SUSTAINABLE FOREST MANAGEMENT PLAN 4

2009 ANNUAL REPORT

TFL 48

Final





Canadian Forest Products Ltd.
Chetwynd Division
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SUSTAINABLE FOREST MANAGEMENT PLAN 4

2009 ANNUAL REPORT

Canadian Forest Products Ltd.
Chetwynd Operations — TFL 48

Preparation Coordinated by:

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EXECUTIVE SUMMARY

As shown in the following Table 1 of the 54 Indicators 14 were not reported on this year as next reporting is 2010, of the remaining 40 indicators 37 or 93% met the targets while in 3 instances (7%) of the targets were not met. In the 2008 Annual Report there were some specific measures that were postponed or suspended for reporting until operations started up again; these measures are indicated in the table below and they will not be part of the 2009 reporting.

Table 1: Summary of 2009 Performance

		Target			
Indicator	Met	Not Met	Not Reported (Next Date for Reporting)	Recommend Reporting be Suspended	
2.1 Ecosystem Representation	✓				
2.2 Forest Types			2010		
2.3 Late Seral Forest	✓				
2.4 Patch Size Distribution			Suspended		
2.5 Snags/Live Tree Retention	✓				
2.6 Coarse Woody Debris			2010		
2.7 Average Minimum Width of RRZ and RMZ	✓				
2.8 Shrubs/Early Forest			2010		
2.9 Wildlife Tree Patches	✓				
2.10 Habitat Supply for Species of Public Concern			2010		
2.11 Species of Management Concern	✓				
2.12 Coniferous Seeds	✓				
2.13 Deciduous Seeds and Vegetative Material	✓				
2.14 Class A Parks, Ecological Reserves and LRMP Designated Protected Areas	✓				
2.15 Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Management Plan	✓				
2.16 Forest Health	✓				
2.17 Proportion of Completed Forest Health Action Plans	✓				
2.18 Regeneration Declaration	✓				
2.19 Free Growing Stands	✓				
2.20 Permanent Access Corridors			2010		
2.21 Site Index	✓				
2.22 AAC	✓				
2.23 Soil Degradation	✓				
2.24 Soil Disturbance Surveys	✓				
2.25 Use of Environmentally Friendly Lubricants			Suspended		
2.26 Spills Entering Waterbodies	✓				
2.27 Stream Crossing Quality Index	✓				
2.28 Action Plans for High Water Quality Concern Rating (WQCR)	✓				
2.29 Peak Flow Index	✓				
2.30 Watershed Reviews	✓				
2.31 Carbon Sequestration			2010		
2.32 Ecosystem Carbon Storage (Mg) in the DFA			2010		
2.33 Area of Forested Land			2010		
2.34 Range Opportunities			Suspended		
2.35 Maintenance of Visual Landscape Inventory	✓				
2.36 Proportion of Harvesting Consistent with Visual Quality Objective	✓				



		Target			
Indicator	Met	Not Met	Not Reported (Next Date for Reporting)	Recommend Reporting be Suspended	
2.37 Back Country Condition	✓				
2.38 Recreational Sites		✓			
2.39 Harvest Levels/Volumes	✓				
2.40 Waste		✓			
2.41 Harvest Method	✓				
2.42 Summer and Fall Deliveries			Suspended		
2.43 Local Employment	✓				
2.44 Community Donations			Suspended		
2.45 Consistency with Third Party Action Plans	✓				
2.46 Known Values and Uses Addressed in Operational Planning	✓				
2.47 Conformance to Elements Pertinent to Treaty Rights	✓				
2.48 LRMP Implementation Meetings Attended by Canfor		✓			
2.49 Public Advisory Committee	✓				
2.50 Public Advisory Committee Terms of Reference					
2.51 Response to Public Inquiries					
2.52 Distribution/Access to SFM Plan, Annual Reports and Audit Results	✓				
2.53 Spatial Forecasting and Analysis			2010		
2.54 Currency of Vegetation Resource Inventory	✓				



ACKNOWLEDGEMENTS

We would like to thank the Chetwynd Woodlands staff and BC Timber Sales (Dawson Creek) staff and Louisiana Pacific staff on behalf of Tembec for compiling or providing data.

We would also like to thank the Public Advisory Committee members and advisors for their continued input to the Sustainable Forest Management process and providing input on the draft document. This report was reviewed by the PAC on June 10, 2009.



Table of Contents

Ε>	KECUI	IVE SUMMARY	I
AC	CKNOV	VLEDGEMENTS	iii
1	INTRO	ODUCTION & OVERVIEW	1
	1.1	Overview	2
	1.2	Significant Changes	2
2	SFM I	INDICATORS AND OBJECTIVES	3
	2.1	Ecosystem Representation	3
	2.2	Forest Types	3
	2.3	Late Seral Forest	4
	2.4	Patch Size Distribution	8
	2.5	Snags/Live Tree Retention	9
	2.6	Coarse Woody Debris	10
	2.7	Average Minimum Width of RRZ and RMZ	10
	2.8	Shrubs/Early Forest	
	2.9	Wildlife Tree Patches	12
	2.10	Habitat Supply for Species of Public Concern	13
	2.11	Species of Management Concern	16
	2.12	Coniferous Seeds	16
	2.13	Deciduous Seeds and Vegetative Material	17
	~		4-
	2.14	Class A Parks, Ecological Reserves and LRMP Designated Protected Areas	1/
	2.14 2.15	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme	nt
	2.15	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme	nt 18
	2.15	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan	nt 18 20
	2.152.162.17	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan	nt 18 20 21
	2.15 2.16 2.17 2.18	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan	ent 18 20 21
	2.15 2.16 2.17 2.18 2.19	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands	ent 18 20 21 21
	2.15 2.16 2.17 2.18 2.19 2.20	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors	ent 18 20 21 21 22
	2.15 2.16 2.17 2.18 2.19 2.20 2.21	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index	nt182021212223
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index. AAC	nt18202121232326
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation	nt1820212223232626
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys	nt182021212323262627
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys Use of Environmentally Friendly Lubricants	nt1820212323262627
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health	nt1820212326262727
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26 2.27	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys Use of Environmentally Friendly Lubricants Spills Entering Waterbodies Stream Crossing Quality Index	nt1820212223262627272728
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26 2.27 2.28	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Manageme Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys Use of Environmentally Friendly Lubricants Spills Entering Waterbodies Stream Crossing Quality Index Action Plans for High Water Quality Concern Rating (WQCR)	nt182021232626272727272830
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26 2.27 2.28 2.29	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys Use of Environmentally Friendly Lubricants Spills Entering Waterbodies Stream Crossing Quality Index Action Plans for High Water Quality Concern Rating (WQCR) Peak Flow Index	nt182021222326272727272831
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26 2.27 2.28 2.29 2.30	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys Use of Environmentally Friendly Lubricants Spills Entering Waterbodies Stream Crossing Quality Index Action Plans for High Water Quality Concern Rating (WQCR) Peak Flow Index Watershed Reviews	nt1820212326272727272727272727272727272727272727272727272727272727272727272727272727272727283031
	2.15 2.16 2.17 2.18 2.19 2.20 2.21 2.22 2.23 2.24 2.25 2.26 2.27 2.28 2.29	Wildlife Habitat Areas, Ungulate Winter Ranges and Dunlevy Creek Managemer Plan Forest Health Proportion of Completed Forest Health Action Plans Regeneration Declaration Free Growing Stands Permanent Access Corridors Site Index AAC Soil Degradation Soil Disturbance Surveys Use of Environmentally Friendly Lubricants Spills Entering Waterbodies Stream Crossing Quality Index Action Plans for High Water Quality Concern Rating (WQCR) Peak Flow Index	nt18202122232627272728313231



2.33	Area of Forested Land	36
2.34	Range Opportunities	36
2.35	Maintenance of Visual Landscape Inventory	37
2.36	Proportion of Harvesting Consistent with Visual Quality Objective	38
2.37	Back Country Condition	38
2.38	Recreational Sites	39
2.39	Harvest Levels/Volumes	40
2.40	Waste	41
2.41	Harvest Method	41
2.42	Summer and Fall Deliveries	42
2.43	Local Employment	43
2.44	Community Donations	44
2.45	Consistency with Third Party Action Plans	44
2.46	Known Values and Uses Addressed in Operational Planning	45
2.47	Conformance to Elements Pertinent to Treaty Rights	45
2.48	LRMP Implementation Meetings Attended by Canfor	46
2.49	Public Advisory Committee	46
2.50	Public Advisory Committee Terms of Reference	47
2.51	Response to Public Inquiries	47
2.52	Distribution/Access to SFM Plan, Annual Reports and Audit Results	48
2.53	Spatial Forecasting and Analysis	48
2.54	Currency of Vegetation Resource Inventory	49



List of Tables

Table 1: S	Summary of 2009 Performance	
Table 2: I	Forest Type Distribution Current and FDP Status and Target Ranges	4
Table 3: C	Current and Projected Harvest Status of Late Seral Forest – Deciduous	6
Table 4: C	Current and Projected Harvest Status of Late Seral Forest – Coniferous	7
Table 5: I	Early Patch Size Class Current and Projected	8
Table 6: I	Mature Patch Size Class Current and Projected	8
Table 7: \$	Status of prescribed retention for blocks harvested in 2009	9
Table 8: \$	Summary of Riparian Reserve and Management Zones in 2000 – 2009	11
Table 9: \$	Shrub Habitat Targets, Current and Proposed Condition	12
Table 10:	Summary of WTP's in Areas Harvested Since 1995	12
Table 11:	Proposed Blocks within UWR/WHA's	18
	Estimated MPB Incidence Changes	
Table 13:	Summary of Forest Health Issues 2000-2007	20
Table 14:	Permanent Access Corridors in TFL 48 (Existing)	23
	Site Index by Leading Species for Free Growing Stands	
Table 16:	Allowable Annual Cut and Long-Term Harvest Level	26
Table 17:	SCQI and Water Quality Concerns for Watersheds within TFL 48 – Sampling Completed 200 to 2008	
Table 18:	Peak Flow Index Post Development Status	31
Table 19:	Reductions to Land Base Due to Other Uses (Excluding Roads)	36
Table 20:	AUM's on TFL48 in 2008	37
Table 21:	Baseline Condition – ROS Inventory	39
Table 22:	Current Condition – ROS Inventory Updated to June 2005	39
Table 23:	Actual Recorded and Allowable Annual Cut Summary	40
Table 24:	LRMP Meetings	46
Table 25	Public Advisory Committee Meetings	46



List of Figures

Figure 1:	Tree Farm Licence 48	1
Figure 2:	Moose Habitat Supply	13
Figure 3:	Elk Habitat Supply	13
Figure 4:	Caribou Habitat Supply	14
Figure 5:	Marten Habitat Supply	14
Figure 6:	Fisher Habitat Supply	15
Figure 7:	Grizzly Bear Habitat Supply	15
Figure 8:	Wolverine Habitat Supply	15
Figure 9:	Ungulate Winter Ranges Declared as of 2008	19
Figure 10	: Regeneration/Free Growing Status by Year of Harvest Start	22
	: An Example of Average C Sequestration Rates for a Natural Spruce Leading BWBS Mesic Site Stand (Forecast AU 5) and an Associated Managed Stand (Forecast AU m³)
Figure 12	: Carbon Sequestration (Mg C/year) within TFL 48 Over Time	
Figure 13	: An Example of C Storage for a Natural Spruce Leading BWBS Mesic Site Stand (Forecast A 5) and an Associated Managed Stand (Forecast AU m ³)	
Figure 14	: Total Ecosystem Carbon (Mg) Storage in the DFA Over Time	35
Figure 15	: Proportion of Conventional Harvest Systems Used 2007-2011	42
Figure 16	: Summer and Fall Deliveries	43
Figure 17	: Proportion of Dollars Spent on Local vs Non-Local Contractors	44



1 INTRODUCTION & OVERVIEW

Canadian Forest Products Ltd. (Canfor) achieved registration under the Canadian Standards Association CAN/CSA Z809-96 Sustainable Forest Management System for Tree Farm Licence (TFL) 48's (see Figure 1) forestry operations in July 2000, and re-registration in 2002. In 2005 the Sustainable Forest Management Plan 4 was updated to the CAN/CSA Z809-02 Sustainable Forest Management: Requirements and Guidance. In partial fulfillment of achieving registration, a public group — the Chetwynd Public Advisory Committee (PAC) — was formed at the beginning of 2000 to help Canfor identify quantifiable local-level values, objectives indicators and targets for sustainable forest management. The original indicators and targets identified by the PAC were detailed with associated forest management practices to achieve those targets in the Sustainable Forest Management Plan for Tree Farm Licence 48 (Canfor 2006). In 2006 BC Timber Sales (BCTS) joined the registration and a joint certificate was issued to Canfor and BCTS. The 2009 Annual Report is a summary report on the status of each indicator and provides revisions to several indicators, targets, or the way they are measured. The 2009 Annual Report is the tenth time annual reporting has been undertaken for SFMP's and the fifth report for SFMP 4.

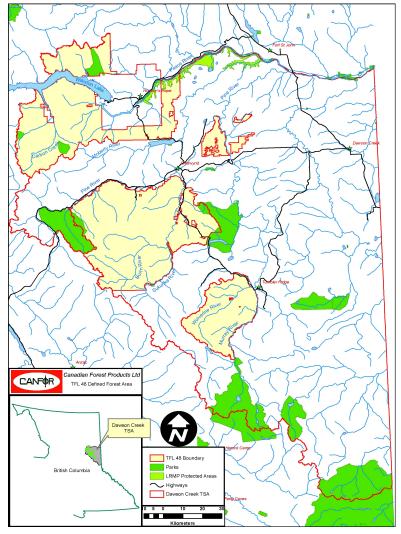


Figure 1: Tree Farm Licence 48



This report is prepared as an annual report required by the CSA standard and also serves as a TFL Annual Report. In this report, each Indicator is reiterated, and a brief status report is provided. For additional information on the Indicators and Objectives, or the practices involved, the reader should refer to Canfor's Sustainable Forest Management Plan 4 for Tree Farm Licence 48 (Canfor, 2006).

The Public Advisory Committee reviewed this report on June 10, 2009.

1.1 OVERVIEW

The format of the remainder of this document and the detailed status of each indicator are provided below. *This document is subject to review by the Public Advisory Committee (PAC)*. Information noted as SBFEP was collected and provided by BC Timber Sales staff at the Dawson Creek office of the Peace Forest District. Canfor then included this information into applicable indicator reporting. Information provided by Tembec for harvesting, road construction and silviculture activity was included into the applicable indicators.

1.2 SIGNIFICANT CHANGES

A significant development in the management of TFL 48 is that on December 16, 2009, Canfor announced that its sawmill in Chetwynd will re-open in the spring of 2010 following mill upgrades worth approximately 16 million Canadian. Since Chetwynd is the main destination of logs from TFL 48, operations will return at a capacity that fulfills the mills timber requirements.



2 SFM INDICATORS AND OBJECTIVES

2.1 ECOSYSTEM REPRESENTATION

Indicator Statement	Target Statement						
Proportion of rare ecosystem groups (3, 6, 7, 10, 21) reserved from harvest	100% of rare ecosystems reserved from harvest						
SFM Objective:							
We will conserve or restore ecosystem diversity within the natural range of variation within DFA over time.							
We will conserve genetic diversity of both wildlife ar	nd plant species.						

STATUS AND COMMENTS:

Blocks are assessed annually as layout is completed to determine the presence of rare ecosystems. There were four blocks laid out for Canadian Forest Products Ltd. over the 2009 field season. None of these blocks contained rare ecosystems.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.2 FOREST TYPES

Indicator Statement	Target Statement
Percent distribution of forest type (deciduous, deciduous mixed wood, conifer mixed wood, conifer) >20 years old across DFA	100% of forest type groups will be within the target range (Conifer - 75-85%, Conifer Mixedwood - 4-6%, Deciduous - 9-15%, Deciduous Mixedwood - 2-4%)

SFM Objective:

We will conserve or restore ecosystem diversity within the natural range of variation within the DFA over time.

We will sustain a natural range of variability in ecosystem function, composition and structure which allows ecosystems to recover from disturbance and stress.

We will sustain the natural range of ecosystem productivity to support naturally occurring species.

STATUS AND COMMENTS:

This indicator's status was reported in SFMP 4 and will not be reported on again until 2010. The following Table 2 shows the status as reported in SFMP 4.



Table 2: Forest Type Distribution Current and FDP Status and Target Ranges

Forest Type	MP 3 % ¹	2005	%	2010	%	Target Range
Coniferous	80%	407,906	80%	413,252	80%	75-85%
Mixed - Coniferous	5%	26,477	5%	26,858	5%	4-6%
Mixed - Deciduous	3%	17,723	3%	17,876	3%	2-4%
Deciduous	12%	62,437	12%	63,394	12%	9-15%
Grand Total		514,543	100%	521,380	100%	

REVISIONS:

No revisions are suggested for this indicator or objective.

2.3 LATE SERAL FOREST

Indicator Statement	Target Statement							
The minimum acceptable proportion (%) of late seral forest by Natural Disturbance Unit (NDU) and NDU by BEC	The minimum proportion (%) of late seral forest by NDU and NDU by BEC as shown in (SFMP 4 Table 11)							
SFM Objective:								
	We will conserve or restore ecosystem diversity within the natural range of variation within DFA over							
time.								
We will conserve genetic diversity of both wildlife ar	We will conserve genetic diversity of both wildlife and plant species.							

STATUS AND COMMENTS:

As part of the annual reporting an assessment of the impact of the existing and proposed harvest was made on the late seral targets for TFL 48. As we have shifted from completing Forest Development Plans (FDP) under the Forest Practices Code of BC Act to completing Forest Stewardship Plans (FSP) under the Forest and Range Practices Act, the way proposed harvest areas are defined has changed quite significantly. Under a FSP the proposed harvest area is normally quite large to solicit input on concerns or values in these areas prior to conducting fieldwork. As the shape and size is much larger than the actual completed or proposed harvest area it is inappropriate to use these areas to project impacts on values such as late seral forest. As such only proposed harvesting where fieldwork has been completed and the actual harvest area defined is used to project the future seral impacts. For this annual report the current ha is based on ages being projected to 2010 and the projected ages is to 2012.

The following provides a summary of the results:

NDU/BEC Targets – All targets are met for the Boreal Plains and Boreal Foothills – Valley Deciduous units (See Table 3).

Boreal Plains Conifer (See Table 4) – Targets are met at the BEC variant level and NDU level. **Boreal Foothills – Valley – Conifer** – Targets are met at the BEC variant level and at the NDU level.

4 July 2010

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¹ MP 3 data is shown as a percent due to a slight change in the way this indicator is reported. The indicator has change to reporting only stands greater than 20 years old and there have been some changes to the area of TFL 48.



Boreal Foothills – Mountain – Targets are met at the BEC variant level and at the NDU level by the end of the projected harvesting.

Omineca – Valley – Targets are met at the BEC variant and NDU level for this unit. There is no new proposed harvesting in this operating plan.

Omineca – Mountain – Targets are met at the BEC variant level but not at the NDU level. While this reporting shows an increase in the deficit there has actually been a steady increase in the amount of late seral from 30% to 35% in 2020 after proposed harvesting. This is due to this unit being very small and the forest continuing to age while no harvesting has taken place and there still being proposed harvesting for CP 332. This is a CAT A approved permit from the 2002 FDP. Harvesting has been deferred from this area and shifted more MPB priority areas. The blocks have remained in the analysis, as the permit is predominately pine.

Wet Mountain – Targets are met at the BEC variant level but not at the NDU level. There has been a decrease in the deficit from 20,430 ha to 17,301 ha. There are a total of 665 ha of new harvesting proposed in the wet mountains. The target for this unit is 84% 141 years old or older. It is projected that the full targets will be met within 80 years. The harvesting proposed in this amendment will not jeopardize the achievement of this target as there are 24,753 ha of recruitment available in the lower 2 age groups. The proposed harvesting in this unit is consistent with SFMP 4 for TFL 48 section 3.3 indicator, target and acceptable variance.

REVISIONS:

No revisions are suggested for this indicator or objective.



Table 3: Current and Projected Harvest Status of Late Seral Forest – Deciduous

			<4	10		40-	100				101+					
		Curre	nt	Projec	ted	Current	Projec	ted	Cu	ırrent		Projecte	ed	Total		Years to
NDU	BEC	На	%	На	%	Ha %	На	%	На	Surplus % (Deficit)	На	%	Surplus (Deficit)	Forested Area	141+ Target	Meet Target
Boreal Plains - Deciduous	BWBSmw 1	2,896	8%	3,365	9%	16,070 42%	15,982	42%	18,922 5	50% 15,133	18,542	49%	14,753	37,888	10%	
	BWBSwk 1	74	2%	75	2%	2,161 54%	2,161	54%	1,748 4	1,350	1,747	44%	1,349	3,983	10%	
	ESSFmv 2	11	2%	11	2%	308 71%	308	71%	117 2	27% 74	117	27%	74	436	10%	
	SBS wk 2		0%		0%	11 28%	11	28%	29 7	72% N/A	29	72%	N/A	40	N/A	
Boreal Plains - Deciduous Total		2,981	7%	3,450	8%	18,550 44%	18,462	44%	20,816 4	19% 16,582	20,435	48%	16,200	42,347	10%	0
Boreal Foothills - Valley - Deciduous	BWBSmw 1	2,044	9%	2,058	9%	7,704 35%	7,693	35%	12,420 5	56% 10,203	12,417	56%	10,200	22,168	10%	
	BWBSwk 1	28	2%	29	2%	936 64%	935	63%	509 3	362	509	35%	362	1,474	10%	
	BWBSwk 2	121	2%	121	2%	1,604 31%	1,604	31%	3,382 6	66% 2,872	3,382	66%	2,872	5,107	10%	
	SBS wk 2	444	5%	471	5%	3,435 40%	3,433	40%	4,703 5	55% 3,845	4,677	55%	3,819	8,582	10%	
Boreal Foothills - Valley - Deciduous Total		2,637	7%	2,679	7%	13,679 37%	13,666	37%	21,015 5	56% 17,282	20,986	56%	17,253	37,331	10%	0
Grand Total		5,618	7%	6,129	8%	32,229 40%	32,128	40%	41,831 5	53%	41,421	52%		79,678		



Table 4: Current and Projected Harvest Status of Late Seral Forest – Coniferous

			<4	10			40-1	00		1	01-140				141	l+					
		Curre	ent	Projec	ted	Curre	nt	Projec	ted	Current	Proje	cted		Current			Projected		Total Forested	141+	Years to Meet
NDU	BEC	На	%	На	%	На	%	На	%	Ha %	На	%	На	%	Surplus (Deficit)	На	%	Surplus (Deficit)	Area	Target	Target
	BWBSmw 1	7,462	23%	8,132	25%	7,394	23%	7,386	23%	9,961 319	6 9,549	29%	7,601	23%	5,980	7,352	23%	5,731	32,418	5%	
Boreal Plains - Conifer	BWBSwk 1	2,410	10%	2,507	11%	4,261	18%	4,261	18%	10,075 439	6 10,014	42%	6,880	29%	5,699	6,844	29%	5,663	23,626	5%	
	ESSFmv 2	449	3%	449	3%	1,155	9%	1,155	9%	5,929 469	6 5,929	46%	5,490	42%	4,838	5,490	42%	4,838	13,022	5%	
	SBS wk 2	0	0%	0	0%	179	89%	179	89%	5 39	6 5	3%	18	9%	N/A	18	9%	N/A	202	N/A	
Boreal Plains - Conifer Total		10,320	15%	11,087	16%	12,989	19%	12,981	19%	25,971 379	6 25,497	37%	19,989	29%	8,213	19,703	28%	7,927	69,268	17%	20
	BWBSmw 1	4,312	14%	4,453	14%	6,678	21%	6,678	21%	8,436 269	8,411	26%	12,448	39%	10,217	12,332	39%	10,101	31,875	7%	
Boreal Foothills - Valley -	BWBSwk 1	774	14%	957	18%	1,098	20%	1,097	20%	1,246 239	6 1,124	21%	2,311	43%	1,931	2,251	41%	1,871	5,430	7%	
Conifer	BWBSwk 2	267	4%	267	4%	3,260	44%	3,260	44%	2,502 349	6 2,502	34%	1,420	19%	899	1,420	19%	899	7,450	7%	
	SBS wk 2	14,217	17%	15,244	18%	11,941	14%	11,920	14%	24,794 309	6 24,500	29%	32,111	39%	26,297	31,400	38%	25,585	83,064	7%	
Boreal Foothills - Valley - Cor	nifer Total	19,571	15%	20,923	16%	22,978	18%	22,956	18%	36,978 299	6 36,537	29%	48,291	38%	18,893	47,403	37%	18,005	127,819	23%	10
	ESSFmv 2	8,162	8%	8,686	8%	16,585	16%	16,546	16%	28,735 279	28,555	27%	52,811	50%	42,181	52,505	49%	41,876	106,293	10%	
Boreal Foothills - Mountain	ESSFmv 4	262	2%	262	2%	4,619	39%	4,619	39%	4,067 359	4,067	35%	2,799	24%	1,625	2,799	24%	1,625	11,747	10%	
	ESSFwc 3	601	2%	601	2%	3,778	15%	3,778	15%	9,583 399	9,583	39%	10,584	43%	8,129	10,584	43%	8,129	24,545	10%	
	ESSFwk 2	3,312	13%	3,761	14%	3,456	13%	3,456	13%	10,768 419	6 10,728	41%	8,889	34%	6,247	8,481	32%	5,838	26,425	10%	
Boreal Foothills - Mountain To	otal	12,337	7%	13,309	8%	28,437	17%	28,399	17%	53,153 319	6 52,932	31%	75,083	44%	19,310	74,369	44%	18,596	169,009	33%	10
Omineca - Valley	BWBSmw 1		0%		0%	10	36%	10	36%	17 649	6 17	64%		0%	N/A		0%	N/A	27	N/A	
	SBS wk 2	639	10%	639	10%	224	4%	224	4%	2,657 439	6 2,657	43%	2,662	43%	2,230	2,662	43%	2,230	6,182	7%	
Omineca - Valley Total		639	10%	639	10%	234	4%	234	4%	2,674 439	6 2,674	43%	2,662	43%	1,234	2,662	43%	1,234	6,209	23%	0
Omineca - Mountain	ESSFmv 2	784	6%	987	7%	730	6%	730	6%	4,805 369	4,783	36%	6,878	52%	4,634	6,697	51%	4,453	13,197	17%	
Omineca - Mountain Total		784	6%	987	7%	730	6%	730	6%	4,805 369	6 4,783	36%	6,878	52%	(777)	6,697	51%	(957)	13,197	58%	40
	ESSFmv 2	355	2%	536	3%	2,786	17%	2,786	17%	2,668 169	6 2,667	16%	10,461	64%	6,393	10,280	63%	6,213	16,270	25%	
Wet Mountain	ESSFwc 3	398	1%	423	1%	2,349	7%	2,349	7%	6,297 199	6,297	19%	23,325	72%	15,233	23,301	72%	15,208	32,370	25%	
	ESSFwk 2	2,817	11%	3,068	12%	1,708	7%	1,708	7%	4,015 159	4,015	15%	17,718	67%	11,153	17,467	67%	10,902	26,258	25%	
	SBS wk 2	2,146	19%	2,355	20%	1,405	12%	1,405	12%	3,524 309	6 3,524	30%	4,490	39%	1,599	4,280	37%	1,389	11,564	25%	
Wet Mountain Total		5,716	7%	6,383	7%	8,249	10%	8,249	10%	16,504 199	6 16,503	19%	55,994	65%	(16,635)	55,328	64%	(17,301)	86,463	84%	80
Grand Total	<u></u>	49,368	10%	53,328	11%	73,616	16%	73,548	16%	140,084 309	6 138,927	29%	208,896	44%		206,162	44%		471,965		

Source: VRI - 2004 and Planned and Laid out harvest areas



2.4 PATCH SIZE DISTRIBUTION

Indicator Statement	Target Statement
Percent area by Patch Size Class (0-50, 51-100 and >100 ha) by Natural Disturbance Unit (NDU) by early or mature and proportion of mature interior forest condition.	Targets by Patch Size Class by NDU by early or mature are shown in SFMP 4 Table 14
SFM Objective:	
We will conserve or restore ecosystem diversity within time.	the natural range of variation within DFA over

STATUS AND COMMENTS:

With the significant reduction in operations, the likelihood of significantly impacting this indicator during the indefinite closure of the Chetwynd mill is very small. In 2008 it was determined that the need to report out on this indicator be suspended until operations resume. The information shown in Table 5 and Table 6 shows the data compiled for the 2008 Annual Report.

The future or projected information is different from how this information was previously presented. Due to the nature of how proposed harvest areas are shown in a Forest Stewardship Plan (FSP) there is significant difference between what is initially proposed and what may ultimately be proposed for harvest. From this point forward the projected values are based upon the completed field layout. As such there is less information to project versus the current status than what was reported in previous reporting of this information. The early and mature forest patch size targets and proportion of mature interior forest are all being met after the proposed development.

Table 5: Early Patch Size Class Current and Projected

		Patch Class (ha)														
NDU		<50		50-100			100+					Total Current	Total Projected			
	Current	%	Proj	%	Current	%	Proj	%	Target	Current	%	Proj	%	Target		
Boreal Plains	1,913	14%	1,817	12%	976	7%	1,047	7%	<15%	10,918	79%	11,924	81%	>50%	13,807	14,788
Boreal Foothills/Omineca	6,762	19%	6,067	16%	6,326	18%	5,661	15%	<20%	22,845	64%	27,089	70%	>40%	35,933	38,817
Wet Mountain	1,269	22%	1,253	20%	1,587	27%	1,198	19%	<25%	2,953	51%	3,832	61%	>60%	5,809	6,283
Grand Total	9,944	18%	9,137	15%	8,889	16%	7,906	13%		36,716	66%	42,845	72%		55,549	59,888

Table 6: Mature Patch Size Class Current and Projected

				Patch 9	Size Cla	ss (ha)		Total	Interior		
NDU	Current /	<5	0	50-100		100+		Target	Grand Total	Interior	Forest
NDO	Projected	ha	%	ha	%	ha	%	rarget		Forest %	Target
Boreal Plains	Current	10,812	19%	4,018	7%	43,600	75%	>70%	58,430	66%	>30%
Doreal Flains	Projected	5,497	9%	2,555	4%	51,887	87%	>70%	59,939	68%	>30%
Boreal	Current	29,497	13%	6,600	3%	188,285	84%	>80%	224,382	70%	>35%
Foothills/Omineca	Projected	14,101	6%	4,860	2%	209,299	92%	>80%	228,260	71%	>35%
Wet Mountain	Current	8,925	12%	1584	2%	60,965	85%	>85%	71,474	70%	>60%
vvet Mountain	Projected	2,663	4%	509	1%	67,572	96%	>85%	70,744	71%	>60%



REVISIONS:

With the resumption of operations at the Chetwynd facility this indicator will be reportable going forward.

2.5 SNAGS/LIVE TREE RETENTION

Indicator Statement	Target Statement
Number of snags and/or live trees (>17.5cm dbh) per ha on prescribed areas	Retain annually an average of at least 2 snags and/or live trees (>23.0 cm dbh) per hectare on prescribed areas
SFM Objective:	

We will sustain sufficient and appropriately distributed suitable habitat elements to maintain native species richness.

We will sustain a natural range of variability in ecosystem function, composition and structure which allows ecosystems to recover from disturbance and stress.

STATUS AND COMMENTS:

There were 9 blocks on which harvesting was started in 2009. Of these 9, all of the area was laid out in the field after to this indicator being adopted. 73% of the total area harvested had retention requirements. 100% of the blocks requiring retention were consistent with this indicator. The remaining 27% of the area did not require retention to be prescribed. The size of the prescribed retention for these blocks are consistent with the previous 17.5cm dbh. The 23.0cm dbh and larger will be the measurement going forward.

Table 7: Status of prescribed retention for blocks harvested in 2009

	Clear Cut		Retention		Total Area						
Block ID	Area (ha)	%	Area (ha)	%	(ha)	Total %	Strategy Implemented Correctly				
T4162	57.4	25	168.6	75	226.0	100	ОК				
W01-01	35.6	100	0	0	35.6	100	ОК				
W07-001	68.0	100	0	0	68	100	ОК				
W08-001	15.9	100	0	0	15.9	100	ок				
W09-001	0	0	16.4	100	16.4	100	ОК				
W10-01	0	0	33.6	100	33.6	100	ОК				
W11-01	0	0	25.9	100	25.9	100	ОК				
W16-01	0	0	15.7	100	15.7	100	ОК				
T4161	0	0	219.4	100	219.4	100	ок				
Grand Total	176.9	27	479.6	73	656.5	100					

REVISIONS:

No revisions are suggested for this indicator or objective.



2.6 COARSE WOODY DEBRIS

Indicator Statement	Target Statement
Average Coarse Woody debris size and m ³ /ha on blocks harvested on the TFL since Jan 1, 2004	Average retention level over the TFL since Jan 1, 2004 will be at least 92 m³/ha of which a minimum of 46 m³/ha will be greater than 17.5cm in diameter

SFM Objective:

We will sustain sufficient and appropriately distributed suitable habitat elements to maintain native species richness.

We will sustain a natural range of variability in ecosystem function, composition and structure which allows ecosystems to recover from disturbance and stress.

STATUS AND COMMENTS:

Currently 9 of 23 plots have been established on TFL 48. All samples must be completed for the 2010 reporting. Progress to date for the 9 samples shows an average of 112 m³/ha of which 58 m³/ha is greater than 17.5 cm.

Next reporting on the status of this indicator will be in 2010.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.7 AVERAGE MINIMUM WIDTH OF RRZ AND RMZ

Indicator Statement	Target Statement							
Average minimum width of retention by Riparian Reserve Zone or Riparian Management Zone by appropriate stream, lake or wetland classification within cutblocks	We will meet or exceed the regulatory retention widths by Riparian Reserve Zone by appropriate stream, lake or wetland classification within cutblocks							
SFM Objective:								
To have representative areas of naturally occurring and important ecosystems, and rare physical								

To have representative areas of naturally occurring and important ecosystems, and rare physical environments protected at both the broad and site specific levels across or adjacent to the DFA. We will maintain water quality and quantity.

STATUS AND COMMENTS:

The following table (Table 8) shows the summary of riparian reserve and management zones for 2009 as well as the cumulative average from 2000 to 2009. The targets have been met in 2009 and all previous years. It should be noted that where the minimum riparian management area (RMA) is not met this is due to more area being contained within the reserve zone (RRZ).



Table 8: Summary of Riparian Reserve and Management Zones in 2000 - 2009

Year	Stream, Wetland or Lake Class	Total Stream Length (m) ^b	RRZ – Required Width (m) ^c	RRZ–Actual Width (m) °	RMZ Required Width (m)°	RMZ – Actual Width (m) °	Total RMA Required (m)	Actual (m)
	S1 (n=0)	-	50	-	20	-	0	-
	S2 (n=4)	2,297	30	38.4	20	26.1	50	64.5
	S3 (n=0)	-	20	-	20	-	40	-
2009	S4 (n=0)	-	0	-	30	-	30	-
2009	S5 (n=0)	10,274	0	-	30	52.9	30	52.9
	S6 (n=12)	15,607	0	=	20	30.2	20	30.2
	W3 (n=0)	-	0	=	30	-	30	-
	W5 (n=0)	-	10	-	40	-	50	-
	S1	34,694	50	104.4	20	4.8	70	109.2
	S2	25,423	30	98.9	20	11.4	50	110.3
	S3	33,094	20	52.2	20	15.9	40	68.0
Average	S4	17,026	0	8.5	30	24.8	30	33.3
2000 to 2009	S5	36,588	0	19.7	30	30.1	30	49.8
	S6	265,938	0	5.9	20	19.7	20	25.6
	W3	3,231	0	6.4	30	25.9	30	32.2
	W5	673	10	27.3	40	25.8	50	53.1

a Channel widths for S1 streams are >20m, <100m.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.8 SHRUBS/EARLY FOREST

Indicator Statement	Target Statement
The minimum proportion of shrub habitat (%) by Natural Disturbance Unit	Each Natural Disturbance Unit will meet or exceed the baseline target (%) proportion of shrub habitat as indicated in Table 9
SFM Objective: We will sustain sufficient and appropriately distribution richness.	ted habitat elements to maintain native species

STATUS AND COMMENTS:

The following table (Table 9) indicates the current and post FDP condition of shrub habitat within the DFA as reported in the 2005 SFMP Annual Report. This indicator was changed in the 2005 Annual Report and will next be reported on in 2010.

b Streams that flow through, rather than adjacent to a block have had their lengths doubled to account for the application of RMA's to both sides. Therefore true stream length is less than reported in this table.

c RRZ and RMZ widths are applied to a single side of a stream. If stream flows through the block the length has been doubled (see footnote b) but the widths are not doubled.



Table 9: Shrub Habitat Targets, Current and Proposed Condition

		Total NDU	2005 Shrub		2010 Shrub		Baseline
NDU	NDU Subunit	Area	Ha	%	Ha	%	Target %
Boreal Plains		120,891	15,762	13%	21,507	18%	14%
Boreal Foothills	Valley	178,225	25,245	14%	30,653	17%	12%
Doreal Footinis	Mountain	205,406	20,936	10%	24,540	12%	11%
Omineca	Valley	6,504	727	11%	722	11%	7%
Ommeca	Mountain	15,031	1,277	8%	1,705	11%	10%
Wet Mountain		117,618	12,634	11%	14,919	13%	7%
Grand Total		643,676	76,581	12%	94,045	15%	

REVISIONS:

No revisions are suggested for this indicator or objective.

2.9 WILDLIFE TREE PATCHES

Indicator Statement	Target Statement
Cumulative wildlife tree patch percentage in blocks harvested since 1995 by BEC sub zone	Cumulative wildlife tree patch % will be at least 8% by BEC sub zone
SFM Objective:	

We will sustain sufficient and appropriately distributed suitable habitat elements to maintain native species richness.

We will sustain a natural range of variability in ecosystem function, composition and structure, which allows ecosystems to recover from disturbance and stress.

STATUS AND COMMENTS:

The table below summarizes the current status for WTP retention levels for blocks on which harvesting began since 1995 and to the end of 2009. The WTP retention levels exceed the target in all subzones except the ESSFwc3, however 75% or 539 ha of the 714 ha under prescription have been harvested with an irregular shelterwood retention system. Typically 55% of the area is retained between the trails so 55% of the 539 ha is 296 ha plus the 39 ha of WTP prescribed is a total of 335 ha of retention or 47% of the total area under prescription.

Table 10: Summary of WTP's in Areas Harvested Since 1995

BEC Sub Zone	Total Area Under Prescription	WTP Area	WTP %
BWBSmw	8,890	1,372	15%
BWBSwk	1,683	283	17%
ESSFmv	5,734	626	11%
ESSFwc	714	39	5%
ESSFwk	4,279	411	10%
SBSwk	8,992	1,450	16%
Grand Total	30,292	4,181	14%

REVISIONS:

No revisions are suggested for this indicator or objective.



2.10 HABITAT SUPPLY FOR SPECIES OF PUBLIC CONCERN

Indicator Statement	Target Statement			
Habitat supply for species of public interest (grizzly bear, wolverine, marten, fisher, elk, moose, caribou)	When habitat supply decreases by 20% over time beyond the natural range of variation baseline for species of public interest, stand level management strategies will be developed within one year			
SFM Objective:				
We will sustain sufficient and appropriately distributed suitable habitat elements to maintain native species richness.				

STATUS AND COMMENTS:

This indicator was first reported on in 2005 in the Draft SFMP 4. When the final analysis was completed in support of the timber supply analysis this indicator was reassessed. The information presented in the following charts is also included in the proposed SFMP 4. Next reporting of this indicator will be done in 2010.

Moose was modeled for the summer feeding period. TFL 48 represents excellent moose habitat with over 340,000 ha classified in very high, high and moderate categories of habitat supply.

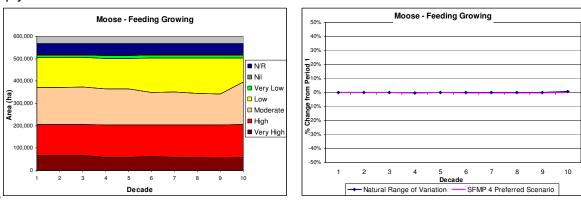


Figure 2: Moose Habitat Supply

Elk habitat was modeled as summer feeding habitat. TFL 48 represents excellent elk habitat with over 230,000 ha classified in very high, high and moderate categories of habitat supply.

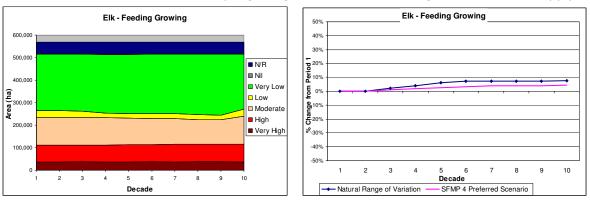


Figure 3: Elk Habitat Supply



Caribou was modeled for both late and early winter habitat types. In contrast to moose and elk there is comparatively little very high, high and moderate habitat for caribou, approximately 15,000 ha of early winter. (This is likely underrepresented with the current model.) Late winter habitat trends to a significantly less amount in the preferred scenario versus the natural range of variation baseline.

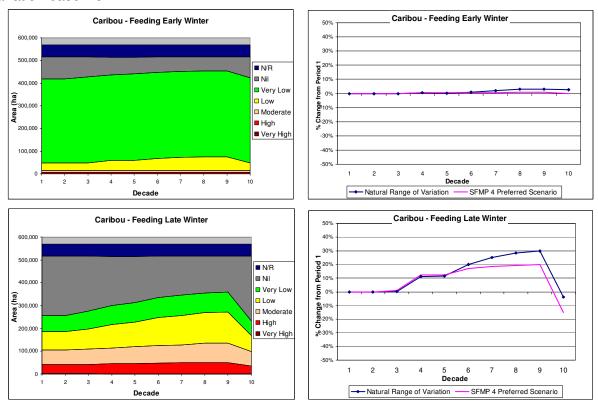


Figure 4: Caribou Habitat Supply

Marten habitat was modeled as general winter habitat. TFL 48 has a large amount of habitat (over 250,000 ha) modeled as very high, high and moderate. While habitat steadily declines over the 100 year simulation the preferred scenario has less of a decline than the natural range of variation simulation.

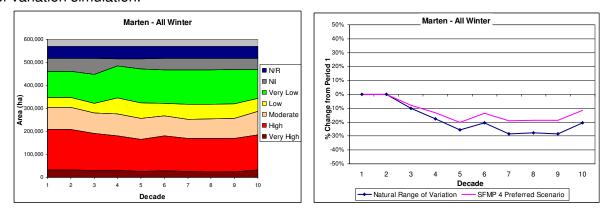


Figure 5: Marten Habitat Supply

Fisher habitat was modeled as general winter habitat. TFL 48 represents a large area of very high, high and moderate habitat with over 196,000 ha classified in these categories.



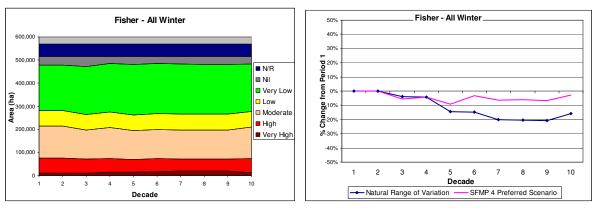


Figure 6: Fisher Habitat Supply

Grizzly bear habitat was modeled as spring feeding habitat. TFL 48 has a moderate amount of very high, high and moderate grizzly bear habitat with over 111,000 ha classified in these categories.

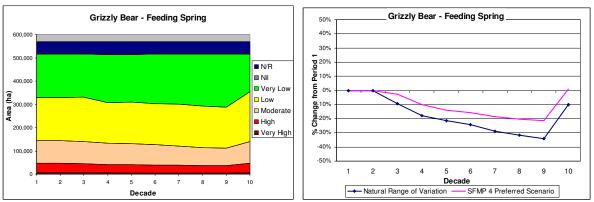


Figure 7: Grizzly Bear Habitat Supply

Wolverine habitat was modeled as winter feeding habitat. TFL 48 represents an excellent area for wolverine with over 440,000 ha modeled as high and moderate habitat quality. Again while the trend is for a decline in the overall amount of high quality habitat the preferred scenario shows less of a decline than the natural range of variation.

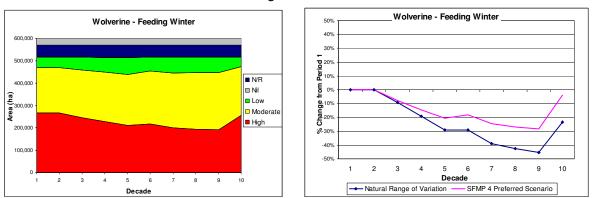


Figure 8: Wolverine Habitat Supply

REVISIONS:

No revisions are suggested for this indicator or objective.



2.11 SPECIES OF MANAGEMENT CONCERN

Indicator Statement	Target Statement			
Percent consistency with management strategies for species of management concern	On an annual basis, 100% of the management strategies for species of management concern are consistently being implemented as scheduled			
SFM Objective: We will maintain sufficient habitats for species at risk.				

STATUS AND COMMENTS:

The implementation strategy for this indicator was to implement stand level management guidelines on all areas where layout was initiated after October 31, 2005. In 2009 there were four new blocks laid out. These blocks were in an area that had the potential of inhabiting a species listed in the *Guidelines for Species Using Localized Habitats in Canadian Forest Products Northeastern Divisions*. Field crews conducting the layout were given training for the species and habitats contained in the Guidelines document so they could be identified. No species of management concern were identified during the fieldwork.

Of the 2 blocks where harvesting started in 2009 all had been assessed to be consistent with the stand level management strategies for species of management concern. Canfor Chetwynd Division, in partnership with academia and the provincial government, is developing a new approach for identifying species of potential conservation concern based on stewardship responsibility, trend, threat and vulnerability (Fred Bunnell, pers comm June 23, 2006). The progress on the process to identify the species of conservation concern for TFL48 is as follows:

- 1. List all terrestrial vertebrates, vascular plants and freshwater fish in TFL 48 (complete);
- 2. Extract species of conservation concern based on stewardship responsibility, trend, threat and vulnerability (Squires 2005) (draft completed, not yet reviewed or finalized);
- 3. Determine which species are forest-dwelling based on previous list (complete);
- 4. Determine which species are sensitive to forest practices based on the previous list; and (complete)
- 5. Determine if the habitat needs of the species that are sensitive to forest practices are adequately addressed by coarse (i.e., ecosystem representation) and/or medium (i.e., retention of habitat elements) filters. If not, fine scale management strategies will be developed.

Step 5 was completed during 2008 by the completion of the Guidelines for Species Using Localized Habitats for TFL48.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.12 CONIFEROUS SEEDS

Indicator Statement	Target Statement				
The proportion of seeds for coniferous species collected and seedlings planted in accordance with the regulation	All coniferous seeds will be collected and seedlings will be planted in accordance with the regulations				
SFM Objectives: Conserve genetic diversity of tree stock.					



STATUS AND COMMENTS:

All (100%) seedlots grown and planted within the DFA are registered in accordance with the Forest Planning and Practices Regulation and the Chief Forester's Standards for Seed Use effective April 1, 2005.

All seeds have been registered with and tracked by Tree Improvement Branch of the Ministry of Forests and Range.

In 2009 there were a total of 1,107,701 trees planted on TFL 48 of which BCTS and Canfor planted 236,820 and 870,881 respectively. In 2009 all coniferous seeds were collected and seedlings were planted in accordance with the Chief Forester's Standard for Seed Use effective April 1, 2005. Those seedlings that were not in accordance with the Chief Forester's Standard for Seed Use received a variance from the Chief Forester prior to the planting program. The seedlings requiring the variation were to allow them to be planted at an elevation slightly lower than what the seedlot(s) were prescribed for.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.13 DECIDUOUS SEEDS AND VEGETATIVE MATERIAL

Indicator Statement	Target Statement			
The proportion of seed or vegetative material for deciduous species collected and planted in accordance with the regulation	All deciduous species will be collected and planted in accordance with the regulations			
SFM Objectives: We will conserve genetic diversity of tree stock.				

STATUS AND COMMENTS:

Canfor has not planted any deciduous seedlings or vegetative propagates on TFL 48. Any (100%) seedlots grown or planted within TFL 48 will be registered in accordance with the Forest Planning and Practices Regulation and the Chief Forester's Standards for Seed Use effective April 1, 2005.

All seeds will be registered with and tracked by Tree Improvement Branch of the Ministry of Forests and Range.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.14 CLASS A PARKS, ECOLOGICAL RESERVES AND LRMP DESIGNATED PROTECTED AREAS

Indicator Statement	Target Statement				
Hectares of forestry related harvesting or road construction within Class A parks, protected areas, ecological reserves and LRMP designated protected areas	Zero hectares of forestry related harvesting or road construction within Class A parks, protected areas, ecological reserves or LRMP designated protected areas				
SFM Objective: We will implement management strategies appropriate to the long-term maintenance of protected areas and sites of special biological significance.					



STATUS AND COMMENTS:

In 2009 there was no harvesting or road construction within Class A parks, protected areas, ecological reserves or LRMP designated protected areas.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.15 WILDLIFE HABITAT AREAS, UNGULATE WINTER RANGES AND DUNLEVY CREEK MANAGEMENT PLAN

Indicator Statement	Target Statement				
Proportion of activities consistent with objectives of Wildlife Habitat Areas (WHA), Ungulate Winter Ranges (UWR), and Dunlevy Creek Management Plan	All forest management activities will be consistent with objectives of Wildlife Habitat Areas (WHA), Ungulate Winter Ranges (UWR), and Dunlevy Creek Management Plan				
SFM Objective: We will implement management strategies appropriate to the long-term maintenance of protected areas and sites of special biological significance.					

STATUS AND COMMENTS:

In 2009 there were no activities within UWR's, WHA's, or the Dunlevy Creek Management Plan area. This was consistent with the objectives.

In conjunction with the Ministry of Environment (MoE) Canfor worked to develop Ungulate Winter Ranges for Caribou and Mountain Goat within TFL 48. These areas were declared under the Forest and Range Practices Act and Government Actions Regulation on October 22, 2006 (those UWR's labeled u-9-002 on Figure 9) and on March 20, 2008 (those UWR's labeled u-9-004 on Figure 9). Canfor is continuing to work with the MoE on WHA's throughout the TFL as well as formalizing the UWR's and WHA's located in the Dunlevy area of TFL 48.

The following Table 11 shows those blocks that are within the UWR's or WHA's. These blocks will be assessed to ensure they are consistent with the objectives for the applicable UWR or WHA prior to harvesting.

Table 11: Proposed Blocks within UWR/WHA's

LICENSE	BLOCK_ID	Harvest Status	u-9-002	Unit#	u-9-004	Unit #	Dunlevy	Elk	ha
TFL48	T4041	Planned						yes	7.7
TFL48	T4113	Planned	u-9-002	SPC-007					0.1
BCTS-TFL	A58765-007	Planned	u-9-002	SPC-034					11.8
BCTS-TFL	A58765-010	Planned	u-9-002	SPC-034					0.5
TFL48	T5003	Planned	u-9-002	SPC-046					1.4
TFL48	T1001	FRPA 196.2			u-9-004	GR-029			228.9
TFL48	T1002	FRPA 196.2			u-9-004	GR-029			101.2
TFL48	T1003	FRPA 196.2			u-9-004	GR-029			62.8
TFL48	T1004	FRPA 196.2			u-9-004	GR-029			30.4
TFL48	T1005	FRPA 196.2			u-9-004	GR-029			32.3



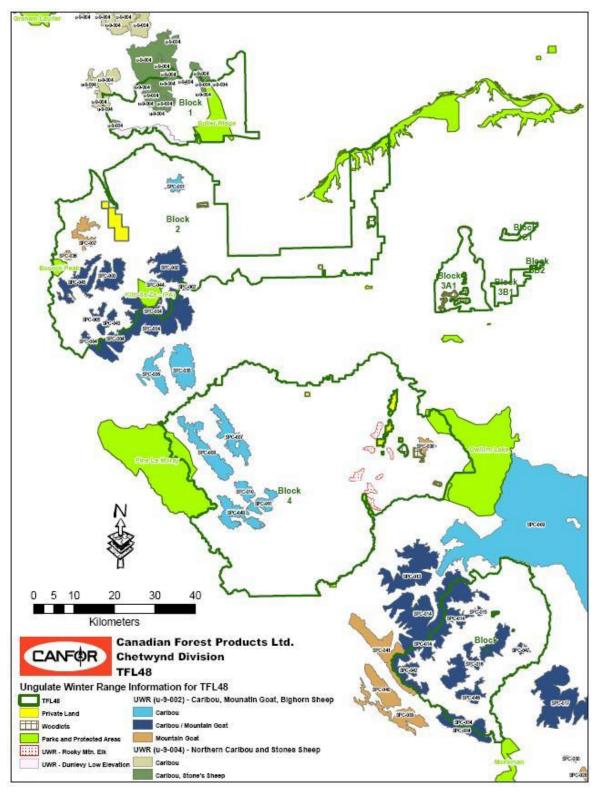


Figure 9: Ungulate Winter Ranges Declared as of 2008

REVISIONS:

No revisions are suggested for this indicator or objective.



2.16 FOREST HEALTH

Indicator Statement	Target Statement					
% of significant detected forest health damaging events which have treatment plans prepared	100% of significant detected forest health damaging events will have treatment plans prepared within 1 year of initial detection					
SFM Objective:						
We will sustain a natural range of variability in ecosystem function, composition and structure, which allows ecosystems to recover from disturbances and stress.						

STATUS AND COMMENTS:

In 2009 there was one significant forest health damaging event occurring on TFL and that is the ongoing Mountain Pine Beetle (MPB) infestation.

The overview flights conducted by the MoFR in 2008 for the Dawson Creek Timber Supply Area (TSA) showed an overall drop in infestation levels. The 2009 report put out by the MoFR on the level of MPB infestation indicated that the 2008 overview flights conducted for the Northern Interior Forest Region under-estimated the amount of infestation. The 2008 flights were conducted in poor weather conditions and late in the season that impacted their results as verified by overview flights conducted in 2009. For the Dawson Creek TSA there seemed to be very little change (<10%) in the amount of infestation between 2008 and 2009. In aligning with the results of the 2009 report put out by the MoFR, the data for Mountain Pine Beetle presented in Table 13 has been updated with the assumption that 2008 and 2009 infestation rates remained unchanged.

Table 12: Estimated MPB Incidence Changes

MPB Estimated Incidence	Low	Mid	High
SFMP4 Estimated Incidence	99.5%	0.5%	0%
2006 Estimated Incidence	40%	25%	35%

Table 13: Summary of Forest Health Issues 2000-2007

Factor	2009 Volume (m³)	2009 Area (ha)	2000-2009 Volume (m³)	2000-2009 Area (ha)	2008 Comments
Blow Down	0	0	10,665	38.8	Derived area from volume /275.
Mountain Pine Beetle	590,000	2,150	6,861,550	24,960	Derived volume based on .35 m³ per tree. Derived area from volume /275.
Spruce Bark Beetle	0	0	1,800	6.5	Derived area from volume /275.
Fire	18,300	151	21,425	247.6	No salvage operations initiated. Volume estimated at 100% mortality and 300m ³ /ha
Balsam Bark Beetle	0	0	0	0	Very light incidence in mountain areas.
Spruce Budworm	0	0	0	0	Possible incidence in 2000 – may have been misclassified.
Forest Tent Caterpillar	0	0	0	0	Scattered levels in 2000.
Environmental	0	0	0	0	Incidental and scattered snow damage – not quantifiable.
Total	608,300	2,301	6,895,440	25,252.9	



REVISIONS:

No revisions are suggested for this indicator or objective.

2.17 PROPORTION OF COMPLETED FOREST HEALTH ACTION PLANS

Indicator Statement	Target Statement					
Proportion of required actions completed as per forest health treatment plans	100% of required actions will be completed as per forest health treatment plans					
SFM Objective:						
We will sustain a natural range of variability in ecosystem function, composition and structure which allows ecosystems to recover from disturbances and stress.						

STATUS AND COMMENTS:

There were two forest health treatment plans created in 2009 that were as follows.

The first plan is based on the historical practice of managing leading edge MPB infestation. Such management activities included fall and burn, however, these activities were historically funded by government and such funding is no longer issued.

The second plan was centered on MPB salvage. The harvest plan was based upon the direction form the Deputy Chief Forester to target 70% of the harvest to pine stands. The Deputy Chief Foresters determination was effective May 25, 2007. Deliveries from TFL 48 through 2009 were 81% pine being delivered (see Sec 2.22).

REVISIONS:

No revisions are suggested for this indicator or objective.

2.18 REGENERATION DECLARATION

Indicator Statement	Target Statement					
Area weighted average age of harvested areas not initially restocked by DFA	Average age of harvested areas not initially restocked will be no more than 2 years					
SFM Objectives:						
We will sustain a natural range of variability in ecosystem function, composition and structure which allows ecosystems to recover from disturbances and stress						

STATUS AND COMMENTS:

At the end of 2009 the average age of NSR on TFL 48 was 1.91 years for all areas where harvesting started prior to January 1, 2009.

REVISIONS:

No revisions are suggested for this indicator or objective.



2.19 FREE GROWING STANDS

Indicator Statement	Target Statement				
Proportion of area harvested that has free growing stands re-established	100% of the area harvested will meet the free growing requirements identified in the silviculture prescriptions/site plans				
SFM Objectives:					
We will sustain a natural range of variability in ecosystem function, composition and structure which allows ecosystems to recover from disturbances and stress					

STATUS AND COMMENTS:

All areas harvested have met free growing requirements as identified in the silviculture prescriptions/site plans. No areas are past the free growing timelines. See Figure 10 for status of areas harvested on TFL where there is a free growing requirement.

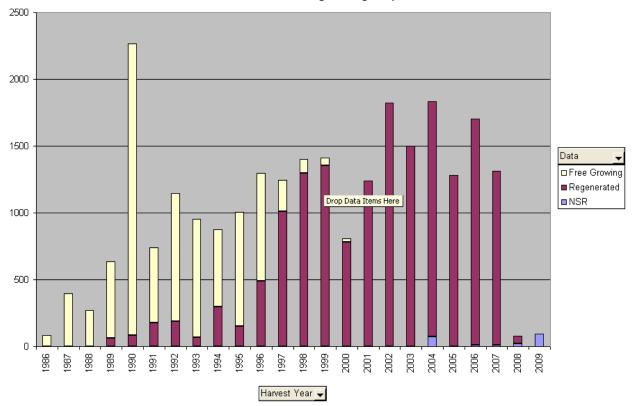


Figure 10: Regeneration/Free Growing Status by Year of Harvest Start

REVISIONS:

No revisions are suggested for this indicator or objective.



2.20 PERMANENT ACCESS CORRIDORS

Indicator Statement	Target Statement					
Percent of area of the DFA occupied by permanent access corridors associated with forest management activities	We will limit impacts on the land base due to the presence of permanent access corridors to less than 2.5% of the gross land base of the DFA					
SFM Objective:						
We will sustain the natural range of ecosystem productivity to support naturally occurring species.						
We will protect soil resources to sustain productive forests.						
We will sustain forests within the DFA.						

STATUS AND COMMENTS:

The following table reports the status as of SFMP 4. The next reporting of this indicator will be in 2010.

Table 14: Permanent Access Corridors in TFL 48 (Existing)

Road Type (RoW width in metres)	Total Area (ha)	% of Gross TFL Area (653,576 ha)		
Undistinguished Road type but delineated in VRI	4,709	0.72%		
1 - ML (25m)	96	0.01%		
2 - ML Sec (20m)	329	0.05%		
3 - Operational (15m)	760	0.12%		
4 - Block Perm (8m)	1,676	0.26%		
Gravel Sec (30m)	52	0.01%		
Grand Total	7,623	1.17%		

Source VRI 2004

REVISIONS:

No revisions are suggested for this indicator or objective.

2.21 SITE INDEX

Indicator Statement	Target Statement					
Area weighted average Site Index by ecological site series by leading species	The area weighted average Site Index by leading species by site series at free growing will not be less than the SIBEC predicted site index					
SFM Objective:						
We will sustain the natural range of ecosystem productivity to support naturally occurring species.						
We will protect soil resources to sustain productive forests.						

STATUS AND COMMENTS:

The following Table 15 shows the current status for stands declared free growing on TFL 48 and site productivity assessed using the growth intercept methodology. The area declared free growing is 8,937 ha that have had surveys completed which have collected growth intercept data during free growing surveys.

The SBSwk2 01 and SBSwk2 06 Lodgepole Pine units are currently below the predicted site index by slightly more than the 10% variance. Overall the SBS however is within the variance. This unit will continue to be monitored to determine if a trend exists.



Table 15: Site Index by Leading Species for Free Growing Stands

						Species				
		Subalpine Fir		White Spruce				Lodgepole Pine		
BEC	Site Series	На	SI	Predicted SI	На	SI	Predicted SI	На	SI	Predicted SI
BWBSmw1	01	-	-	N/A	673.3	25.4	17.7	337.8	19.3	18.0
	02	-	-	N/A	103.3	20.0	9.0	16.2	20.7	12.0
	03	-	-	N/A	264.9	22.1	17.0	104.4	20.1	18.0
	04	-	-	N/A	56.2	22.2	12.0	32.1	17.7	15.0
	05	-	-	N/A	112.4	23.1	18.0	5.0	19.9	18.0
	06	-	-	N/A	25.0	20.6	18.1	0.0	22.0	18.0
	07	-	-	N/A		0.0	18.0	0.1	21.8	18.0
BWBSmw1 Total		-	-	N/A	1235.1	23.8	16.6	495.6	19.5	17.6
BWBSwk1	01	-	-	N/A	124.8	21.3	12.0	383.1	17.4	15.0
	02	-	-	N/A	10.0	16.4	9.0	21.2	20.0	12.0
	03	-	-	N/A	17.7	23.4	9.0	31.6	17.0	12.0
	04	-	-	N/A	3.6	21.7	12.0	0.3	16.0	15.0
	05	-	-	N/A	0.1	21.0	15.0	0.5	17.0	15.0
	06	-	-	N/A		0.0	15.0	0.0	21.0	15.0
BWBSwk1 Total		-	-	N/A	156.2	21.3	11.5	436.7	17.5	14.6
BWBSwk2	01	-	-	N/A	76.9	18.9	12.0	4.3	19.0	15.0
	02	-	-	N/A	1.9	18.0	9.0		0.0	12.0
	03	-	-	N/A	1.3	18.0	12.0		0.0	15.0
	04	-	-	N/A	2.5	18.0	9.0		0.0	12.0
	05	-	-	N/A	2.6	18.0	15.0		0.0	15.0
BWBSwk2 Total		-	-	N/A	85.1	18.8	11.9	4.3	19.0	15.0
ESSFmv2	01	191.4	19.5	12.0	774.9	20.3	15.0	557.6	18.3	15.0
	02		0.0	9.0	44.5	21.2	9.0	37.9	19.9	12.0
	03	15.3	16.3	6.0	17.8	22.6	6.0	20.9	20.5	9.0
	04	117.6	23.5	15.0	121.1	22.8	15.0	99.1	18.2	18.0
	05	0.3	24.9	15.0	0.9	19.9	15.0	0.5	21.5	15.0
	06		0.0	15.0	0.8	20.5	15.0		0.0	15.0
ESSFmv2 Total		324.5	20.8	12.8	960.1	20.7	14.6	715.9	18.4	15.1
ESSFmv4	01	-	-	12.0	45.8	18.0	15.0	-	-	15.0
	02	-	-	9.0	0.2	18.0	9.0	-	-	12.0
	03	-	-	6.0	0.0	18.0	6.0	-	-	9.0
	04	-	-	15.0	0.5	18.0	15.0	-	-	18.0
ESSFmv4 Total		-	-	10.5	46.6	18.0	15.0	-	-	13.5
ESSFwc3	01	3.3	23.0	15.0	-	-	15.0	-	-	-
	02	0.0	23.0	9.0	-	-	9.0	-	-	-
	03	8.2	23.4	15.0	-	-	15.0	-	-	-
ESSFwc3 Total		11.5	23.3	15.0	-	-	13.0	-	-	-
ESSFwk2	01	177.3	22.4	15.0	169.0	20.5	15.0	84.4	18.7	N/A



						Species				
			Subalpine Fir			White Spruce			Lodgepole Pine	
			Subalpine i ii			write opiuce			Lougepole i ille	
BEC	Site Series	На	SI	Predicted SI	На	SI	Predicted SI	На	SI	Predicted SI
	02	312.2	19.6	9.0	18.2	22.8	9.0	38.1	18.0	N/A
	03	76.0	24.1	12.0	70.0	21.7	12.0	37.0	19.4	15.0
	04	143.5	24.3	15.0	38.4	20.3	15.0	31.1	17.8	N/A
	05	110.9	24.2	15.0	54.4	27.4	15.0	1.9	19.8	N/A
	06	15.8	23.3	12.0	0.3	23.0	12.0	0.8	18.0	N/A
ESSFwk2 Total		835.8	22.1	12.4	350.3	21.9	14.1	193.4	18.5	15.0
SBSwk2	01	96.5	17.4	15.0	901.3	23.1	21.8	790.3	18.8	21.0
	02	16.2	21.5	12.0	55.1	21.7	15.0	17.6	21.0	15.0
	03	17.2	17.3	12.0	207.4	23.0	18.0	303.8	20.9	18.0
	04	2.4	20.3	N/A	277.6	21.7	15.0	105.5	18.6	18.0
	05	26.3	22.3	18.0	259.0	22.4	21.0	137.2	20.1	21.0
	06	1.5	24.7	18.0	46.3	24.5	24.0	3.9	19.0	21.0
	07	0.8	24.3	N/A	26.2	22.1	N/A	13.4	18.5	N/A
SBSwk2 Total		160.9	18.7	14.6	1772.9	22.7	19.7	1371.7	19.4	19.8
Grand Total		1332.6	21.4	12.8	4606.3	22.4	16.9	3217.6	18.9	17.4

No revisions are suggested for this indicator or objective.



2.22 AAC

Indicator Statement	Target Statement				
Allowable Annual Cut	We will ensure that the Allowable Annual Cut will not adversely impact Long Term Harvest Level				
SFM Objective:					
We will sustain the natural range of ecosystem productivity to support naturally occurring species.					
We will balance annual growth rate and harvest rate.					

STATUS AND COMMENTS:

The latest TSR Analysis Report was completed and submitted in August 2006, and the AAC Rationale was effective May 25th, 2007. See Table 16 for a history of the AAC's for TFL 48. The Deputy Chief Forester chose to increase the AAC slightly beyond what Canfor had requested to enable additional Mountain Pine Beetle salvage. This level does not jeopardize the Long Term Harvest Level.

Table 16: Allowable Annual Cut and Long-Term Harvest Level

	MP 1	MP 2	SFMP 3	SFMP 4
Partition	AAC	AAC	AAC	AAC
Coniferous	410,000	460,000	525,000	800,000
Deciduous	0	54,000	55,000	100,000
Total	410,000	514,000	580,000	900,000

As part of the implementation of the AAC in 2009 based on the cutting permit cruise data and volume delivered 81% of the volume was Lodgepole pine.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.23 SOIL DEGRADATION

Indicator Statement	Target Statement				
Soil degradation	We will not exceed site degradation guidelines as defined in site plans				
SFM Objective: We will protect soil resources to sustain productive forests.					

STATUS AND COMMENTS:

All blocks with harvest completed in 2009 (n=8) have been within the site degradation guidelines defined in site plans.

REVISIONS:

No revisions are suggested for this indicator or objective.



2.24 SOIL DISTURBANCE SURVEYS

Indicator Statement	Target Statement				
Soil disturbance surveys	We will not exceed soil disturbance limits within cutblocks as defined in site plans				
SFM Objective: We will protect soil resources to sustain productive forests.					

STATUS AND COMMENTS:

All blocks with harvest completed in 2009 (n=8) have been within the soil disturbance guidelines defined in site plans.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.25 USE OF ENVIRONMENTALLY FRIENDLY LUBRICANTS

Indicator Statement	Target Statement					
Use of environmentally friendly lubricants	We will research and identify environmentally friendly lubricants bi-annually					
SFM Objective: We will protect soil resources to sustain productive forests.						

STATUS AND COMMENTS:

With reduced operations this indicator was suspended in 2008 and will become reportable again once the Chetwynd facility resumes operations.

REVISIONS:

With the resumption of operations at the Chetwynd facility this indicator will be reportable going forward.

2.26 SPILLS ENTERING WATERBODIES

Indicator Statement	Target Statement						
Number of reportable spills or misapplications entering water bodies	Zero reportable spills or misapplications entering water bodies						
SFM Objective: Maintenance of water quality							

STATUS AND COMMENTS:

There were no spills or misapplications of any chemical or petroleum products in 2009.

REVISIONS:

No revisions are suggested for this indicator or objective.



2.27 STREAM CROSSING QUALITY INDEX

Indicator Statement	Target Statement					
Maximum Stream Crossing Quality Index (SCQI) by watershed	The maximum SCQI score is 0.40 by watershed					
SFM Objective: We will maintain water quality and quantity.						

STATUS AND COMMENTS:

In the 2009 field season 54 crossings were surveyed in the Gaylard watershed, 52 crossings in the Gething watershed, 54 crossings in the Lower Peace Reach residual and an additional 12 crossings in the Johnson watershed for a total of 172 crossings. Sampling of all the above mentioned watersheds is complete and based on the SCQI cumulative effects hazard rating there is a very low potential that surface erosion originating from stream crossings will lead to cumulative watershed effects.

The cumulative results to date are summarized by watershed in Table 17. All watersheds are below the maximum target level. The watersheds sampled in 2009 are shaded in the table.

Table 17: SCQI and Water Quality Concerns for Watersheds within TFL 48
- Sampling Completed 2001 to 2008

		E	Erosion Indices			Water Quality Concern Ratings				
Watershed Name	n	Stream Crossing Density Index	Sum of Stream Crossing Quality Scores	Stream Crossing Quality Index	Stream Width Class ¹	None % (#streams/ #streams sampled)	Low % (#streams/ #streams sampled)	Medium % (#streams/ #streams sampled)	High % (#streams/ #streams sampled)	
					1	0.0	0.0	0.0	0.0	
					2	66.7	33.3	0.0	0.0	
Gaylard	54	0.34	3.66	0.02	3	80.0	20.0	0.0	13.3	
					4	8.3	83.3	8.3	13.3	
					5	0.0	94.1	5.9	36.4	
					1	0.0	0.0	0.0	0.0	
Lower					2	0.0	0.0	0.0	0.0	
Lower Peace	54	0.38	2.38	0.02	3	57.1	42.9	0.0	0.0	
1 cace				_	4	6.1	93.9	0.0	0.0	
					5	0.0	100.0	0.0	0.0	
				1	0.0	0.0	0.0	0.0		
					2	50.0	50.0	0.0	0.0	
Gething	52	0.28	4.29	0.02	3	80.0	10.0	10.0	0.0	
					4	0.0	95.5	4.5	0.0	
					5	0.0	100.0	0.0	0.0	
					1	0.0	0.0	0.0	0.0	
					2	25.0	75.0	0.0	0.0	
Wolverine	51	0.28	16.2	0.09	3	60.0	0.0	0.0	40.0	
					4	46.7	33.3	13.3	6.7	
					5	18.5	44.5	33.3	3.7	
				· · · · · · · · · · · · · · · · · · ·	1	0.0	0.0	0.0	0.0	
Middle					2	66.7	0.0	0.0	33.3	
Wolverine	22	0.13	3.96	0.02	3	72.7	9.1	0.0	18.2	
**OIVCIIIC					4	50.0	50.0	0.0	0.0	
					5	75.0	25.0	0.0	0.0	



		Erosion Indices				Water	Quality Conce	rn Ratings	
Watershed Name	n	Stream Crossing Density Index	Sum of Stream Crossing Quality Scores	Stream Crossing Quality Index	Stream Width Class ¹	None % (#streams/ #streams sampled)	Low % (#streams/ #streams sampled)	Medium % (#streams/ #streams sampled)	High % (#streams/ #streams sampled)
					1	0	0	0	0
					2	0	66.7	33.3	0
Hasler	119	0.63	71.23	0.37	3	5.9	17.7	29.4	47.1
					4	3.3	26.7	26.7	43.3
					5 1	0	29.7	35.1 0	35.1 0
					2	20.0	40.0	0	40.0
Brazion	105	0.32	34.48	0.11	3	5.6	44.4	22.2	27.8
		****		• • • • • • • • • • • • • • • • • • • •	4	27.2	47.3	16.4	9.1
					5	22.2	55.6	14.8	7.4
					1	0	0	0	0
					2	0	0	100.0	0
Highhat	108	0.68	30.27	0.19	3	20.0	50.0	10.0	20.0
					4	21.3	42.6	23.0	13.1
					5	36.1	44.4	16.7	2.8
					2	100.0	100.0	0	0
Lower	61	0.46	23.32	0.17	3	16.7	25.0	33.3	25.0
Carbon		0.10	20.02	0.17	4	13.8	44.8	37.9	3.5
					5	11.1	33.3	38.9	16.7
					1	0	0	0	0
					2	100.0	0	0	0
Seven Mile	28	0.36	15.1	0.19	3	0	100.0	0	0
					4	0	27.8	38.9	33.3
					5	0	80.0	20.0	0
					1	0	0	0	0
Eleven Mile	37	0.17	5.31	0.02	3	33.3 42.9	66.7 57.1	0	0
Lieven iville	37	0.17	3.31	0.02	4	35.0	55.0	10.0	0
					5	14.3	57.1	28.6	0
					1	0	0	0	0
East and					2	0	0	0	0
West	39	N/A ²	N/A ²	N/A ²	3	0	50.0	37.5	12.5
Carbon					4	0	32.0	48.0	20.0
					5	0	66.7	33.3	0
					1	0.0	0.0	0.0	0.0
Lower	191	0.36	70.63	0.13	3	0.0 10.0	66.7 30.0	0.0 15.0	33.3 45.0
Sukunka	131	0.30	70.00	0.13	4	20.2	41.5	10.6	27.7
					5	28.8	37.0	23.3	10.9
					1	100	0.0	0.0	0.0
l loos:					2	0.0	100.0	0.0	0.0
Upper Sukunka	90	N/A ²	N/A ²	N/A ²	3	30.0	20.0	20.0	30.0
Junuma					4	18.8	43.7	18.8	18.7
					5	31.0	34.5	31.0	3.4
					1	0.0	0.0	0.0	0.0
Lower Bine	44	0.27	17 44	0.11	2	0.0	0.0	0.0	0.0
Lower Pine	44	0.27	17.44	0.11	3 4	0.0 16.7	50.0 46.7	50.0 13.3	0.0 23.4
					5	41.7	25.0	25.0	8.3
	<u> </u>			1	100	0.0	0.0	0.0	
					2	25	37.5	25	12.5
Burnt River	205	0.33	72.66	0.12	3	37.9	27.6	20.7	13.8
					4	37.3	22.9	19.3	20.4
					5	29.3	26.8	20.7	33.2



		Erosion Indices				Water	Quality Conce	rn Ratings	
Watershed Name	n	Stream Crossing Density Index	Sum of Stream Crossing Quality Scores	Stream Crossing Quality Index	Stream Width Class ¹	None % (#streams/ #streams sampled)	Low % (#streams/ #streams sampled)	Medium % (#streams/ #streams sampled)	High % (#streams/ #streams sampled)
					1	100.0	0.0	0.0	0.0
					2	50.0	50.0	0.0	0.0
Lower Murray	55	0.32	17.79	0.10	3	31.3	37.5	25.0	6.3
ividitay					4	10.7	71.4	3.6	14.3
					5	16.7	66.7	16.7	0.0
					1	100.0	0.0	0.0	0.0
Linnar					2	100.0	0.0	0.0	0.0
Upper Murray	154	0.86	32.18	0.18	3	54.5	27.3	13.6	4.5
Wanay				-	4	16.9	61.0	5.1	16.9
					5	52.4	11.1	25.4	11.1
					1	100.0	0.0	0.0	0.0
Lower					2	75.0	25.0	0.0	0.0
Wolverine	63	0.27	19.30	0.08	3	36.4	63.6	0.0	0.0
TTO TTO THE					4	31.0	40.5	4.8	23.8
					5	40.0	40.0	0.0	20.0
					1	100.0	0.0	0.0	0.0
Upper Pine					2	55.6	33.3	11.1	0.0
Residual	133	0.33	36.75	0.09	3	14.8	59.3	18.5	7.4
riosiduai					4	29.5	51.1	10.2	9.1
					5	37.5	25.0	37.5	0.0
					1	0.0	0.0	0.0	0.0
					2	75.0	25.0	0.0	0.0
Johnson	49	0.23	5.23	0.02	3	38.5	61.5	0.0	0.0
					4	54.2	37.5	4.2	4.2
					5	25.0	75.0	0.0	0.0

^{1. 1 =} greater than 20m, 2 = 5 to 20m, 3 = 1.5 to 5m, 4 = 0.5 to 1.5m, 5 = less than 0.5m

No revisions are suggested for this indicator or objective.

2.28 ACTION PLANS FOR HIGH WATER QUALITY CONCERN RATING (WQCR)

Indicator Statement	Target Statement				
Number of crossings with a High Water Quality Concern (WQCR) with actions plans prepared within one year of discovery	100% of High WQCR crossings will have action plans prepared within one year of discovery				
SFM Objective: We will maintain water quality and quantity.					

STATUS AND COMMENTS:

Action plans for surveys completed in 2009 are not required as the risk imposed by our crossings to the watersheds are very low.

REVISIONS:

No revisions are suggested for this indicator or objective

^{2.} Erosion indices cannot be calculated because these areas are not true watersheds.



2.29 PEAK FLOW INDEX

Indicator Statement	Target Statement		
The percentage of watersheds within TFL 48 achieving baseline thresholds for Peak Flow Index	A minimum of 95% of the watersheds within TFL 48 will be below the baseline threshold		
SFM Objective: We will maintain water quality and quantity.			

STATUS AND COMMENTS:

A new projection of Peak Flow Index (PFI) has been completed for 2009. Currently 34 of 34 watersheds (100%) are meeting the PFI target. The projections completed in 2009 do not forecast as much harvesting as previous projections due to the change in how Forest Stewardship Plan (FSP) proposed harvest area blocks are displayed. These areas are generally significantly larger to facilitate consultation over a broader area and as such would over-represent the actual disturbance. Forecasting is now done for all areas which have been harvested or those areas which have had the actual fieldwork layout completed.

The information presented in this annual report forecasts disturbances and growth to 2012.

Table 18: Peak Flow Index Post Development Status

			Below H	60	Above H	60	H60	Post	
Watershed	H60 ELEV	Watershed ha	ha	ECA	ha	ECA	Weighted ECA (ha)	Development PFI (%)	Max PFI
Adams Creek	1,107	5,458	2,102	11.5	3,355	32.2	59.9	1.1%	43
Aylard Creek	1,036	5,456	2,100	81.6	3,356	317.7	558.2	10.2%	37
Basin "862"	853	4,884	1,725	55.4	3,159	226.1	394.5	8.1%	43
Beany Creek	958	3,899	1,537	43.9	2,362	26.7	84.0	2.2%	37
Brazion Creek	1,220	32,375	11,850	1,823.3	20,526	2,183.4	5,098.4	15.7%	37
Burnt Creek	1,185	62,161	23,413	3,552.9	38,748	3,936.2	9,457.2	15.2%	37
Cameron Creek	783	3,613	1,273	8.6	2,340	38.1	65.8	1.8%	50
Dunlevy Creek	1,047	17,007	6,549	280.9	10,459	535.6	1,084.4	6.4%	31
Eleven Mile	1,326	21,603	8,318	625.4	13,285	1,179.7	2,394.9	11.1%	43
Gaylard	1,029	15,638	5,780	860.6	9,858	1,160.9	2,602.0	16.6%	31
Gething	996	18,505	6,550	901.1	11,956	1,359.0	2,939.6	15.9%	31
Gwillim	1,066	4,488	1,586	63.6	2,902	205.1	371.2	8.3%	43
Hasler Creek	1,077	19,010	6,858	682.8	12,152	1,571.2	3,039.6	16.0%	37
Highat Creek	1,037	15,647	5,382	717.8	10,265	1,194.2	2,509.0	16.0%	43
Johnson	891	21,153	7,965	624.9	13,188	2,645.4	4,593.0	21.7%	37
Lebleu Creek	874	1,999	719	13.6	1,280	29.2	57.5	2.9%	50
LeMoray Creek	1,291	11,190	4,013	657.4	7,177	1,135.2	2,360.2	21.1%	37
Lower Carbon	1,057	13,167	4,992	711.3	8,176	528.5	1,504.0	11.4%	50
Lower Murray	1,066	17,398	6,308	441.5	11,091	445.4	1,109.7	6.4%	37
Lower Peace Reach	955	14,347	5,579	925.8	8,768	1,230.5	2,771.6	19.3%	50
Lower Pine Residual	923	16,228	5,713	485.7	10,515	1,410.9	2,602.1	16.0%	43
Lower Sukunka	904	54,089	18,791	1,319.1	35,298	2,404.7	4,926.1	9.1%	43
Lower Wolverine	1,161	23,241	8,678	954.1	14,563	1,602.1	3,357.3	14.4%	37
Medicine Woman Creek	975	1,876	718	0.0	1,158	0.0	0.0	0.0%	35
Middle Wolverine	1,205	17,585	6,549	616.1	11,036	2,290.8	4,052.2	23.0%	43
North Peace Residual	929	9,462	3,813	244.7	5,649	94.1	385.9	4.1%	50
Ruddy Creek	922	6,445	2,495	70.2	3,949	107.8	231.9	3.6%	31
Seven Mile	1,257	7,878	2,990	275.4	4,889	382.7	849.5	10.8%	43
Trapper Creek	1,179	7,571	2,616	0.3	4,955	130.6	196.2	2.6%	37
Upper Carbon	1,291	46,258	17,582	2,325.9	28,676	1,817.1	5,051.5	10.9%	37
Upper Murray	1,294	17,858	6,474	1,686.7	11,384	1,221.4	3,518.8	19.7%	37



			Below H	60	Above H	60	H60	Post	
Watershed	H60 ELEV	Watershed ha	ha	ECA	ha	ECA	Weighted ECA (ha)	Development PFI (%)	Max PFI
Upper Pine Residual	1,082	40,084	14,265	1,022.6	25,819	4,192.5	7,311.3	18.2%	37
Upper Sukunka	1,075	23,444	8,602	816.9	14,842	1,936.2	3,721.3	15.9%	43
Upper Wolverine	1,378	18,032	6,325	932.9	11,707	1,210.9	2,749.2	15.2%	37

No revisions are suggested for this indicator or objective.

2.30 WATERSHED REVIEWS

Indicator Statement	Target Statement		
The percentage of watersheds reviews completed where the baseline threshold is exceeded	100% of watersheds that exceed the baseline threshold will have a watershed review completed when new harvesting is planned		
SFM Objective: We will maintain water quality and quantity.			

STATUS AND COMMENTS:

Currently there are no watershed reviews required. There are no watersheds where the PFI is currently exceeded or proposed to be exceeded, (see Table 18). Each year this will be reassessed based upon growth and new areas proposed to be harvested. If it is forecasted that the PFI may be exceeded then a watershed review will be conducted.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.31 CARBON SEQUESTRATION

Indicator Statement	Target Statement	
DFA Average Carbon (C) sequestration rate (Mg C/year)	Maintain DFA average carbon sequestration rates that are no more than 15% less than those achieved using the minimum natural range of variation	
SFM Objective: We will maintain the processes for carbon uptake and storage within the natural range of variation.		

STATUS AND COMMENTS:

There has been no change in the status of this indicator since reported in SFMP 4. The next reporting of this indicator will be in 2010 or in conjunction with a change in the proposed harvest levels.

Following are two graphs, which provides an example of the average C sequestration rate for both an individual stand (Forecast AU 3 – Natural and Forecast AU 34 – Managed) and shows the average C sequestration rate over the whole DFA over time.



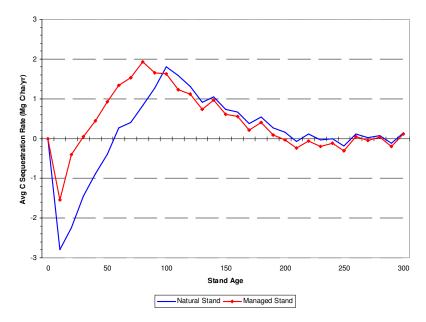


Figure 11: An Example of Average C Sequestration Rates for a Natural Spruce Leading BWBS Mesic Site Stand (Forecast AU 5) and an Associated Managed Stand (Forecast AU m³)

At the stand level there is a greater release of C to the atmosphere following the decomposition of the larger pool of dead organic matter (snags and CWD) in the natural stand which results in a lower sequestration rate during the first several decades of stand development (Figure 11). In the example provided, the average sequestration rate takes longer to return to positive values in the natural stand versus the managed stand. This is partly related to the fact that the harvested wood removed from the site during harvesting does not contribute to ecosystem C release to the atmosphere. Rather, it is assumed to be stored in wood products.

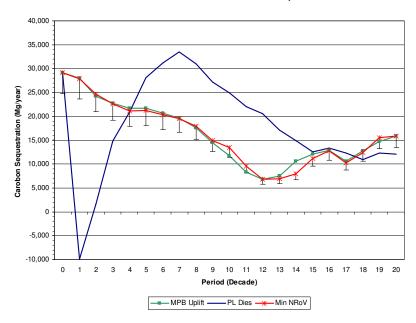




Figure 12: Carbon Sequestration (Mg C/year) within TFL 48 Over Time

At the DFA level the average sequestration rate declines from the present level of about 29,000 Mg C/yr over the next 120 years and stabilizes between 10,000 and 15,000 Mg C/yr in the long term. The decline from the current situation is due to the large amount of area (approximately 62%) that is between 40 and 140 years old and only 29% greater than 140 years old versus in 100 years the projection is that there will be only 31% of the land base between 40 and 140 years old and 58% greater than 140 years old. Over time the age class distribution is more evenly distributed with more area in younger stands and older stands with lower sequestration rates therefore the DFA level sequestration rate declines. For comparison purposes an estimate of the rate of C sequestration is provided for both the proposed AAC the sequestration rates using the minimum natural range of variation and the scenario where all pine is assumed to be killed in a mountain pine beetle outbreak.

There is no significant difference between the proposed harvest level and the minimum natural range of variation except for periods 10 and 11 in the simulation. After this point in time the sequestration rate is above or equivalent for the proposed harvest level.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.32 ECOSYSTEM CARBON STORAGE (MG) IN THE DFA

Indicator Statement	Target Statement
Ecosystem Carbon (C) Storage (Mg) in the DFA	Minimum of 95% of minimum natural range of variation disturbance levels of Ecosystem Carbon Storage
SFM Objective: We will maintain the processes for range of variation.	carbon uptake and storage within the natural

STATUS AND COMMENTS:

There has been no change in the status of this indicator since reported in SFMP 4. The next reporting of this indicator will be in 2010 or in conjunction with a change in the proposed harvest levels.

There is an estimated 122 million Mg of C currently stored in the TFL 48 ecosystem declining in the long term to approximately 76 million Mg of C (Figure 14). Both the C storage levels based on the proposed AAC and the minimum and maximum range of variation decline over the next 180 years and then stabilize for the remainder of the simulation. There is no significant difference between the different alternate strategies and the proposed strategy in ecosystem carbon storage over time.



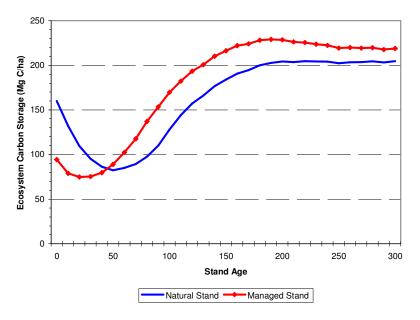


Figure 13: An Example of C Storage for a Natural Spruce Leading BWBS Mesic Site Stand (Forecast AU 5) and an Associated Managed Stand (Forecast AU m³)

For comparison a stand level graph (Figure 13) is provided which demonstrates a natural stand and its associated managed stand C storage levels over time. Note that while the natural stand started with more C remaining on the site after the disturbance the managed stand catches up in about 40 years.

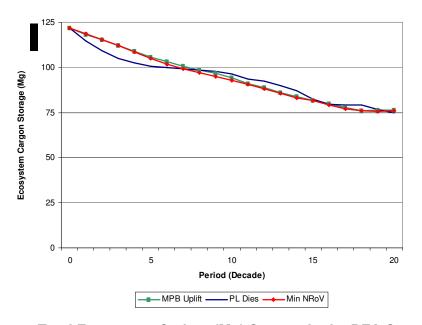


Figure 14: Total Ecosystem Carbon (Mg) Storage in the DFA Over Time

REVISIONS:

No revisions are suggested for this indicator or objective.



2.33 AREA OF FORESTED LAND

Indicator Statement	Target Statement	
Area of forested land lost due to non-forest industry	We will track and monitor losses to other non- forest industry uses and incorporate these losses into AAC calculation every 5 years	
SFM Objective: We will sustain forests within the DFA.		

STATUS AND COMMENTS:

There has been no change in the status of this indicator since reported in SFMP 4. The next reporting of this indicator will be in 2010 or in conjunction with a change in the proposed harvest levels.

During the term of MP 3 Canfor developed a spatial tracking system to identify what and where non-forest related activities were occurring within TFL 48. All activities proposed within TFL 48 are referred to Canfor and comments are provided which stress the objective of minimizing permanent removal of area from the forested land base. The following table (Table 19) shows reductions to the land base due to other uses.

Table 19: Reductions to Land Base Due to Other Uses (Excluding Roads²)

Feature	Total Area (ha)
Well sites ³	258
Mines 45	1,723
Pipelines	388
Cutlines	1,793
Trails	485
Transmission Lines	201
Grand Total	4,848

REVISIONS:

No revisions are suggested for this indicator or objective.

2.34 RANGE OPPORTUNITIES

Indicator Statement	Target Statement		
Annual minimum number of Animal Unit Months opportunity	We will maintain an annual minimum of 1,500 Animal Unit Months (excludes brush control by sheep grazing)		
SFM Objective: We will provide opportunities for a feasible mix of timber, recreational activities, visual quality, and non-timber commercial activities.			

STATUS AND COMMENTS:

The following table indicates the amount of grazing AUM's provided on TFL 48 in 2008. The reporting for this indicator was approved in 2008 for suspension until operations resumed at the Chetwynd facility.

² Roads are captured in Indicator 2.20 Permanent Access Corridors and are not easily separated as to which are used only by other industries or which are used only by the forest industry.

³ Includes camps, decking areas, borrow pits and sumps

⁴ Includes mines where clearing had started prior to December 2004 (Quintette, Pine Valley Coal and Dillon Mine). Other proposed mines are included as a sensitivity analysis.

⁵ Includes roads within mine-cleared areas.



Table 20: AUM's on TFL48 in 2008

Range Tenure	Total AUMs	TFL Proportion	TFL AUM's
RAN073263	104	1.2	1
RAN073616	366	26.5	97
RAN073876	1035	34.9	362
RAN074239	62	100	62
RAN074307	240	40.3	97
RAN075491	263	11.3	30
RAN075557	177	0.1	0
RAN075680	111	100	111
RAN075991	177	100	177
RAN076149	124	2.8	3
RAN076313	170	0	0
RAN076505	120	9.9	12
RAN076672	611	58.7	359
RAN077073	223	42.1	94
RAN077074	447	42.1	188
Total			1,593

With the resumption of operations at the Chetwynd facility this indicator will be reportable going forward.

2.35 MAINTENANCE OF VISUAL LANDSCAPE INVENTORY

Indicator Statement	Target Statement
Maintenance of Visual Landscape Inventory	We will maintain and update an approved visual landscape inventory
SFM Objective: We will provide opportunities for a quality, and non-timber commercial activities.	feasible mix of timber, recreational activities, visual

STATUS AND COMMENTS:

Canfor completed an update to the VLI in 1999, and provided recommended Visual Quality Objectives in March 2002. In 2005 the Ministry of Forests and Range subsequently reviewed all VLI's completed in the previous Dawson Creek Forest District and consolidated all information including Canfor's 1999 inventory, into one seamless VLI. During this process it was discovered that there were some errors in Canfor's previous VLI in that it did not contain some known scenic areas. The consolidated VLI polygons were classified into two separate classes, those with existing visual quality objectives (EVQO) and those new polygons (added in the Canfor 1999 VLI) with recommended visual quality classes (RVQC). The EVQO polygons including those previously missing from Canfor's data have been used in the base case timber supply analysis being completed in support of the SFMP 4. The RVQC polygons will be added to the EVQO areas and the impacts modeled in a sensitivity analysis. Pending the sensitivity analysis the MoFR will make a decision on establishing these as VQO's through a Government Actions Regulation Order. The analysis was completed and submitted to the MoFR in the summer of 2006. It is expected that the MoFR will formally establish all areas in the VLI in the near future.



Further work to VLI was conducted in 2008 and 2009 by the MoFR with the intent of having it become a GAR Order in the near future.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.36 PROPORTION OF HARVESTING CONSISTENT WITH VISUAL QUALITY OBJECTIVE

Indicator Statement	Target Statement	
Proportion of harvesting within known visual areas that are consistent with the Visual Quality Objective (VQO)	100% of harvesting within visual areas will be consistent with the Visual Quality Objective (VQO)	
SFM Objective: We will provide opportunities for a feasible mix of timber, recreational activities, visual quality, and non-timber commercial activities.		

STATUS AND COMMENTS:

In 2009 there were four blocks that were harvested within areas requiring visual quality objectives. These blocks were consistent with the VQOs.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.37 BACK COUNTRY CONDITION

Indicator Statement	Target Statement	
Proportion (%)of back country areas (ha) that are in a semi-primitive recreation opportunity spectrum (ROS) class	We will maintain or increase semi-primitive ROS in Klin se za, Bocock, Butler Ridge, Pine/Lemoray, Peace River/Boudreau and Elephant Ridge/Gwillim Protected Areas and manage Special Management Zones (Klin se za, North Burnt, Dunlevy) as per LRMP (See Table 21 for baseline)	
SFM Objective: We will provide opportunities for a feasible mix of timber, recreational activities, visual quality, and non-timber commercial activities.		

STATUS AND COMMENTS:

There has been no change to the status of this indicator since reported in the SFMP 4 in 2005. In 2009 there was no harvesting or road construction in or adjacent to any of the backcountry areas.

The baseline (2001) and current (2005) recreational opportunity spectrum for the stated Backcountry areas are shown on the following tables (Table 21 and Table 22). Over the term of MP 3 there was harvesting and road building activity in both the Dunlevy and North Burnt back country areas. Primary road construction, harvesting, silviculture activities and deactivation have been completed. The change in condition has moved approximately 945 ha in the Dunlevy and 1,798 ha in the North Burnt areas from semi-primitive non-motorized to the semi primitive motorized classification. This change is acceptable within this indicator as the deactivation and removal of bridges in the Dunlevy and North Burnt, and de-construction of the road access to CP 722 in the northern portion of the North Burnt area have maintained motorized access barriers.



Table 21: Baseline Condition – ROS Inventory

	ROS Class Baseline Condition – (2001)							
Back Country Area	Roaded		Roaded	Semi Primitive		Semi	Grand	
Duok Country Arou	Rural	Modified	Natural	Total	Motorized	Non Motorized	Primitive Total	Total
Bocock Peak						1,126	1,126	1,126
Butler Ridge			1,133	1,133	1,309	4,151	5,460	6,593
Dunlevy Creek			5,283	5,283	5,001	21,564	26,565	31,848
Elephant Ridge / Gwillim		12		12		2,801	2,801	2,813
North Burnt		53		53	6,076	10,683	16,759	16,813
Peace River / Boudreau	990			990		1,219	1,219	2,209
Pine - Lemoray					882	2,260	3,142	3,142
Klin Se Za			0	0		2,668	2,668	2,669
Klin Se Za Headwaters			7,140	7,140	137	10,581	10,718	17,857
Klin Se Za Mountain			1,711	1,711		4,639	4,639	6,350
Grand Total	990	65	15,266	16,321	13,404	61,694	75,098	91,419

Table 22: Current Condition – ROS Inventory Updated to June 2005

	ROS Class (2005))							
Back Country Area		Roaded			Semi Primitive		Semi	Grand
	Rural	Modified	Natural	Roaded Total	Motorized	Non Motorized	Primitive Total	Total
Bocock Peak						1,126	1,126	1,126
Butler Ridge			1,133	1,133	1,309	4,151	5,460	6,593
Dunlevy Creek			5,283	5,283	5,946	20,619	26,565	31,848
Elephant Ridge / Gwillim		12		12		2,801	2,801	2,813
North Burnt		53		53	7,874	8,886	16,759	16,813
Peace River / Boudreau	990			990		1,219	1,219	2,209
Pine - Lemoray					882	2,260	3,142	3,142
Klin Se Za			0	0		2,668	2,668	2,669
Klin Se Za Headwaters			7,140	7,140	137	10,581	10,718	17,857
Klin Se Za Mountain			1,711	1,711		4,639	4,639	6,350
Grand Total	990	65	15,266	16,321	16,147	58,951	75,098	91,419

No revisions are suggested for this indicator or objective.

2.38 RECREATIONAL SITES

Indicator Statement	Target Statement		
Number of recreational trails and campsites maintained by Canfor	Canfor will provide and/or maintain a minimum of one trail and three recreation campsites on the DFA		
SFM Objective: We will provide opportunities for a feasible mix of timber, recreational activities, visual quality and non-timber commercial values.			



STATUS AND COMMENTS:

Canfor currently maintains the Gething Creek, Carbon Lake and Wright Lake campsites and the 11 Mile Lake Trail. The Gething and Carbon are road access sites. Wright Lake campsite is a remote wilderness site with off highway vehicle or hiking access. The 11 Mile Lake trailhead is road accessible and with a gentle hike you can be in the alpine in just a few hours. All of these recreational values provide a number of outdoor activities (hunting, fishing, hiking and canoeing). All of the above recreational sites can be accessed from the Johnson Creek FSR.

The Carbon Lake and Gething Creek campsites were in good condition. The other sites were not inspected and the condition of these sites cannot be verified.

REVISIONS:

No revisions are suggested for this indicator or objective

2.39 HARVEST LEVELS/VOLUMES

Indicator Statement	Target Statement	
Harvest levels/volumes	Harvest volumes will not exceed 110% of the 5 year periodic cut control volume for the DFA	
SFM Objective: We will ensure that harvest levels do not adversely impact the long term harvest level.		

STATUS AND COMMENTS:

In 2007 the deputy Chief Forester determined a new AAC for TFL 48. Canfor's allocation in 2009 was 683,082 m³ and BCTS allocation was 54,330 m³. Canfor harvested 22.1% and BCTS 89.8% of the available allocation in 2009.

Table 23: Actual Recorded and Allowable Annual Cut Summary

	C	E	Deciduous					
Year	Allowable Annual Cut (m³)	Adjustment (m³)	Actual Recorded Cut (m³)	Cut Control (%)	Allowable Allocation (m³)	Actual Recorded Cut (m³)	Allocation (%)	Harvest Summary
1987-1991	1,742,500.0		1,787,732.0	102.6				
1992-1996	1,742,500.0	-41,572.0	1,659,920.5	97.6				
1997-2001	2,025,193.0	82,580.0	1,953,224.2	92.7				
2002-2006	2,331,850.0	57,575.04	2,344,509.91	98.1	276,750.0	197,997.25	71.5	66,084.52
2007	595,973	0	488,418	82.0	56,026	0	0	60,931
2008	680,645	0	118,074	17.4	54,330	41,080	75.6	34,522
2009	683,082	0	150,959	22.1	58,630	106,820	196.6	23,189
Running Total	1,959,700	0	757,451	38.7	168,986	147,900	87.5	118,642

Source: MoF Annual Cut Control Letters (1987-2006)

REVISIONS:

No revisions are suggested for this indicator or objective

Note that this value represents the Ministries official billed volume. However based on Canfor's records the volume delivered to Canfor's scale was 431,324 m³ or 89.7% of the AAC. The difference is due to some problems with the Ministry's billing of stumpage at the end of the cut control annual period. The MoF reported this volume in 2004.

² BCTS volumes were reported using the MoFR Harvest Billing System reports.

³ This value represents the volume delivered from A77788 in 2005 as reported in the MoFR Harvest Billing System (HBS).

⁴ This value represents the volume delivered from A77788 in 2006 as reported in the MoFR Harvest Billing System (HBS).

⁵ This value represents the volume delivered as reported in the MoFR Harvest Billing System (HBS)



2.40 WASTE

Indicator Statement	Target Statement			
The percentage of blocks and roads assessed in which avoidable waste and residue levels are within the target range	Annually, 100% of cutblocks and roads will fall within the target avoidable waste and residue range			
SFM Objective: We will ensure that harvest levels do not adversely impact the long term harvest level.				

STATUS AND COMMENTS:

In 2009 there were a total of 4 blocks that had take or pay liability for avoidable waste and residue. In Cutting Permit 657 (blocks T4107, T4109, and T4145) there was a total of 9890m3 of timber that was left standing due to inoperable slopes or remaining volumes that were uneconomical to return to and harvest. CP 642 (block T4068) had 651m3 of standing volume remaining after harvesting that was due to areas of pine that were below and or near the timber merchantability specifications, partly windblown over, and on areas of cable harvest. The risk of the exceeded waste and residue target poses very little risk to the overlying objective of protecting the long term harvest level. Nearly all merchantable and economically viable volume could be harvested in the future. Blocks not yet surveyed will be in 2010 under snow free conditions.

REVISIONS:

No revisions are suggested for this indicator or objective

2.41 HARVEST METHOD

Indicator Statement	Target Statement			
Proportion (%) of coniferous harvesting area completed with conventional ground based methods by 5 year cut control period	A maximum of 81% of the coniferous harvesting area (ha) will be completed with conventional ground based methods by 5 year cut control period			
SFM Objective: We will ensure that harvest levels do not adversely impact the long-term harvest level.				

STATUS AND COMMENTS:

The following Figure 15 shows the status over the current cut control period 2007 – 2011. The status is that over this period 83% of the harvesting on has been completed using conventional ground based methods, with the remainder 17% being conducted with cable or aerial methods. 2007 is the beginning of the new cut control period and the target is to be met at the end of 2011. Figure 15 shows the progress towards meeting this target. While some harvesting was being done in cable areas in 2008 it was all on areas that had harvesting started in previous years and was reported in those respective years. This indicator records all the area based upon the year in which harvesting started.



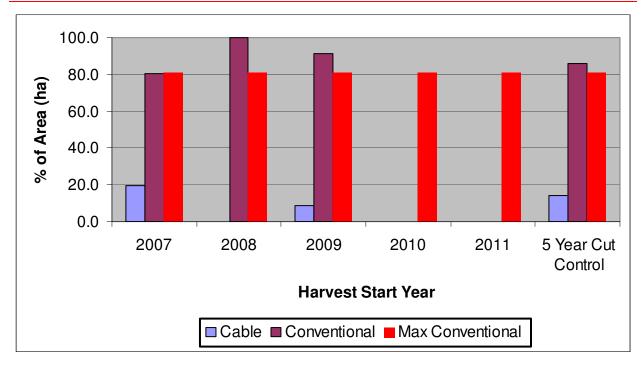


Figure 15: Proportion of Conventional Harvest Systems Used 2007-2011

No revisions are suggested for this indicator or objective.

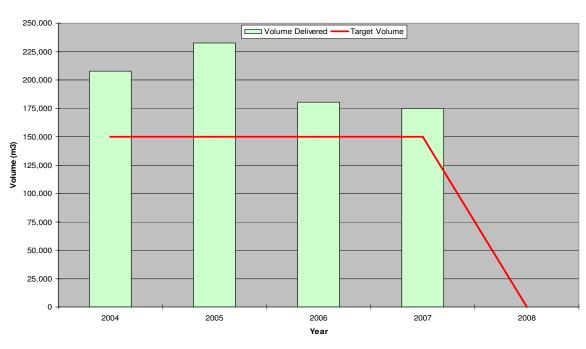
2.42 SUMMER AND FALL DELIVERIES

Indicator Statement	Target Statement		
Volume (m³) of timber delivered annually to Canfor Chetwynd mill between May 1st and October 31st	Minimum of 150,000 m ³ coniferous delivered to Canfor Chetwynd mill		
SFM Objective: We will maintain a local, up to date timber processing facility and infrastructure.			

STATUS AND COMMENTS:

This indicator has been suspended until the resumption of operations at the Chetwynd facility.





Summer and Fall Deliveries

Figure 16: Summer and Fall Deliveries

REVISIONS:

With the resumption of operations at the Chetwynd facility this indicator will be reportable going forward.

2.43 LOCAL EMPLOYMENT

Indicator Statement	Target Statement	
The proportion of dollars spent on local versus non-local contractors	A 5 year rolling average of 65% of local vs. non- local contractors and an annual minimum of 50% local versus non-local	
SFM Objective : We will ensure local communities and contractors have the opportunity to share in benefits such as jobs, contracts and sales.		

STATUS AND COMMENTS:

See Figure 17 for current status of this indicator. In 2009, not including stumpage, Canfor paid \$4.7MM to all vendors. Local vendors or contractors were paid \$3.8MM or 82% of total expenditures. The five-year rolling average from 2005 through 2009 saw 83% of expenditures made to local vendors or contractors.



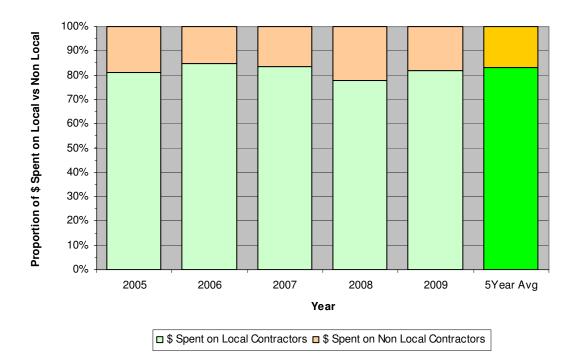


Figure 17: Proportion of Dollars Spent on Local vs Non-Local Contractors

No revisions are suggested for this indicator or objective.

2.44 COMMUNITY DONATIONS

Indicator Statement	Target Statement	
Canfor community donations per year	A minimum of \$7,000/year will be made available for community donations	
SFM Objective: We will ensure contributions and benefits to the community (ie. donations, training).		

STATUS AND COMMENTS:

This indicator has been suspended until the resumption of operations at the Chetwynd facility.

REVISIONS:

With the resumption of operations at the Chetwynd facility this indicator will be reportable going forward.

2.45 CONSISTENCY WITH THIRD PARTY ACTION PLANS

Indicator Statement	Target Statement		
Consistency with mutually agreed upon action plans for guides, trappers, range tenure holders, and other non-timber commercial interests	Operations 100% consistent with the resultant action plans		
SFM Objective: To help ensure distribution of benefits, cooperative relationships, across local stakeholders and First Nations.			



STATUS AND COMMENTS:

In 2009 there were no specific third party action plans developed.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.46 KNOWN VALUES AND USES ADDRESSED IN OPERATIONAL PLANNING

Indicator Statement	Target Statement
Percentage of known traditional site-specific aboriginal values and uses identified during SFMP, FDP, FSP, or PMP referrals addressed in operational plans	100% of known traditional site-specific aboriginal values and uses identified during SFMP, FDP, FSP, or PMP referrals will be addressed in operational plans
SFM Objective: We will recognize and respect Treaty 8 rights.	

STATUS AND COMMENTS:

In 2009 there were no known traditional site-specific aboriginal values and uses identified that were required to be addressed in operational plans. A non-traditional trail, the Jamieson Trail, was identified as possibly being in the vicinity of a permit that was submitted and approved in the East Pine operating area. The findings on this trail suggest it was established in the mid 1920's by settlers arriving into the area. Harvesting on this permit was postponed and an assessment will be conducted prior to harvesting.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.47 CONFORMANCE TO ELEMENTS PERTINENT TO TREATY RIGHTS

Indicator Statement	Target Statement
% conformance to SFM elements pertinent to treaty rights (i.e., hunting, fishing and trapping) defined in Treaty 8	100% conformance to the SFM indicators and targets of the SFM Elements pertinent to sustaining hunting, fishing and trapping, as follows:
	• Element 1.1 Ecosystem Diversity (Indicators 3.1, 3.2, 3.3, and 3.4), and Element 1.2 Species Diversity (Habitat Elements) Indicators (3.5, 3.4, 3.6, 3.7, 3.8, 3.9 and 3.10), and
	• Element 3.2 Water Quality and Quantity Indicators (3.26, 3.27, 3.28, 3.29, and 3.30)
SFM Objective: We will recognize and respect Treaty 8 rights, and respect known traditional aboriginal forest values and uses.	

STATUS AND COMMENTS:

In 2008 all indicators in Elements 1.1, 1.2 and 3.2 were met.

REVISIONS:

No revisions are suggested for this indicator or objective.



2.48 LRMP IMPLEMENTATION MEETINGS ATTENDED BY CANFOR

Indicator Statement	Target Statement
Proportion of LRMP implementation or update meetings attended by Canfor and BCTS	100% of meetings will be attended by Canfor and BCTS and information provided as required
SFM Objective: We will support land use processes including the LRMP implementation.	

STATUS AND COMMENTS:

There was one LRMP meeting held in November of 2009. BCTS attended the meeting however, a representative from Canfor was absent from the meeting resulting in this indicator having not been met.

Table 24: LRMP Meetings

Year	Number of LRMP Meetings	Number Attended by Canfor/BCTS
1999	2	2
2000	4	4
2001	4	4
2002	1	1
2003	0	0
2004	1	1
2005	1	1
2006	0	0
2007	1	1
2008	0	0
2009	1	1

REVISIONS:

No revisions are suggested for this indicator or objective.

2.49 PUBLIC ADVISORY COMMITTEE

Indicator Statement	Target Statement
Public Advisory Committee	We will establish and maintain Public Advisory Committee and hold at least one meeting annually
SFM Objective: We will have an effective and satisfactory process that enables public participation of stakeholders and First Nations.	

STATUS AND COMMENTS:

• There was one PAC meeting held in 2009. The purpose of this meeting was to review the annual report monitoring the implementation of SFMP 4.

Table 25: Public Advisory Committee Meetings

Year	Number of PAC Meetings
2000	8
2001	3
2002	3 (+1 field trip)
2003	1
2004	4
2005	5
2006	1



Year	Number of PAC Meetings
2007	1 (+ 1 field trip)
2008	1
2009	1

No revisions are suggested for this indicator or objective.

2.50 PUBLIC ADVISORY COMMITTEE TERMS OF REFERENCE

Indicator Statement	Target Statement
Terms of reference (TOR) for the Chetwynd TFL 48 DFA public participation process	Obtain PAC acceptance of TOR for public participation process bi-annually (every 2 years)
SFM Objective: We will have an effective and satisfactory process that enables public participation of stakeholders and First Nations.	

STATUS AND COMMENTS:

The first Terms of Reference (TOR) was agreed to with the PAC on March 7, 2000. The last review was on August 31, 2006. Minor changes have been made to the ToR between 2000 and 2006. The most significant changes were in 2006 with the addition of BCTS as a joint registrant on the DFA. The TOR was reviewed with the PAC in 2008; the next scheduled review will be in 2010.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.51 RESPONSE TO PUBLIC INQUIRIES

Indicator Statement	Target Statement
Percentage of timely responses to public inquiries	We will respond to 100% of public inquiries concerning our forestry practices within one month of receipt and provide summary to PAC annually
SFM Objective: We will have an effective and satisfactory process that enables public participation of stakeholders and First Nations.	

STATUS AND COMMENTS:

In 2009 there was one public complaint regarding the safety of the Johnson Forest Service Road and missing kilometer marker boards. Missing marker signs were promptly replaced and others that were obscured by brush were cleared to increase visibility.

REVISIONS:

No revisions are suggested for this indicator or objective.



2.52 DISTRIBUTION/ACCESS TO SFM PLAN, ANNUAL REPORTS AND AUDIT RESULTS

Indicator Statement	Target Statement
Distribution/access to SFM Plan, Annual Reports and Audit Results	All SFM plans, annual reports, and audit reports will be made available on Canfor's website (http://www.canfor.com/sustainability/certification/csa.asp), others upon request and distributed to PAC members and advisors
SFM Objective: We will provide information to public and First Nations about forest ecosystem values and management.	

STATUS AND COMMENTS:

The SFM plan for TFL 48 is available on Canfor's website at the following location (http://www.canfor.com/sustainability/certification/csa.asp). Also included are copies of annual reports and summaries of the 3rd party external audits completed on TFL 48. Copies of the above have been circulated to members of the PAC and advisors as well.

The 2009 annual report is posted at essentially the same time as distribution to the Public Advisory Committee.

REVISIONS:

No revisions are suggested for this indicator or objective.

2.53 SPATIAL FORECASTING AND ANALYSIS

Indicator Statement	Target Statement
Spatial forecasting and analysis models	We will use spatial forecasting and analysis models to develop strategic SFM analysis and rotation length plans for SFMP 4
SFM Objective: We will improve and apply knowledge of forest ecosystems, values and management.	

STATUS AND COMMENTS:

Canfor has chosen to use the Remsoft Spatial Planning System (Woodstock v3.2, Spatial Woodstock and Stanley v5) for the timber supply analysis completed in support of this SFM plan and the AAC determination. The next report will be done in conjunction with the next timber supply analysis.

REVISIONS:

No revisions are suggested for this indicator or objective.



2.54 CURRENCY OF VEGETATION RESOURCE INVENTORY

Indicator Statement	Target Statement
Currency of vegetation inventory	We will use up-to-date vegetation inventory
SFM Objective: We will improve and apply knowledge of forest ecosystems, values and management.	

STATUS AND COMMENTS:

Phase I for TFL 48 was completed in 2000 and Phase II including Net Volume Adjustment Factoring (NVAF) was completed in 2004. The VRI was updated to account for activities and depletion to the end of 2004 due to harvesting, road construction and uses by other industrial users. Ages, heights and volumes were projected to 2005. This is the information that formed the basis for the analysis of this SFM plan and the associated timber supply analysis.

Height, age, and net merchantable volume were adjusted as a result of the Phase II and NVAF sampling completed on TFL 48. TSR volume is defined as the net merchantable volume at the 12.5cm+ utilization level in lodgepole pine leading stands and the 17.5cm+ level in all other stands. After adjustment, the average height increased by 5%, age decreased by 7% and TSR volume increase by 34%. The TSR volume increased by 18% in the high priority sample areas (those mature areas most likely to contribute to the timber harvesting land base) (JS Thrower & Associates 2005).

REVISIONS:

No revisions are suggested for this indicator or objective.