

Arrow Boundary Forest District
Southern Interior Forest Region

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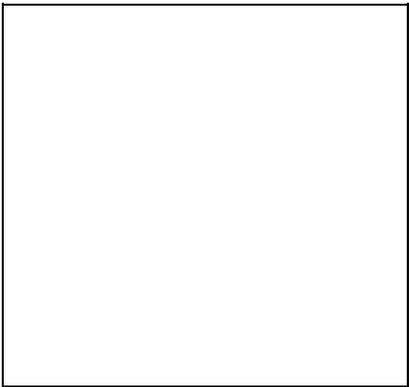
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Woodlot Licence W1832

Major Amendment to Forest Development Plan #1

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Woodlot Licence W1832
Major Amendment to Forest Development Plan #1
Term: January 1, 2000 to December 31, 2005

1 Introduction

This document and accompanying map present a Major Amendment to Forest Development Plan #1 for Woodlot Licence W1832.

This Forest Development Plan Amendment is based on field work carried out in May 2005. The Amendment proposes harvesting of a single one hectare cut block accessed by an existing road in W1832. The cut block is required for administrative purposes to facilitate amortization (carry forward) of road costs from recent road building to future logging activity. The administrative need for the additional cut block arose following an unexpected change in the Appraisal Manual on April 1, 2005.

This Amendment addresses the portions of W1832 within the North Fork watershed. Resource management issues in the remainder of the Woodlot, which is not affected by the activity proposed in this Amendment, are not explicitly addressed.

This Forest Development Plan Amendment will be subject to a formal public review process.

The Woodlot Licence Forest Management Regulation instructs the Licencee to present detailed information regarding stand composition, stand ecology, cutting prescriptions, and logging methods either entirely in the development plan or entirely in the site plan (the next level of operational planning). We have chosen to present the detailed information in the site plans, so this development plan contains general information only.

Unless otherwise noted, terms used in this Forest Development Plan Amendment are as defined by the definitions sections in WLFMR.

1.1 Summary of Proposed Development Activity

This Forest Development Plan Amendment proposes the harvest of a one hectare cut block accessed from an existing road. The block is located on moderate slopes in a dry pine forest that was entirely killed by bark beetles in July 2004. The block will be uphill cable yarded to a landing accessed from the existing haul road in the area. The proposed harvesting activity is located in the North Fork Creek watershed.

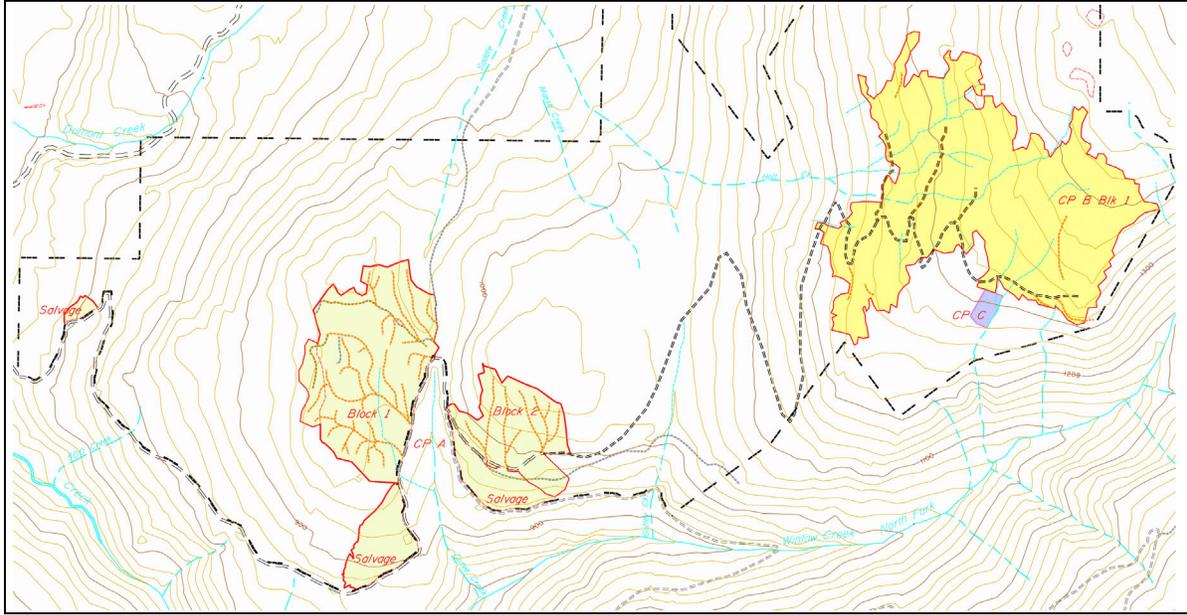


Figure 1: Planimetric view of proposed development activity in W1832.
New salvage harvesting proposed under this FDP Amendment shown identified as CP C

1.2 Referral Summary

Activity	Date	Location (and media with respect to Public Review)	Comments Received	
			Y/N	Date
Submission of FDP Amendment				
MoF Arrow Boundary Forest District	May 26, 2005	Submission of FDP to Arrow Forest District Office		
Other Tenure Referral Letters				
First Nations (See Section 6.3)	May 10/11, 2005	Referral Letters	Y	May 13, 2005
Public Review				
Advertising	May 17 to 19, 2005	Nelson Daily News newspaper		
Public Viewing Forum	May 20, 2005	Spicer Center, Winlaw B.C.		
Internet Posting of FDP Amendment and planning documents	May 21, 2005	http://www.winlawwoodlot.ca		
Others:				
Winlaw Watershed Committee		Informed of intent May 12, 2005. Provided with Copies of Forest Development Plan Amendment May ##, 2005		June 5, 2002
Comments Deadline	(5 days from the date of the public viewing)			May 25, 2005
Submission for approval				June 1, 2005
<i>Anticipated Approval Date</i>				

Table 1: Referral Summary Table.

The results of the referral process are discussed in more detail in Section 6.

2 Strategic Plans

The management of this FDP Amendment #1 is governed by the Woodlot Licence Forest Management Regulation B.C. Reg. 325/98 Deposited September 23, 1998, O.C. 1202/98 Effective November 30, 1998 (Consolidated to December 12, 2003). The regulation is in it's transition version - Pre January 31, 2004.

Operations in W1832 are also guided by the *Kootenay Boundary Higher Level Plan Order*¹ (KBHLP).

The portions of KBHLP that apply to W1832 include:

- Section 1 of the KBHLP sets out the source of biodiversity emphasis mapping. W1832 is within Unit N513 – Pedro Creek, a medium biodiversity emphasis area.

- Section 6 addresses Consumptive Use Streams. The Strategies note that:

The primary objective within stream side management zones of S5 and S6 streams licensed for human consumption, is to provide for the protection and management of water quality associated with these streams. The best management practices of S4 streams (interior), as set out on page 50 of the Riparian Management Guidebook, will help in the development of the specific measures to safeguard water licensed for human consumption in Objective 6 (1) (a) (ii). The best management practices may be modified when an alternate could provide better results for water quality protection.

Streamside management practices are discussed in Section 3.4 of this Amendment.

- Section 8 applies to fire maintained ecosystems, and provides possibilities for restoration work in dry forest ecosystems. This applies to the lowest elevation part of the woodlot, but is not a factor in this Forest Development Plan Amendment.
- Section 9 of the strategies addresses visual management. Section 3.7 of this FDP which addresses visual management is in compliance with Section 9 of the Strategies.

¹ <http://www.winlawwoodlot.ca/backgrnd/order.pdf>

3 Measures to Protect Forest Ecosystems and Resources

3.1 Timber

W1832 is currently the site of a Mountain Pine beetle epidemic. All development activity and all logging activity in the woodlot is currently directed towards salvage of beetle killed timber.

3.2 Water

3.2.1 Domestic Water Supplies

Operations proposed in this FDP Amendment are located in the North Fork Creek watershed. Harvesting is proposed adjacent to an S-6 stream, 460 meters from the main North Fork channel. No domestic water supply intakes are located on North Fork Creek, but North Fork Creek is a main tributary of Winlaw Creek, a heavily used domestic water source.

The keystones of our initial water management approach were to:

1. maintain functioning forest ecosystems,
2. maintain forest cover,
3. maintain natural drainage patterns,
4. minimize site and soil disturbance, and
5. set a sustainable timber harvest rate which is balanced to the productive capacity of land within the woodlot and the needs of watershed management.

Objectives 1 and 2, and 5 above have been greatly impacted by the pine beetle epidemic. It is estimated that beetles will have kill 30% of the trees in W1832 by 2006.

This is a significant and rapid alteration to forest cover and forest hydrology.

Given the Forest Health issues facing this woodlot our water management approach is centered around minimizing the site level disturbance levels as outlined in regulation and identification and maintenance of natural drainage patterns throughout forest operations.

Table 2 shows the distribution of proposed logging activity by watershed unit.

Watershed Name	Watershed Class	Total Watershed Area (hectares)	Watershed Area in W1832 (hectares)	Area of Proposed Harvesting (hectares)	Percentage of Watershed in Proposed Harvest Areas	Length of Road Development in Watershed (meters)
Dumont Creek	Class 2	591	255	0	0%	0
North Fork Creek	Class 3 Sub-Basin	804	137	1.0	0.1%	0
Woodward Face	Class 1	180	30	0	0%	0
Lower Main Winlaw Creek	Class 3 Sub-Basin	271	50	0	0%	0
Lower Trozzo Creek	Class 3 Sub-Basin	1,194	127	0	0%	0
Dunn Creek	Not Defined	Not Defined	21	0	0%	0
Totals (excluding Dunn Ck):		3,039	598	1.0	n/a	n/a

Table 2: Proposed Logging Development by Watershed Sub-Basin.

3.2.2 Equivalent Clearcut Area

All development proposed in this FDP Amendment is within the North Fork Creek watershed, a Class 3 sub-unit.

Table 3 shows the current equivalent clearcut area in the North Fork watershed, using existing and approved harvesting to calculate the existing ECA. The one hectare cut block proposed in this Amendment has no material effect on ECA levels in the watershed.

Map Reference	Watershed Name	Watershed Area (ha)	Existing ECA %	Proposed Harvesting Area (ha)	Proposed ECA %
82F063	North Fork Creek	804	20%	1.0	20%

Table 3: Current Equivalent Clearcut Area in North Fork Watershed and Proposed Changes

3.2.3 Flat Over Steep

The forest health issues facing the pine stands of this woodlot may result in future risks as eastern portions of the woodlot shed water on steep slopes above North Creek. The changes in forest cover are being driven by pine beetle activity. The mature pine forest within these small drainage basins in question is already dead, and will have no hydrological effects in a few years.

The Licensee's will mitigate the potential impact of these increased flows by ensuring that natural drainage patterns are maintained throughout harvested areas and along all forest roads.

The one hectare harvest block proposed by this FDP Amendment is located above steep terrain, but the small block is not expected to result in significant increases in water flow. No road construction is proposed in this Amendment.

3.3 Fisheries

Winlaw Creek is a fishbearing stream. North Fork Creek is not a fish bearing stream (Halsey 1997)². The area proposed for harvest in this amendment drains into North Fork Creek, which drains into Winlaw Creek.

We propose harvesting of dead timber in Riparian Management Zone of the S-6 stream adjacent to the proposed cutblock. This measure will mitigate sediment yield in the RMZ, as discussed in Section 3.4.

3.4 Riparian Ecosystem Management

The harvest area proposed in this FDP Amendment borders a small S-6 class ephemeral creek, and the top corner of the block is crossed by a moist swale classed as a Non-Classified Drainage. The S-6 stream has a Riparian Management Zone (RMZ) width of 20 meters each side. The NCD does not have a RMZ.

The riparian management goal set out in the Management Plan for W1832 is to direct 50% of timber yield within Riparian Management Zones to the creation and maintenance of old growth habitat and coarse woody debris. Leave trees, old growth structures, and coarse woody debris should be concentrated in the riparian ecosystem within the Riparian Management Zone.

Unfortunately, the pine beetle infestation has rendered these plans impractical in the proposed harvest area. Only a few of the trees in the RMZ of the S-6 creek are still alive. These living stems will be retained. We plan to salvage the dead stems from the west bank of the creek, and leave the dead stems on the east bank.

Most of the trees in the RMZ have been killed by the pine beetle. In order to minimize impacts to the seasonal S-6 stream, we plan to salvage the beetle killed trees right to the stream edge where the proposed cut block borders the S-6 stream. If the dead trees are left standing, they will progressively windthrow over the next decade, churning the soil adjacent to or within the seasonally wetted area, resulting in increased sediment yield. If we fall and skid the dead trees away from the creek, we will prevent some of this soil churning, and slightly reduce these impacts. No cross channel yarding is planned. Trees rooted on the east side of the S-6 channel will be left in place, and will likely negatively impact the stream channel as they fall.

² T. G. Halsey. 1997 Winlaw Creek Watershed Restoration Program: Level I Fish Habitat Assessment. Consultants report prepared for the Winlaw Watershed Committee.

3.5 Wildlife and Biological Diversity

3.5.1 Stated Wildlife Objectives

Pursuant to Section 9(2)(3) of the WLPPR and in discussion with the Ministry of Sustainable Resource Management, Ecosystem Specialist, there are no known Wildlife Habitat Areas on the woodlot landbase.

There does exist potential for the Blue listed Coeur d Alene Salamander habitat within the ICHdw and ICHmw2 biogeoclimatic subzones on the woodlot. Should this species be identified, the appropriate measures will be undertaken to protect sufficient habitat as outlined in the Accounts and Measures for Managing Identified Wildlife – Accounts V.2004. (Have contacted Ted Antifo for any WHA designations and endangered species in the woodlot ecosystem)

We are not aware of denning or breeding activity within the proposed development. The proposed one hectare salvage block will not significantly decrease habitat values for any wildlife species.

3.5.2 Coarse Woody Debris

Abundant coarse woody debris will be left on site after harvest in the form of small diameter, non-merchantable pine and larger diameter, grey attack, checked stems.

The Management Plan for W1832 sets a target of 15% of net timber management site productivity diverted to full cycle trees for future coarse woody debris supplies. This target will not be met in the proposed pine salvage block because only a small fraction of the trees in the area remain alive. All living non-pine trees that can be retained during yarding will be left standing.

3.5.3 Wildlife Trees

Wildlife trees are trees with specific features or groups of features which make them suitable and desirable for wildlife habitat. The pine forest in the proposed harvest area contained few or no trees with significant wildlife tree features.

Any living, non-pine trees that can be retained during yarding will be left standing. This will likely result in retention of scattered cedar and hemlock stems along the east side of the block, adjacent to the S-6 stream.

3.5.4 Wildlife Tree Patches

A Comprehensive Plan for Wildlife Tree Retention (CPWTR) has been prepared for W1832. This plan shows the location of wildlife tree patches, which are proposed at this time. The CPWTR may be revised as additional information becomes available.

No additions or modifications to the CPWTR are proposed at this time.

3.5.5 Ungulate Winter Range

The proposed harvesting is outside of all known ungulate winter range areas.

3.6 Recreation

The proposed one hectare harvest block will have no significant impacts on recreational use or potential.

3.7 Visual Resource Management

The proposed one hectare block is visible from only a few locations, including a short section of Highway 6 about 4 km south of Winlaw, and the Kazakoff and Drake Road areas on the west side of the Slocan Valley. The proposed one hectare block will remain visually subordinate in the landscape, and will be a minor feature compared to the 46 hectare beetles salvage block immediately upslope in W1832 and the 100 hectare B.C. Timber Sales beetle salvage block above that.

3.8 Cultural Heritage Resources and Archaeological Sites

An Archeological Overview Assessment completed by Kutenai West Heritage Consulting Ltd. in 1997³ identified several areas of potential interest in low elevation areas in W1832, but no areas of potential interest in the upper portion of the woodlot, where the proposed harvesting is located.

³ http://www.winlawwoodlot.ca/fdp/W1832_arch.pdf

4 Proposed Logging

4.1 Mapped Information

The following required information for areas affected by proposed operations is shown on the accompanying development plan map:

- Location of proposed cutblock
- Riparian class of streams and wetlands
- Location of sensitive slopes

4.2 Cutblock Information

Table 4 lists the area, logging method, and interaction with riparian zones for the cut blocks proposed in this Forest Development Plan Amendment.

The harvesting proposed under this FDP Amendment will be a clearcut with reserves. All lodgepole pine will be harvested, and all non-pine stems that are not in yarding corridors will be retained.

Cutting Unit	Total Area (ha)	Non- Forested (ha)	Riparian Reserves (ha)	Wildlife Tree Patches (ha)	Net Harvesting Area (ha)	Silvicultural System	Logging Method	Harvesting in Riparian Management Zone?	Harvesting in Riparian Reserve Zone?
<i>Crown Land Portion</i>									
CP C Block 1	1.0	0.0	0.0	0.0	1.0	Clearcut with Dispersed Retention	Cable	Yes	No
<i>Private Land Portion</i>									
No Logging Proposed									
Total Area:	1.0	0.0	0.0	0.0	1.0				

Table 4: Proposed Cutblock Information Table.

5 Access Management

5.1 Road Construction, Major Culverts and Bridges

No road or drainage structure construction is proposed in this FDP Amendment.

5.2 Road Maintenance

Basic road maintenance will be carried out over the duration of this plan.

Ditches, culverts and cross drains will be kept clear of obstructions at all times. Drainage structures will be inspected every fall to ensure that they are free of obstructions and ready to handle increased winter and spring flows. A second inspection will be performed as soon as possible after snow melt every spring to look for obstructions which may have developed over the winter months.

Any other actions deemed necessary to maintain active roads in a suitable conditions for forestry access and to minimize sediment entry into creeks and streams will be taken.

5.3 Road Deactivation

No road deactivation is proposed in this FDP Amendment.

6 Referrals Process and Responses

6.1 Advertisement

A newspaper advertisement was published in the May 17 to 19, 2005 editions of the Nelson Daily News to advertise the public referral process of the proposed FDP. A copy of the advertisement is included below:

6.2 Referral Letter

6.3 First Nations Consultation Process

The referral letter in Section 6.2 was sent to the following First Nations.

First Nation	FDP Referrals Contact
Ktunaxa/Kinbasket Tribal Council #7468 Mission Road Cranbrook, B.C. V1C 7E5	Dan Paradis
Lower Kootenay Band R.R. #2 42 Center Rd. Creston, B.C. V0B 1G2	Curtis Wullum
Okanagan Nation Alliance 3255-C Shannon Lake Rd. Westbank, B.C. V4T 1V4	Pauline Terbasket
Westbank First Nation Forestry Office Suite 301 – 516 Highway 97 South Kelowna, B.C. V1Z 3J2	Paul Bersin

Table 5: Mailing list for First Nations referral letters.

6.4 Public Review Open House

The Open House was held on May 7 in Winlaw. Eleven people attended who registered on the sign in sheet, and at least one attended who did not register. Discussions and information exchange were wide ranging. Most public members were most concerned about potential impacts on water quality, quantity and timing of flow. Other topics raised include general logging practices, road construction practices, wildlife management, and long term development plans.

6.5 Review and Comment / Documentation and Referral

6.5.1 Written Comments Received from Public Review

6.5.1.1 Written comments from

6.5.2 Written Comments Received from First Nations

No written comments received.

6.5.3 Written Comments Received from Resource Agencies

6.6 Summary of Revisions

7 Forest Development Plan Map