabilities of the equipment being used by the contractor. Target for additional retention areas / no work zones is 5 – 10% of the prescription area.


### Breeding bird survey

A qualified professional must conduct a breeding bird survey prior to treatment if this prescription is implemented during breeding bird season (March 15 – August 15).

### Wildfire Behaviour Threat assessment and Permanent Photo Plots

Wildfire Behaviour Threat assessments using the 2016 provincial methodology will need to be completed prior to implementation. Permanent photo plots will need to be established immediately prior to implementation.

## K. Administration and approval

RPF PRINTED NAME		Registered Professional Forester Signature and Seal
John Cathro	RPF 3769	
DATE SIGNED		
August 31, 2022		

I certify that I have reviewed this document and I have determined that this work has been done to standards acceptable of a Registered Professional Forester.

**Prescription Approval**

**BC Parks Project Lead**

Name

Date

**Ministry of Environment Regional Director**

Name

Date

**APPENDICES**

**Appendix A: Prescription map**