

SUSTAINABLE FOREST MANAGEMENT PLAN

2002 ANNUAL REPORT Final

Canadian Forest Products Ltd.
Peace Region
Chetwynd Operations — TFL 48



Canadian Forest Products Ltd.

Chetwynd
Chetwynd, BC V0C 1J0

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Prepared by:

Warren Jukes, RPF
Management Forester

Don Rosen
Forest Inventory Specialist

Ted Newbery
Consultant

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EXECUTIVE SUMMARY

The following table summarizes suggested revisions or significant progress to indicators in the 2002 Annual Report:

Indicator	Synopsis of Significant Revisions, Progress or Methodology
4 – Indicator Species	The number of plants at risk has been reduced due to research findings excluding many plants from the TFL.
5 – Habitat Supply for Indicator Species	Models for all 12 species have been completed. Recommend removing Mountain Goat and Trumpeter Swan from the species of interest for TFL 48 Habitat Modelling. Recommend that forecasting is completed in conjunction with MP 4
7 – Collection and Use of Registered Seed	Exceptions are reported. Recommend changes to wording of indicator and objective to make it more explicit as to intent.
13 – Coarse Woody Debris	VRI phase II sampling completed.
23 – Hazards to Watercourses	Recommend removal of this indicator and objective
24 – Sediment Levels	Recommend change to wording of indicator to be consistent with objective
25 – Stream Flows	Five new drainages have been modelled. Recommend change to wording of indicator to be consistent with objective.
28 – Sawmill LRF, CRF and Shipment of Mini-Chips	Revised targets proposed
42 – LRMP and Land Use Plans	Indicator no longer monitored, capture intent in SFMP. To be completed in MP 4.
51-2 – Vegetation Inventory	VRI ground sampling and statistical analysis completed.

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We would 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.

1 INTRODUCTION & OVERVIEW

Canadian Forest Products Ltd. (Canfor) achieved registration under the Canadian Standards Association CAN/CSA Z809-96 Sustainable Forest Management Standards for Tree Farm Licence (TFL) 48's (see Figure 1) forestry operations in July 2000, and re-registration in 2002. In partial fulfilment of achieving that registration, a public group — the Chetwynd Public Advisory Committee (PAC) — was formed at the beginning of 2000 to help Canfor identify quantifiable local-level Indicators and Objectives of sustainable forest management. The original 52 Indicators and Objectives identified by the PAC were detailed with associated forest management practices to achieve those objectives in Management Plan 3 for Tree Farm Licence 48 (Canfor, 2000 and 2001). The 2002 Annual Report is a summary report on the status of each indicator and provides revisions to several indicators, objectives, or the way they are measured. Currently there are a total of 53 indicators, which is up from 52 previously. Four of these indicators are no longer active. The 2002 Annual Report is the third time annual reporting has been undertaken.

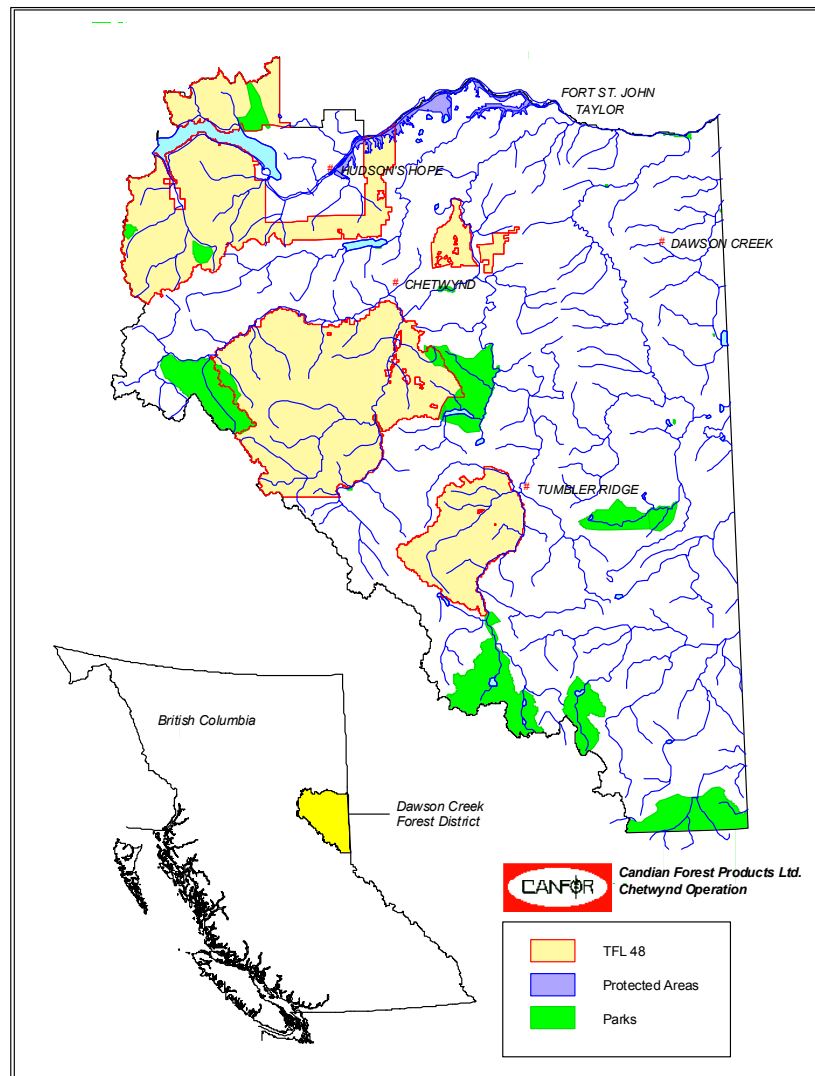


Figure 1: Tree Farm Licence 48

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 Management Plan 3 for Tree Farm Licence 48 (Canfor, 2001).

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).*

Comments and suggestions on the format of the annual report received during the Canfor internal audit have been incorporated where possible to help make the report more meaningful and easier to use by not having to refer to multiple documents.

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. No new information was provided by Louisiana-Pacific as no activities occurred on the TFL in 2002.

2 SFM INDICATORS AND OBJECTIVES

The format of each status report is described below:

X.X INDICATOR NAME

Indicator:	Objective:
#. A reiteration of the Indicator as identified in the SFM matrix.	A reiteration of the Objective as identified in the SFM matrix.

STATUS AND COMMENTS

This section provides an update on the status of each Indicator and Objective. The best information available up to and including December 31 2002 (except where noted) was used for the preparation of this status report.

REVISIONS

When required, this section describes Canfor's suggested revisions to details (i.e., wording, reporting periods) of the Indicator and Objective. These revisions will be presented to the PAC for their review.

2.1 CONSERVATION OF BIOLOGICAL DIVERSITY

Indicator:	Objective:
1. Forest type and seral stage distribution	1-1 We will sustain forest types over time. 1-2 We will sustain seral stage within the natural range over time.

2.1-1 Forest Types Over Time

STATUS AND COMMENTS

There is no new information to present for this indicator. Canfor will continue to develop a tracking system over the term of MP 3 to track forest types over time. The status of this indicator was reported in MP 3 shown in Table 1.

Table 1: Forest Types March 2000

Forest Type	Area ('000 ha)	%
Coniferous	455	80%
Mixed-Coniferous	28	5%
Mixed-Deciduous	19	3%
Deciduous	69	12%
Totals	571	100%

Source: VRI 1999

REVISIONS

No revisions are suggested for this indicator or objective.

There has been one small change in the information for seral stage completed in 2002. The SBFEP completed a major amendment to their FDP. Information as provided in the 2001 annual report has not changed with the exception of the Gething Landscape Unit in the ESSFmv2 and SBSwk2 BEC variants. Table 2 has been updated to reflect this change. There was no impact to the targets or variances as a result of this amendment.

2.1-2 Seral Stage Over Time

STATUS AND COMMENTS

Figure 2 shows the seral stage distribution as of October 2001 and the distribution after the proposed development. Table 2 shows seral distribution by landscape unit and biogeoclimatic unit.

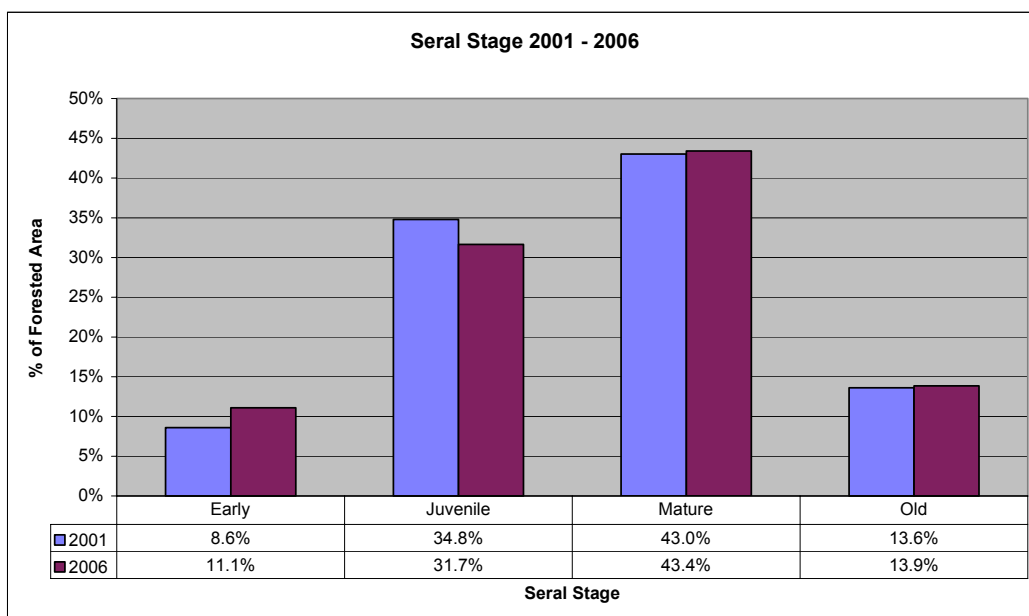


Figure 2: 2001 - 2006 Seral Stage Summary for TFL 48

The seral stage distribution for 2001 is based on the updated Vegetation Resource Inventory (VRI) to October 2001 and the 2006 seral stage distribution is based on the draft FDP submitted in January 2002, approved September 9, 2002 by the Ministry of Forests and the 2001-2005 FDP major amendment conducted by SBFEP.

October 2001 was chosen as the reporting period rather than December 31, 2001 to facilitate analysis of the 2002 – 2007 Forest Development Plan prior to submission in January 2002.

Table 2: Seral Stages 2001 and 2006

Seral Stage Area (ha) of Productive Forest by Landscape Unit / BEC Zone for 2001 and 2006

Landscape Unit		BEC		Seral Stage																Total Forested Area	
				Early				Juvenile				Mature				Old					Old Target
				2001		2006		2001		2006		2001		2006		2001		2006			
Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Surplus / Deficit	Area	%	Surplus / Deficit				
BOUCHER	BWBSmw 1-C	1,509	13.3%	1,706	15.0%	5,241	46.1%	5,228	46.0%	3,802	33.5%	3,651	32.1%	807	7.1%	-125	776	6.8%	-156	8.2%	11,359
	BWBSmw 1-D	162	1.0%	992	6.2%	8,864	55.3%	8,659	54.0%	2,987	18.6%	2,764	17.2%	4,009	25.0%	2,455	3,607	22.5%	2,052	9.7%	16,022
	BWBSwk 1-C	442	8.4%	1,765	33.5%	1,374	26.1%	1,349	25.6%	3,094	58.8%	1,837	34.9%	354	6.7%	-78	315	6.0%	-117	8.2%	5,264
	BWBSwk 1-D	8	0.4%	89	4.9%	855	47.2%	842	46.5%	517	28.6%	489	27.0%	431	23.8%	255	390	21.5%	214	9.7%	1,810
	SBS wk 2	5	0.6%	5	0.5%	881	92.5%	882	92.5%	66	7.0%	66	7.0%		0.0%	-64		0.0%	-64	6.7%	953
BOUCHER Total		2,126	6.0%	4,556	12.9%	17,215	48.6%	16,959	47.9%	10,467	29.6%	8,806	24.9%	5,600	15.8%		5,087	14.4%			35,408
BURNT-LEMORAY	AT	7	6.4%		0.0%	77	67.5%	85	73.9%	30	26.1%	30	26.1%		0.0%			0.0%		N/A	114
	BWBSmw 1-C	0	0.0%		0.0%	2	20.1%	2	20.1%	0	0.1%	0	0.0%	7	79.8%	6	7	79.9%	6	8.2%	8
	BWBSmw 1-D		0.0%		0.0%	1	2.5%	1	2.5%	2	4.0%	2	4.0%	41	93.4%	36	41	93.4%	36	9.7%	43
	ESSFwc 3	2,006	4.8%	710	1.7%	16,364	39.3%	14,882	35.8%	19,735	47.4%	21,715	52.2%	3,501	8.4%	-2,407	4,299	10.3%	-1,609	14.2%	41,606
	ESSFwcp3	57	2.0%		0.0%	2,539	87.5%	2,515	86.7%	306	10.5%	387	13.3%	0	0.0%		0	0.0%		N/A	2,902
	ESSFwk 2	4,491	11.5%	4,949	12.7%	12,941	33.1%	10,606	27.1%	14,644	37.5%	15,846	40.6%	6,988	17.9%	1,441	7,662	19.6%	2,115	14.2%	39,064
SBS wk 2	2,213	9.6%	2,606	11.3%	8,389	36.4%	7,268	31.6%	11,127	48.3%	11,681	50.7%	1,298	5.6%	-245	1,471	6.4%	-72	6.7%	23,027	
BURNT-LEMORAY Total		8,776	8.2%	8,266	7.7%	40,312	37.8%	35,358	33.1%	45,843	42.9%	49,661	46.5%	11,834	11.1%		13,480	12.6%			106,765
CARBON	AT	0	0.0%	0	0.0%	212	99.3%	212	99.3%	1	0.7%	1	0.7%		0.0%			0.0%		N/A	214
	BWBSmw 1-C		0.0%		0.0%	5	46.2%	5	46.2%	5	53.8%	5	53.8%		0.0%	-1		0.0%	-1	8.2%	10
	BWBSmw 1-D		0.0%		0.0%	5	29.8%	5	29.8%		0.0%		0.0%	12	70.2%	10	12	70.2%	10	9.7%	17
	ESSFmv 2	1,462	3.2%	2,549	5.5%	13,805	29.9%	12,732	27.6%	27,120	58.7%	27,243	59.0%	3,777	8.2%	684	3,640	7.9%	547	6.7%	46,164
	ESSFmvp2	19	0.6%	19	0.6%	2,397	76.7%	2,367	75.7%	709	22.7%	738	23.6%	0	0.0%		0	0.0%		N/A	3,125
	ESSFwc 3		0.0%	178	1.8%	1,546	15.9%	1,545	15.9%	6,385	65.9%	6,213	64.1%	1,765	18.2%	388	1,761	18.2%	384	14.2%	9,696
	ESSFwcp3		0.0%		0.0%	885	62.7%	885	62.7%	523	37.0%	523	37.0%	5	0.3%		5	0.3%		N/A	1,413
	ESSFwk 2	41	0.9%	421	9.6%	297	6.8%	297	6.8%	2,133	48.8%	1,884	43.1%	1,901	43.5%	1,280	1,770	40.5%	1,149	14.2%	4,371
SBS wk 2	2,535	16.7%	2,861	18.8%	746	4.9%	650	4.3%	11,179	73.6%	10,931	72.0%	732	4.8%	-285	751	4.9%	-267	6.7%	15,192	
CARBON Total		4,057	5.1%	6,028	7.5%	19,898	24.8%	18,698	23.3%	48,055	59.9%	47,538	59.3%	8,192	10.2%		7,939	9.9%			80,203
DUNLEVY	AT	0	0.5%	0	0.5%	75	79.1%	75	79.1%	19	20.4%	19	20.4%		0.0%			0.0%		N/A	94
	BWBSmw 1-C	1,474	14.2%	1,805	17.4%	2,883	27.8%	2,771	26.8%	4,725	45.6%	4,506	43.5%	1,276	12.3%	426	1,276	12.3%	426	8.2%	10,358
	BWBSmw 1-D	555	6.0%	682	7.4%	4,527	49.3%	4,752	51.7%	626	6.8%	466	5.1%	3,475	37.8%	2,584	3,283	35.7%	2,392	9.7%	9,183
	BWBSwk 2-C	1,177	15.9%	1,445	19.5%	2,436	32.9%	2,395	32.4%	2,896	39.1%	2,842	38.4%	892	12.0%	285	719	9.7%	112	8.2%	7,401
	BWBSwk 2-D	11	0.2%	293	5.7%	1,440	28.1%	1,330	26.0%	723	14.1%	754	14.7%	2,950	57.6%	2,453	2,748	53.6%	2,251	9.7%	5,125
	ESSFmv 4	1,149	9.8%	1,572	13.4%	7,007	59.7%	6,976	59.4%	3,564	30.4%	3,164	26.9%	23	0.2%	-764	31	0.3%	-756	6.7%	11,743
SBS wk 2	39	2.7%	36	2.5%	876	61.6%	879	61.8%	503	35.4%	504	35.4%	3	0.2%		3	0.2%		N/A	1,422	
DUNLEVY Total		4,406	9.7%	5,833	12.9%	19,244	42.5%	19,178	42.3%	13,056	28.8%	12,255	27.0%	8,619	19.0%		8,060	17.8%			45,325
EAST PINE	BWBSmw 1-C	920	15.7%	1,490	25.5%	305	5.2%	312	5.3%	4,405	75.2%	3,868	66.1%	225	3.8%	-256	185	3.2%	-295	8.2%	5,855
	BWBSmw 1-D	884	6.4%	1,809	13.1%	4,984	36.2%	4,995	36.3%	693	5.0%	964	7.0%	7,213	52.4%	5,877	6,006	43.6%	4,670	9.7%	13,774
EAST PINE Total		1,805	9.2%	3,156	16.1%	5,289	26.9%	5,306	27.0%	5,099	26.0%	4,832	24.6%	7,437	37.9%		6,334	32.3%			19,629

Seral Stage Area (ha) of Productive Forest by Landscape Unit / BEC Zone for 2001 and 2006		Seral Stage																		Total Forested Area	
		Early				Juvenile				Mature				Old							
		2001		2006		2001		2006		2001		2006		2001		2006		Surplus / Deficit	Old Target		
Landscape Unit	BEC	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%	Area	%				
GETHING	BWBSmw 1-C	2,674	29.4%	2,816	31.0%	764	8.4%	748	8.2%	2,476	27.3%	1,827	20.1%	3,168	34.9%	2,423	3,690	40.6%	2,946	8.2%	9,082
	BWBSmw 1-D	395	15.7%	49	2.0%	234	9.3%	600	23.9%	31	1.2%	29	1.2%	1,849	73.7%	1,605	1,830	73.0%	1,587	9.7%	2,508
	ESSFmv 2	2,607	10.8%	3,549	14.8%	3,509	14.6%	3,417	14.2%	17,655	73.4%	16,804	69.9%	269	1.1%	-1,341	269	1.1%	-1,341	6.7%	24,039
	ESSFmvp2		0.0%		0.0%	98	92.4%	98	92.4%	8	7.6%	8	7.6%		0.0%			0.0%		N/A	106
	SBS wk 2	4,566	22.7%	5,844	29.0%	973	4.8%	986	4.9%	14,411	71.6%	13,120	65.2%	183	0.9%	-1,166	183	0.9%	-1,166	6.7%	20,133
GETHING Total		10,241	18.3%	12,258	21.9%	5,578	10.0%	5,849	10.5%	34,581	61.9%	31,788	56.9%	5,469	9.8%		5,973	10.7%			55,869
HIGHHAT	BWBSmw 1-C	198	2.6%	496	6.5%	2,728	35.9%	2,293	30.2%	2,851	37.5%	2,527	33.3%	1,823	24.0%	1,200	2,284	30.1%	1,661	8.2%	7,600
	BWBSmw 1-D	92	1.1%	413	4.8%	1,641	19.1%	919	10.7%	3,940	45.8%	3,441	40.0%	2,932	34.1%	2,097	3,831	44.5%	2,997	9.7%	8,604
	BWBSwk 1-C	1	13.9%	1	13.9%		0.0%		0.0%	0	4.5%	0	4.5%	8	81.6%	8	8	81.6%	8	8.2%	10
	ESSFmv 2	2,032	6.5%	4,300	13.7%	15,068	48.1%	11,671	37.3%	13,213	42.2%	14,336	45.8%	995	3.2%	-2,042	1,001	3.2%	-2,036	9.7%	31,308
	ESSFwc 3	0	0.0%		0.0%	7	91.6%	4	55.8%	1	8.4%	4	44.2%		0.0%	-1		0.0%	-1	14.2%	8
	ESSFwk 2	0	0.0%	371	14.6%	1,450	57.0%	947	37.2%	963	37.9%	1,130	44.4%	130	5.1%	-231	96	3.8%	-265	14.2%	2,544
SBS wk 2	2,362	6.3%	3,933	10.5%	15,106	40.3%	12,884	34.4%	18,712	49.9%	19,717	52.6%	1,282	3.4%	-1,228	928	2.5%	-1,582	6.7%	37,462	
HIGHHAT Total		4,685	5.4%	9,514	10.9%	36,002	41.1%	28,719	32.8%	39,680	45.3%	41,155	47.0%	7,170	8.2%		8,149	9.3%			87,537
MARTIN CREEK	BWBSmw 1-C	2,001	15.8%	2,772	22.0%	3,861	30.6%	3,283	26.0%	4,323	34.2%	3,932	31.1%	2,442	19.3%	1,407	2,640	20.9%	1,604	8.2%	12,627
	BWBSmw 1-D	58	0.5%	617	5.9%	2,984	28.4%	2,157	20.5%	3,252	30.9%	3,132	29.8%	4,224	40.2%	3,204	4,612	43.8%	3,592	9.7%	10,518
	BWBSwk 1-C	1,422	7.6%	2,306	12.3%	5,008	26.8%	3,958	21.2%	8,912	47.7%	8,634	46.2%	3,348	17.9%	1,815	3,791	20.3%	2,258	8.2%	18,689
	BWBSwk 1-D	48	2.2%	88	4.0%	869	39.7%	674	30.8%	831	38.0%	952	43.5%	440	20.1%	228	474	21.7%	262	9.7%	2,188
	ESSFmv 2	75	0.6%	788	5.9%	7,022	52.1%	5,223	38.8%	6,161	45.7%	7,236	53.7%	219	1.6%	-684	228	1.7%	-675	6.7%	13,476
MARTIN CREEK Total		3,603	6.3%	6,572	11.4%	19,743	34.3%	15,296	26.6%	23,479	40.8%	23,886	41.5%	10,673	18.6%		11,745	20.4%			57,498
WOLVERINE	AT	8	1.3%		0.0%	639	98.1%	641	98.5%	4	0.6%	10	1.5%		0.0%			0.0%		N/A	651
	BWBSmw 1-C	441	10.9%	712	17.5%	756	18.6%	708	17.4%	1,275	31.4%	938	23.1%	1,589	39.1%	1,256	1,703	41.9%	1,370	8.2%	4,061
	BWBSmw 1-D	7	0.5%	63	4.3%	469	31.7%	418	28.2%	355	23.9%	350	23.6%	650	43.9%	507	651	43.9%	507	9.7%	1,481
	BWBSwk 1-C	408	7.8%	1,266	24.2%	1,483	28.3%	1,200	22.9%	992	19.0%	961	18.4%	2,351	44.9%	1,922	1,806	34.5%	1,377	8.2%	5,233
	BWBSwk 1-D	4	0.3%	53	3.6%	915	63.1%	843	58.1%	153	10.6%	215	14.8%	378	26.1%	238	340	23.4%	199	9.7%	1,451
	ESSFmv 2	4,926	14.4%	1,767	5.1%	17,301	50.4%	18,689	54.5%	9,588	27.9%	11,169	32.5%	2,504	7.3%	204	2,695	7.9%	395	6.7%	34,319
	ESSFmvp2	154	5.0%		0.0%	2,042	65.8%	1,963	63.3%	902	29.1%	1,112	35.9%	5	0.2%		28	0.9%		N/A	3,103
	ESSFwc 3	55	1.0%	225	4.0%	921	16.5%	859	15.4%	3,470	62.1%	3,379	60.5%	1,142	20.4%	349	1,126	20.1%	332	14.2%	5,588
	ESSFwcp3	0	0.0%		0.0%	1,141	63.1%	1,130	62.4%	631	34.9%	638	35.2%	37	2.1%		42	2.3%		N/A	1,810
	ESSFwk 2	523	7.7%	971	14.4%	985	14.6%	899	13.3%	2,397	35.5%	2,138	31.6%	2,855	42.2%	1,895	2,752	40.7%	1,792	14.2%	6,760
SBS wk 2	1,755	13.4%	1,202	9.2%	7,151	54.6%	6,586	50.3%	3,587	27.4%	4,674	35.7%	604	4.6%	-273	635	4.9%	-242	6.7%	13,097	
WOLVERINE Total		8,254	10.6%	6,232	8.0%	33,803	43.6%	33,935	43.8%	23,354	30.1%	25,583	33.0%	12,144	15.7%		11,806	15.2%			77,555
Grand Total		47,953	8.5%	62,188	11.0%	197,084	34.8%	179,297	31.7%	243,615	43.1%	245,733	43.4%	77,138	13.6%		78,572	13.9%			565,790

* Targets are as per TFL 48 Base Case Timber Supply Analysis (See Table 40 and Appendix C of Info Pack)

VARIANCES

The following variances to the old seral target have been identified as part of the FDP proposal. These variances are consistent with MP 3 for previously approved blocks. No new harvesting of old forest has been proposed or approved since the development of MP 3. A significant amount of effort and cost is expended to both have blocks approved for harvest, laid out and permits acquired. The areas identified below are relatively small and will not compromise or delay significantly the achievement of the targets in the future. This approach is consistent with the implementation schedule and forest management activities included in the SFM Plan for this indicator.

1. Boucher LU; BWBSmw 1 – C

Previously approved blocks (T2039, 040 and 041) in LeBleau Creek that contained old forest have been dropped from the plan. 28 hectares of old is approved for harvest in previously approved blocks (CP 364 and 501). 16 hectares of old in proposed block T2044 will be reserved from harvest, if field check confirms that this type is old forest. No other old forest is either approved or proposed for harvest. At the end of 2006, the amount of old will be 6.8%, 1.4% less than target. Approximately 3600 hectares of mature is available for recruitment.

2. Boucher LU; BWBSwk 1 – C

Previously approved blocks (T2039, 040 and 041) in LeBleau Creek that contained old forest have been dropped from the plan. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 6.0%, 2.2% less than target. Approximately 1800 hectares of mature is available for recruitment.

3. Boucher LU; SBSwk 2

No old forest exists and no old forest planned for harvest.

4. Burnt- LeMoray LU; ESSFwc 3

3.5 hectares of old forest in CP issued blocks and 37 hectares in Category A Approved blocks is scheduled for harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 10.3%, 3.9% less than target. Approximately 21,700 hectares of mature is available for recruitment.

5. Burnt- LeMoray LU; SBSwk 2

52 hectares of old forest in Category A Approved blocks are scheduled for harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 6.4%, 0.3% less than target. Approximately 11,600 hectares of mature is available for recruitment.

6. Carbon LU; SBSwk 2

1.2 hectares of old forest in CP issued blocks are scheduled for harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 4.9%, 1.8% less than target. Approximately 10,900 hectares of mature is available for recruitment.

7. Dunlevy LU; ESSFmv 4

No old forest planned for harvest. 756 hectare deficit in 2006. 3100 hectares of mature to recruit from in 2006.

8. East Pine LU; BWBSmw 1 – C

19 hectares of old forest in Category A Approved blocks is scheduled for harvest. 11 hectares of old in T3018 and 10 hectares of old in T3019 will be reserved from harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 3.2%, 5.0% less than target. Approximately 3,800 hectares of mature is available for recruitment.

9. Gething LU; ESSFmv 2

No old forest planned for harvest. 1341 hectare deficit in 2006. 16,900 hectares of mature to recruit from in 2006.

10. Gething LU; SBSwk 2

No old forest planned for harvest. 1166 hectare deficit in 2006. 13,200 hectares of mature to recruit from in 2006.

11. Highhat LU; ESSFmv 2

0.3 hectares of old forest in CP issued blocks, 28 hectares in Approved SBFEP blocks and 92 hectares in Category A Approved blocks is scheduled for harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 3.2%, 6.5% less than target. Approximately 14,300 hectares of mature is available for recruitment.

12. Highhat LU; ESSFwk 2

30 hectares of old forest in Approved SBFEP blocks and 4 hectares in Category A Approved blocks is scheduled for harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 3.8%, 10.4% less than target. Approximately 1,100 hectares of mature is available for recruitment.

13. Highhat LU; SBSwk 2

32 hectares of old forest in CP issued blocks, 5 hectares in Approved SBFEP blocks and 324 hectares in Category A Approved blocks is scheduled for harvest. 5 hectares in proposed block T4068 and 4 hectares in proposed block T4070 will be reserved from harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 2.5%, 4.2% less than target. Approximately 19,700 hectares of mature is available for recruitment.

14. Martin Creek LU; ESSFmv 2

29 hectares of old forest in proposed block T4072 will be reserved from harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 1.7%, 5.0% less than target. Approximately 7,200 hectares of mature is available for recruitment.

15. Wolverine LU; SBSwk 2

2 hectares of old forest in Approved block T5003 is scheduled for harvest. No other old is either approved or proposed for harvest. At the end of 2006, the amount of old will be 4.9%, 1.8% less than target. Approximately 4,600 hectares of mature is available for recruitment.

REVISIONS

In the 2000 annual report Canfor suggested that using the 1960 seral stage baseline as a target may not meet habitat objectives and community stability dependent upon steady harvest flows. Rather than continue with the Natural Disturbance/Fire Regime study for portions within the North and South Peace River Region as indicated in the 2000 Annual Report, Canfor has supported and provided data in support of the Ministry of Forests Prince George Region initiative to define Natural Disturbance Patterns for the PG Region (DeLong). This work will form the basis for establishing Natural Disturbance frequencies, patterns and sizes. Subsequent work will then be required to determine when mature and old attributes are present within stands in the northeast. These works will then be considered to establish targets for the TFL. It is anticipated that this work will take 3 to 5 years to complete.

Figure 3 shows the Natural Disturbance Units that are applicable to TFL 48.

Until revised targets are proposed Canfor will continue to monitor the performance of achieving seral stage distribution targets consistent with the TFL 48 base case Timber Supply Analysis in support of MP 3 at each Forest Development Plan submission. This will include updating the VRI to reflect current status and projecting the results of the proposed development.

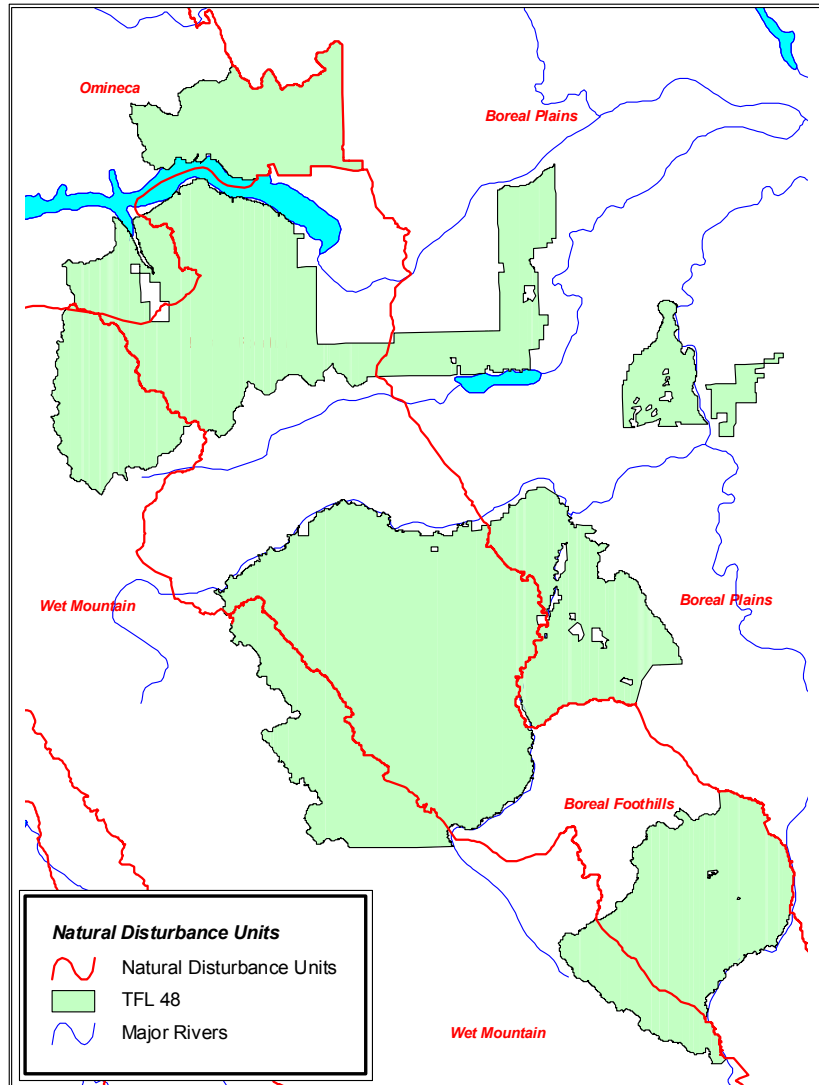


Figure 3: Natural Disturbance Units

2.2 PATCH SIZE DISTRIBUTION

Indicator:	Objective:
2. Patch size distribution	We will maintain a patch size consistent with natural disturbance units.

There has been no new development proposed during 2002. Information as provided in the 2001 annual report has not changed and is presented to provide the reader with the most current status without having to refer to a previous report.

STATUS AND COMMENTS

Work completed as part of the MoF PG Region Natural Disturbance Project (DeLong) has estimated patch size distribution as indicated in the target column of Table 3 and Figure 4 below.

The methodology for monitoring patch size in early seral stages is as described in the 2000 Annual Report. In the original TFL 48 MP3 analysis roads, trails and seismic lines were buffered and removed from the forested landbase resulting in small patches being reported. For this patch size analysis, disturbances less than 10m wide were amalgamated back into the early seral patch. A manual step was then done to assess early patches that were in close proximity to each other and were functioning as one larger patch. This was done to ensure that we were not underestimating the amount of larger early patches present on the landscape. Mature and old seral stages as defined in Indicator 2.1-2 above were combined.

Patch size is reported only at the Natural Disturbance Unit (NDU) level. Patches that crossed a NDU boundary are reported by the NDU in which the largest portion of the patch exists.

The 2002 – 2007 Forest Development Plan has proposed to include larger patch sizes primarily through patch amalgamation. Generally smaller to mid-size early patches are over-represented on the TFL than naturally would have occurred. To ensure that we continue to have large mature and old patches now and in the future we must start creating large early patches.

Indicator 2.1-2 (Seral Stage) over time establishes the amount of mature and old forest present on the landscape; the indicator on patch size (Indicator 2.2) will direct the size and distribution of sizes of seral stages.

Table 3: Patch Size Distribution Status and Targets

NDU	Patch Size Class	Early Patches				Mature and Old Patches				Target
		Current – 2001		Post FDP – 2006		Current – 2001		Post FDP 2006		
		Ha	%	Ha	%	Ha	%	Ha	%	
Boreal Plains	0-50	3,331	35.1%	2,758	15.8%	4,638	7.7%	4,339	7.4%	5%
	51-100	1,240	13.1%	996	5.7%	1,809	3.0%	1,571	2.7%	5%
	101-1000	4,927	51.9%	10,737	61.7%	7,091	11.8%	8,780	14.9%	20%
	1000+	0	0.0%	2,918	16.8%	46,583	77.5%	44,275	75.1%	70%
Boreal Plains Total		9,498	100.0%	17,409	100.0%	60,120	100.0%	58,965	100.0%	
Boreal Foothills	0-50	6,748	22.0%	8,344	25.2%	10,986	7.6%	9,867	6.5%	20%
	51-100	7,034	22.9%	7,278	22.0%	3,637	2.5%	3,606	2.4%	10%
	101-1000	6,493	21.2%	14,810	44.7%	19,309	13.3%	17,442	11.4%	30%
	1000+	10,378	33.9%	2,667	8.1%	111,186	76.6%	121,520	79.7%	40%
Boreal Foothills Total		30,654	100.0%	33,098	100.0%	145,119	100.0%	152,433	100.0%	
Omineca	0-50	1,615	27.2%	2,023	24.7%	2,316	6.4%	2,152	6.1%	10%
	51-100	513	8.6%	974	11.9%	671	1.9%	617	1.8%	10%
	101-1000	2,371	40.0%	3,827	46.7%	2,711	7.5%	2,296	6.6%	30%
	1000+	1,435	24.2%	1,363	16.7%	30,383	84.2%	29,951	85.5%	40%
Omineca Total		5,934	100.0%	8,187	100.0%	36,081	100.0%	35,016	100.0%	

NDU	Patch Size Class	Early Patches				Mature and Old Patches				Target
		Current – 2001		Post FDP – 2006		Current – 2001		Post FDP 2006		
		Ha	%	Ha	%	Ha	%	Ha	%	
Wet Mountain	0-50	1,759	32.6%	2,263	30.2%	2,009	2.4%	1,920	2.3%	20%
	51-100	2,166	40.1%	2,512	33.6%	447	0.5%	536	0.6%	10%
	101-1000	1,476	27.3%	2,706	36.2%	1,104	1.3%	747	0.9%	60%
	1000+	0	0.0%	0	0.0%	80,291	95.8%	79,294	96.1%	40%
Wet Mountain Total		5,402	100.0%	7,480	100.0%	83,850	100.0%	82,497	100.0%	

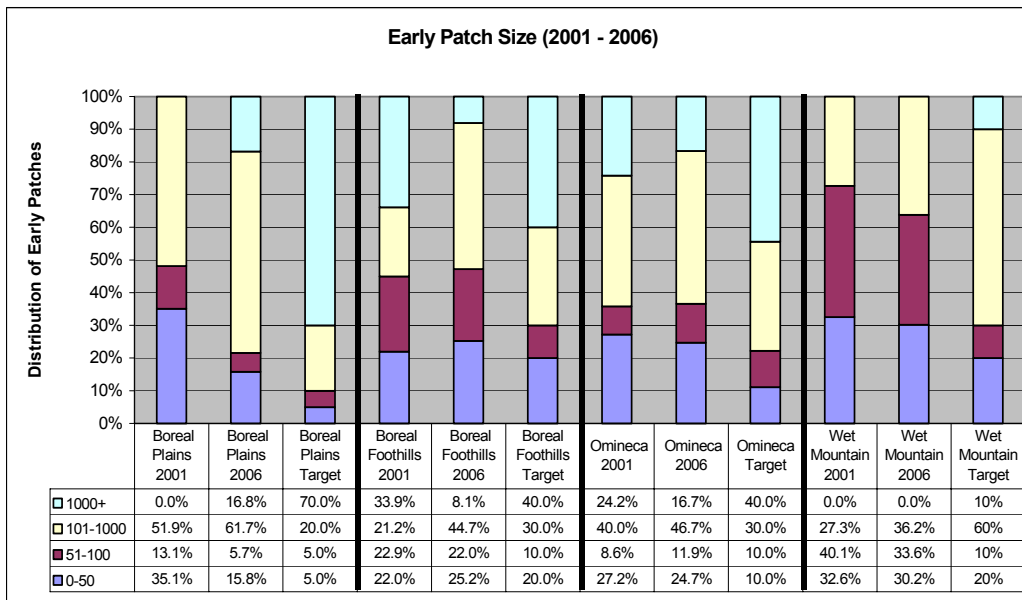
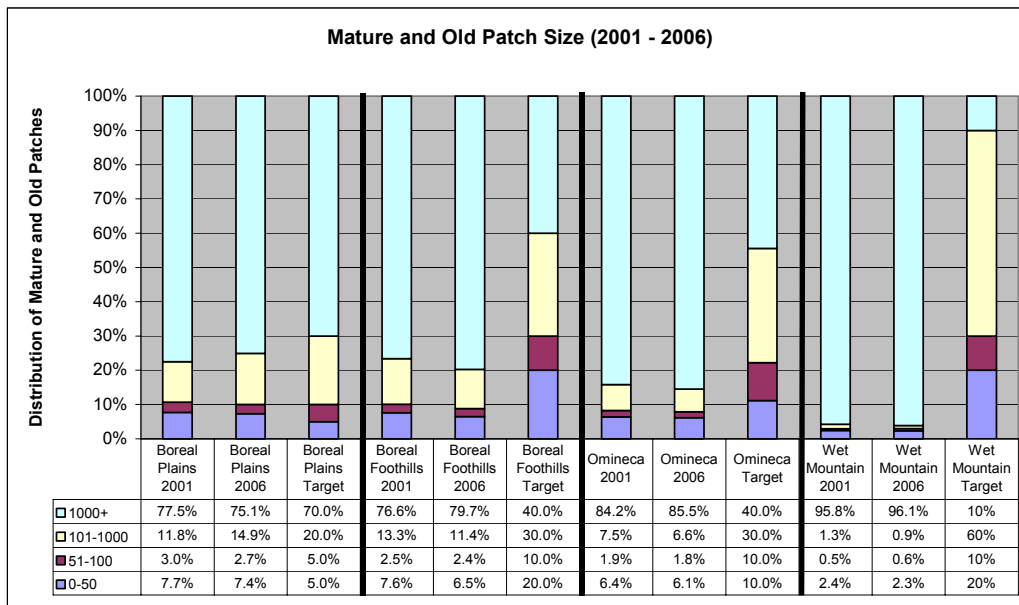


Figure 4: Patch Size Distribution by Natural Disturbance Unit (2001 - 2006)

REVISIONS

No changes or revisions are proposed for this indicator. Next reporting will take place with the next Forest Development Plan.

2.3 PROTECTED AREA BY SERAL STAGE

Indicator:	Objective:
3. Protected area by seral stage	We will identify seral stage distribution in Protected Areas within the TFL.

STATUS AND COMMENTS

Management Plan 3 shows that currently there are 260 ha of early, 6,637 ha of juvenile, 5,247 ha of mature and 1,590 ha of old forest in Protected Areas within the TFL boundaries (Table 4). A detailed summary of the seral stage distribution by Protected Areas is provided in Management Plan 3. No known new disturbances have occurred that would have influenced this analysis.

Table 4: Current Status of Seral Stages within Protected Areas as of July 2000

Protected Area		Seral Stage of Vegetated Treed Areas								Total Area
		Existing				+ 5 Years				
		Early	Juvenile	Mature	Old	Early	Juvenile	Mature	Old	
Bocock Peak	ESSF wc3	-	91	317	29	-	79	328	30	437
	ESSF wk2	-	22	91	81	-	22	91	81	194
Bocock Peak Total		-	113	408	110	-	101	419	111	631
Butler Ridge	BWBS mw1 C	3	128	480	98	3	128	480	98	709
	BWBS mw1 D	179	322	64	461	105	389	71	461	1,026
	BWBS wk2 C	-	156	279	21	-	156	279	21	456
	BWBS wk2 D	-	103	15	74	-	219	43	74	192
	ESSF mv4	60	2,362	218	-	60	2,352	228	-	2,640
Butler Ridge Total		242	3,071	1,056	654	168	3,244	1,101	654	5,023
Gwillim Lake	BWBS mw1 C	-	-	22	4	-	-	20	6	26
	BWBS mw1 D	-	-	-	5	-	-	-	5	5
	BWBS wk1 C	-	193	304	126	-	174	310	139	623
	BWBS wk1 D	11	27	52	27	11	13	65	28	117
	ESSF mv2	7	880	660	94	7	784	756	94	1,641
Gwillim Lake Total		18	1,100	1,038	256	18	971	1,151	272	2,412
Klin Se Za	ESSF wc3	-	219	761	70	-	191	787	72	1,050
	ESSF wk2	-	8	32	28	-	8	32	28	68
Klin Se Za Total		-	227	793	98	-	199	819	100	1,118
Peace Boudreau	BWBS mw1 C	-	301	97	22	-	301	97	22	420
	BWBS mw1 D	-	1,190	442	47	-	1,190	442	47	1,679
Peace Boudreau Total		-	1,491	539	69	-	1,491	539	69	2,099
Pine – LeMoray	ESSF wc3	-	445	1,278	261	-	349	1,316	319	1,984
	ESSF wk2	-	136	135	142	-	134	77	202	413
	SBS wk2	-	54	-	-	-	1	53	-	54
Pine – LeMoray Total		-	635	1,413	403	-	484	1,446	521	2,451
Grand Total		260	6,637	5,247	1,590	186	6,490	5,475	1,727	13,734

The next review of seral stage distribution within protected areas will be done in conjunction with Management Plan 4. It will represent forest conditions as of March 31, 2005. This analysis will occur in the spring of 2005.

REVISIONS

No revisions are suggested for this indicator or objective.

2.4 SPECIES AT RISK

Indicator:	Objective:
4. Number of forest dependent plant species, plant associations, fish and wildlife classified as threatened, endangered or vulnerable within the TFL	We will ensure no species is uplisted as a result of Canfor management activities within the TFL.

STATUS AND COMMENTS

Species at risk include those listed federally, provincially (red or blue) and as Identified Wildlife under the Forest Practices Code. Some species can appear on all three lists; for example, grizzly bear is listed federally as a special concern (formerly referred to as vulnerable), blue-listed provincially, and as Identified Wildlife under the Forest Practices Code. Others appear only on one list; Northern Goshawk for example, is listed only as Identified Wildlife. Canfor first developed a list of species at risk in the TFL for Management Plan 2 in 1995. This list has been updated and included in the 2002 Annual Report (Table 5) based on a review of habitat, occurrence and distribution (Grindal et al. 2000), which provides the rationale for species of consideration in TFL 48. Eighteen species (mostly plants) have been excluded from the list as their presence is not reasonably expected to occur in the TFL. Data on species at risk (Table 5) were derived from the British Columbia Conservation Data Centre (April 2003), Committee on the Status of Endangered Wildlife in Canada (April 2003) or the Ministry of Water, Land and Air Protection Identified Wildlife Management Strategy (April 2003) species at risk documentation and Grindal et al. (2000).

Table 5: Species at Risk Listing 2002

TAXA	SCIENTIFIC NAME	COMMON NAME	STATUS 2002
Fish	<i>Salvelinus confluentus</i>	Bull Trout	BLUE, IDENTIFIED
	<i>Thymallus arcticus</i> pop. 1	Arctic Grayling (Williston pop.)	RED
Birds	<i>Ammodramus leconteii</i>	Le Conte's Sparrow	BLUE
	<i>Ammodramus nelsoni</i>	Nelson's Sharp-tailed Sparrow	RED
	<i>Asio flammeus</i>	Short-eared Owl	BLUE
	<i>Botaurus lentiginosus</i>	American Bittern	BLUE, IDENTIFIED
	<i>Buteo platypterus</i>	Broad-winged Hawk	BLUE
	<i>Cygnus buccinator</i>	Trumpeter Swan	BLUE, IDENTIFIED
	<i>Dendroica tigrina</i>	Cape May Warbler	RED
	<i>Dendroica virens</i>	Black-throated Green Warbler	BLUE
	<i>Oporornis agilis</i>	Connecticut Warbler	RED
	<i>Vireo philadelphicus</i>	Philadelphia Vireo	BLUE
	<i>Wilsonia canadensis</i>	Canada Warbler	BLUE
	<i>Grus canadensis</i>	Sandhill Crane	BLUE, IDENTIFIED
	<i>Accipiter gentilis laingi</i>	Northern Goshawk	IDENTIFIED
Mammals	<i>Gulo gulo luscus</i>	Wolverine, <i>luscus</i> subspecies	BLUE
	<i>Martes pennanti</i>	Fisher	BLUE, IDENTIFIED
	<i>Myotis septentrionalis</i>	Northern Long-eared Myotis	BLUE
	<i>Oreamnos americanus</i>	Mountain goat	IDENTIFIED
	<i>Rangifer tarandus</i> pop. 15	Caribou (northern mountain population)	RED
	<i>Ursus arctos</i>	Grizzly Bear	BLUE, IDENTIFIED
Plants	<i>Cirsium drummondii</i>	Drummond's thistle	RED
	<i>Utricularia ochroleuca</i>	Ochroleucous bladderwort	RED
Plant Associations	<i>Pinus contorta</i> - <i>Vaccinium membranaceum</i> - <i>Cladina</i>	SBSwk2(02)	BLUE

The number of mammals and fish on the list has remained constant from 2001-2002 (Table 6). Currently there are 13 species of birds at risk on the TFL, down from 15 for the last 3 years. The Uplands sandpiper has been excluded from the species at risk list. This bird is associated with open uplands and bogs and therefore is not expected to occur on areas influenced by forestry activities (Grindal et al. 2000). The Western grebe was also excluded from the list as its known distribution does not occur in the TFL.

A large number of plants have been eliminated from the list because many are not found on sites within the timber harvesting landbase (e.g. alpine, grassland, bogs or aquatic areas) (Grindal et al. 2000; Douglas et al. 2002). For example, *Carex rostrata* is only found in bogs of the montane and alpine zones in the CWHvm, ESSFdk, IDFdm2, SBPSxc, and SBSdw3 biogeoclimatic zones and is neither reasonably expected to occur on the TFL nor be influenced by forestry activities since it is a species restricted to wetland environments. The remaining species were excluded in a similar fashion.

The number of plant associations has been reduced to one for 2002. The *Juncus arcticus* - *Puccinellia nuttalliana* - *Suaeda calceoliformis* and the *Muhlenbergia richardsonis* - *Juncus arcticus* - *Poa secunda* ssp. *Juncifolia* plant associations were removed from the list as these communities (occurring in the BWBS) do not occur on the THLB because they are grassland communities. The *Pinus contorta* - *Vaccinium membranaceum* - *Cladina* plant association occurs only in the SBS wk2 (02) unit of the TFL, and is a new plant association in the species at risk documentation. This uncommon plant association is characteristic of sites of marginal productivity due to high potential for drought and nutrient deficiencies (MacKinnon et al. 2000). According to Canfor's site series mapping there are 7,094 ha within the TFL. Approximately 4062 ha (59%) of this plant association occurs within the THLB. Canfor will ensure that this plant association is not uplisted by incorporating the site unit into reserves where possible and avoiding permanent losses due to access structures.

Table 6: Summary of Species at Risk by Taxa 2002

Taxa	1999	2000	2001	2002
Mammals	6	6	6	6
Fish	2	2	2	2
Birds	15	15	15	13
Plants	22	21	21	3
Plant Associations	4	2	2	1
Total	49	46	46	25

REVISIONS

No revisions are suggested for this indicator or objective.

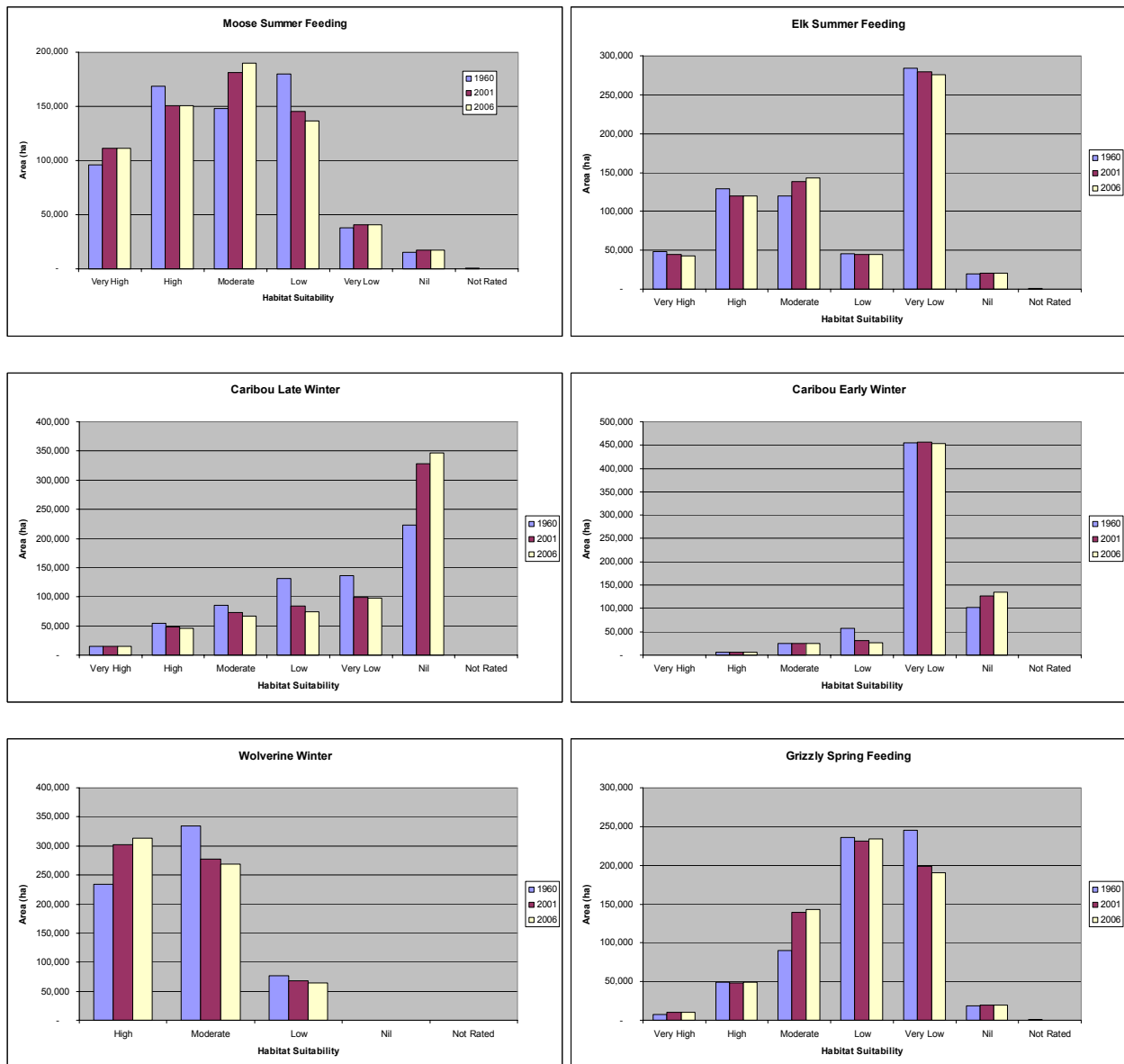
2.5 HABITAT SUPPLY FOR INDICATOR SPECIES

Indicator:	Objective:
5. Habitat supply for indicator species	<p>5-1 We will ensure distribution of habitat for indicator species across the TFL.</p> <p>5-2 We will ensure sufficient furbearer habitat on a drainage-by-drainage basis exists to enable the maintenance of populations.</p>

2.5-1 Wildlife Models

STATUS AND COMMENTS

Habitat models for all 12 species have been completed for TFL 48. The following figures indicates the status of each of the 12 species at 3 points in time, 1960, 2001 and 2006 incorporating the proposed harvest areas identified in the 2002 FDP.



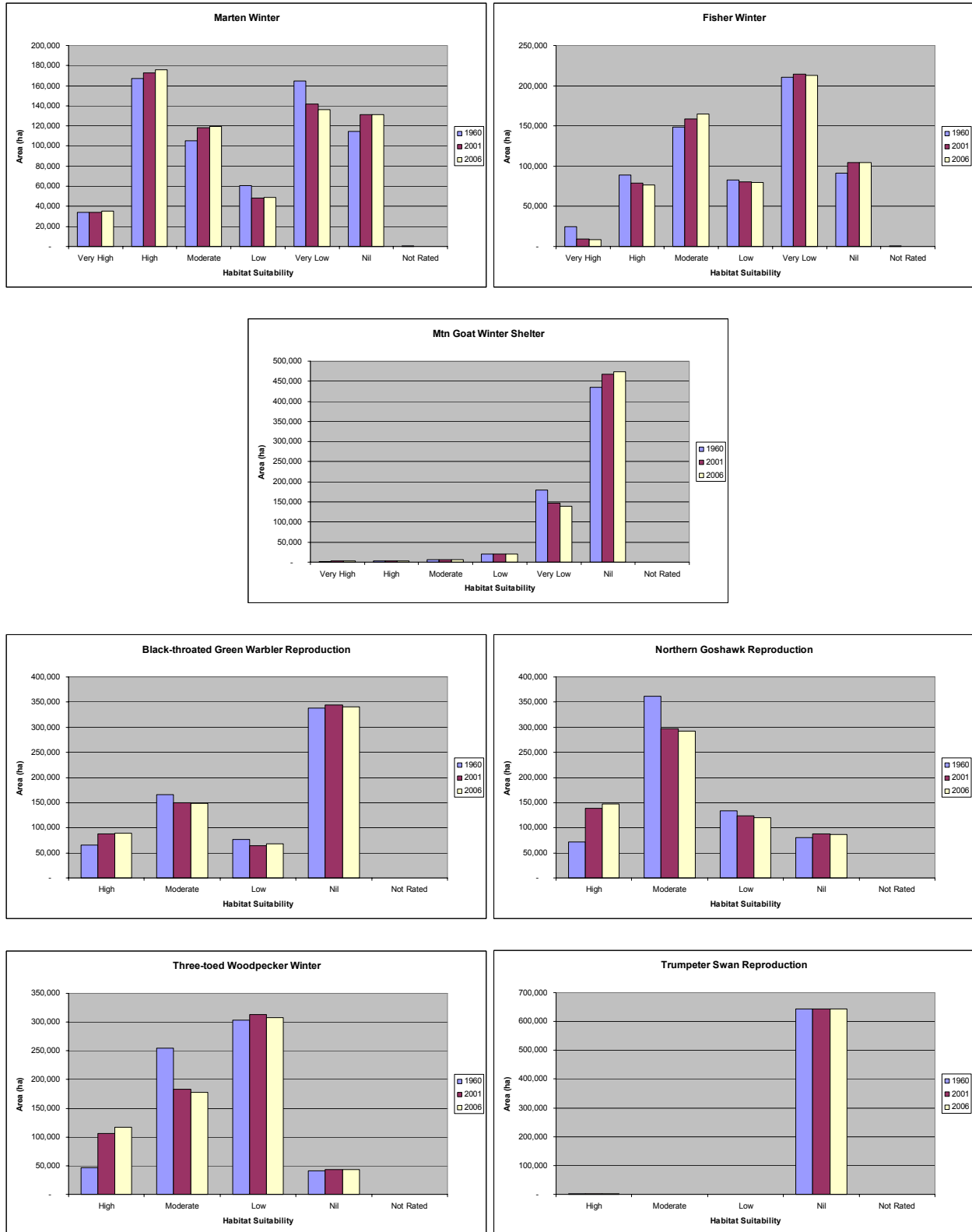


Figure 5: Habitat Suitability for Indicator Species

The life requisites shown in the above figures are thought to be the most limiting for each species. Habitat supply is shown to be relatively constant over the times shown. Those species that are more reliant on older forests have generally shown an increase in higher quality habitats since 1960. Fisher and elk are the only species that have seen a substantive decline in higher quality habitats since 1960. Further analysis is required to determine the factors influencing these trends.

REVISIONS

As indicated above all 12 species have been modelled for the TFL. However the analysis has not been conducted over the whole 200 year planning horizon to indicate trends in the overall habitat supply over time. For each of the 12 species there is relatively little change between 2001 and 2006. As such there is little risk in not establishing a threshold level in the short term. Canfor proposes to incorporate the habitat models into the analysis and forecasting conducted in support of MP 4.

Note that the habitat indicated for Mountain Goat and Trumpeter Swan has not changed over the time period assessed and that the vast majority of the area within TFL 48 is ranked as low or nil habitat suitability. This is primarily due to the fact that these species habitat requirements is not based on forested areas, is very site specific and generally not affected by forestry. As such Canfor recommends that these two species be dropped from our species of interest for habitat models.

2.5-2 Furbearer Habitat Availability

STATUS AND COMMENTS

As shown above in Figure 5, and in the 2001 annual report, Marten all-winter habitat is forecasted to remain relatively constant. High, moderately high, and moderate habitat classes remain at almost the same levels throughout the 200 year planning horizon. Fisher habitat model while completed remains to be modelled across the TFL over the long term planning horizon. Habitat is shown to be relatively constant over the term of the current FDP. Habitat over the full planning horizon will be modelled in conjunction with the analysis and forecasting conducted in support of MP 4.

REVISIONS

Canfor proposes to adjust the implementation schedule as per indicator 2.5-1 above.

2.6 DISEASE TRANSMISSION TO SHEEP

Indicator:	Objective:
6. Disease transmission from domestic sheep grazing activities	No disease transmission from domestic sheep to wild sheep populations from domestic sheep use in Canfor activities.

STATUS AND COMMENTS

No sheep grazing occurred on the TFL during 2002. In 2001 sheep grazing in the TFL was limited to the Rice Property and no known wild sheep populations exist in this area.

REVISIONS

No revisions are suggested for this indicator or objective.

2.7 COLLECTION AND USE OF REGISTERED SEED

Indicator:	Objective:
7. Collection and use of registered seed for coniferous planted species.	All seeds registered.

STATUS AND COMMENTS

All (100%) trees grown to be planted within the TFL are registered in accordance with the Tree Cone, Seed and Vegetative Material regulation. Table 7 shows all trees and their source that Canfor and SBFEP planted on the TFL in 2002.

Table 7: Tree Seed Origin

Species	Seedlot	Number of Trees	Seed Class	Seed Worth	Seed Origin			
					Latitude	Longitude	Seed Zone	Location
Pli	30756	173,340	B3		555100	1223800	HH	Carbon River
Pli	45715	118,900	B2		553000	1224000	HH	Link Creek
Sw	33269	25,980	B2		561300	1220000	HH	Farrell Creek
Sx	01520	333,115	B		555800	1215500	HH	Maurice Creek
Sx	01839	518,945	B2		555000	1214000	HH	Moberly Lake
Sx	04140	311,260	B2		560100	1221900	HH	Gaylard Creek
Sx	08791 ¹	38,476	B		544000	1203500	HH	Wapiti Watershed
Sx	08799 ¹	8,670	B		545800	1213600	HH	Upper Sukunka River
Sx	33269	126,555	B2		561300	1220000	HH	Farrell Creek
Sx	39429 ¹	34,728	B		552200	1230700	FIN	Emerslund Lakes
Sx	39501	278,170	B3		554000	1220500	HH	Hulcross Creek - South
Sx	44274	116,680	B2		553100	1221200	HH	Falling Creek
Sx	60119 ²	460,305	A	18	530900	1221100	PG	Vernon Seed Orchard ¹
Sx	61035 ²	660,215	A	19	530200	1220700	PG	Vernon Seed Orchard
Total Trees Planted		3,205,339						

¹ Areas highlighted above were planted by the SBFEP.

² Seedlots 60119 and 61035 are class A seedlots produced by the Vernon Seed Orchard Company (VSOC). Parent trees from across the Prince George Region were selected and seedlings produced from these parents were outplanted in various progeny tests across the region. The results from the progeny tests allowed tree breeders to select the best growing parents for the PG seed-planning zone. The selected parents were then planted at the VSOC, which now produce seedlots such as 60119 and 61035.

In 2002, there were areas planted by Canfor outside of the seedling transfer guidelines:

- Canfor planted approximately 2 ha with 3,030 seedlings of seedlot 33269 on block 620-001 at an elevation up to 1220 m when the maximum limit for this seedlot was 1200m. This information was forwarded to the Ministry of Forests and will be monitored to ensure that the seedlings perform to an acceptable standard.
- Canfor fill-planted 4,150 seedlings from seedlot 44274 on 4.3 ha of block 611-002 at an elevation of 720 m when the minimum limits for the seedlot is 750 m. The District Manager approved a variance request.

In 2002, there were areas planted by SBFEP outside of the seedling transfer guidelines.

A review of SBFEP's files shows that the elevation was estimated to be 1120-1160 m in elevation, which is an error. This led to the wrong seedlot being selected for planting. The seedlot used is modestly out (about 100 m) of the acceptable elevation range. Timber Sales Program staff will be processing a Seedlot Variance Request for District Manager review and

approval. The plantation is only a small portion of the cutblocks but they will be monitored for success and if necessary the area will be replanted assuming that the District Manager approves the variance.

- A30499, 6,070 trees, Seedlot – 08799, min 950m, max 1550m. Elevation planted ~840m to 860m
- A30500, 2,600 trees, Seedlot – 08799, min 950m, max 1550m. Elevation planted ~840m to 855m

The following blocks had seed transferred from a different seed zone and did not stay within the BEC zone of origin. Second issue with these blocks is that Class A seed is available for these areas and was not used as per the current regulations.

The seedlot planted on the following 3 openings are within allowable transfer rules of latitude, longitude and elevation for spruce. Recognizing the difference in the BEC units from seed source to plantation location the Timber Sales Program will consult and report as soon as possible if there are any issues regarding the transfer. Class B seed was used, as there is a significant amount of it and it is one of Timber Sales Program most recently picked and viable seedlots.

- A47765-001, 6,648 trees, Seedlot – 39429, BEC BWBS Seed Zone FIN Planted in ESSF
- A47766-001, 12,968 trees, Seedlot – 39429, BEC BWBS Seed Zone FIN Planted in ESSF
- A47766-002, 15,112 trees, Seedlot – 39429, BEC BWBS Seed Zone FIN Planted in ESSF

REVISIONS

For purposes of clarification Canfor proposes the following changes to this indicator and objective:

Indicator:

The number of seeds for coniferous species collected and seedlings planted in accordance with the regulations.

Objective:

All coniferous seeds will be collected and seedlings will be planted in accordance with the regulations.

Acceptable Variance:

The acceptable variance is zero unless an exemption is authorized by the District Manager.

2.8 INCIDENCE OF FIRE, WINDFALL INSECTS AND DISEASE

Indicator:	Objective:
8. Area and severity of incidence of fire, windfall, insects and disease	<p>8-1 We will minimize Non-Recoverable Losses to less than 10% of AAC based on a 10 year rolling average.</p> <p>8-2 We will salvage 90% of merchantable timber volumes within the THLB damaged by fire, windfall, insects and disease within 18 months of occurrence.</p>

2.8-1 Minimize Non-Recoverable Losses

STATUS AND COMMENTS

During 2002 the following incidence of fire, windfall, insects or disease have been noted on TFL 48. Table 8 summarizes the incidence of forest health issues and associated actions.

Table 8: Forest Health Incidence

Forest Health Factor	Incidence	Action
Fire	8 fires occurred on TFL 48 in 2002 with a total of ~7.52 ha. 3 man caused fires (4.5 ha) were spring grass fires along hwy 29 South with no merchantable volume. The remaining 5 lightning fires (3.02 ha) had an estimated ~60m ³ of volume destroyed	<ul style="list-style-type: none"> No salvage is planned to be conducted due to small-scattered locations of fires.
Insect		
Balsam Bark Beetle	Incidence very light in mountain areas. No formal surveys required.	<ul style="list-style-type: none"> N/A
Spruce Budworm	None	<ul style="list-style-type: none"> N/A
Spruce Bark Beetle	None	<ul style="list-style-type: none"> N/A
Forest Tent Caterpillar	none	<ul style="list-style-type: none"> N/A
Blowdown	CP 316-002 ~500m ³ CP 644-006 ~1,800m ³ CP 644-015 ~700m ³	<ul style="list-style-type: none"> Area deemed to be not suitable for salvage, quantify as non-recoverable losses for 2002. Harvested as CP 277-T2052. Harvesting is scheduled to occur coincident with CP 267.
Environmental	None noted in 2002	N/A
Disease	None – Disease is typically slow to develop over a long period of time. Hence it is difficult to identify until stand level prescriptions are developed.	<ul style="list-style-type: none"> Continue to monitor and prescribe appropriate silviculture strategies at stand level.

REVISIONS

No revisions are suggested for this indicator or objective.

2.8-2 Salvage of Merchantable Timber Volumes

STATUS AND COMMENTS

Table 9: Summary of Salvage

Year	Total Losses (m ³)	Salvage Completed (m ³) Recovered	Salvage Planned (m ³)	No Salvage Proposed (m ³) Non-Recovered	Salvage Remaining to be Assessed (m ³)
2000	3,370				
2001	0	100		210	
2002	60	1,800	700	620	
Totals	3,430	1,900 56%	700 20%	830 24%	0 0%

The 700m³ of proposed salvage (644-015) has exceeded the 18 month objective. This is due to the location of the salvage on the Dowling Creek Rd. Four bridges are required to be reinstalled to provide access to this area. Harvesting of the salvage area will be delayed until harvesting of the adjacent CP 267 occurs.

The objective for salvage has been exceeded as 24% of the areas identified since 2000 have been left as non-recovered losses. While not meeting the objective of salvaging 90% this minor amount (830m³) is well within the objective for 28-1 of minimizing losses to less than 10% of the AAC for TFL 48.

REVISIONS

No revisions are suggested for this indicator or objective.

2.9 PERCENT OF A HARVESTED AREA REFORESTED

Indicator:	Objective:
9. Percent of a harvested area that is reforested	We will reforest 100% of the net area to be reforested within 2 years of harvest on average.

STATUS AND COMMENTS

A review of silviculture records was completed for Management Plan 3. This review indicated that since January 1, 1995 the area weighted regeneration delay was 0.6 years.

The next review of regeneration delay will be done for Management Plan 4 in 2005 and will be based on performance through 2004.

REVISIONS

No revisions are suggested for this indicator or objective.

2.10 MINIMUM HARVEST AGE

Indicator:	Objective:
10. Minimum harvest age (as a surrogate for nutrient cycling)	Minimum harvest ages in years will be: Aspen 61, Cottonwood 61, Pine 81, Subalpine fir 81, Spruce 121 (based on leading species and average stand age).

STATUS AND COMMENTS

Table 10 shows the average age of proposed category A cutblocks in the most recent Forest Development Plan for TFL 48 submitted in January 2002. All ages are consistent with the objective.

Table 10: Average Harvest Age for Proposed Category A Blocks

LICENCE	CUT BLOCK #	GROSS CUTBLOCK AREA, HA	FDP STATUS	Average Age	Spruce %	Pine %	Balsam %	Aspen %	Cottonwood %	Birch %
TFL48	T4075	248	PA	76	5%	9%		81%	3%	2%
TFL48	T2042	140.6	PA	91	15%	0%	9%	21%	55%	0%
TFL48	T4076	127.3	PA	100	2%	29%		61%	6%	2%
TFL48	T5009	93.4	PA	100	4%	51%		27%	18%	
TFL48	T2046	85.9	PA	103	13%	15%		64%	5%	3%
TFL48	T1025	692	PA	105	24%	6%		36%	34%	0%
TFL48	T3017	251.5	PA	106	26%	4%		25%	45%	0%
TFL48	T4066	161.3	PA	107	26%	0%		45%	21%	8%
TFL48	T4071	65.5	PA	108	13%	30%		45%	9%	3%
TFL48	T5010	79.5	PA	112	12%	74%	0%	7%	6%	
TFL48	T3016	318.4	PA	113	15%	1%		60%	24%	0%
TFL48	T2044	485.2	PA	115	17%	20%		50%	11%	3%
TFL48	T1024	381.1	PA	119	31%	6%		42%	20%	
TFL48	T5006	44.2	PA	119	21%	73%	0%		6%	
TFL48	T4074	366.4	PA	120	34%	39%	2%	18%	6%	
TFL48	T3018	553.6	PA	121	41%	2%		48%	9%	
TFL48	T4073	294.8	PA	123	60%	30%	9%	1%	1%	0%
TFL48	T5008	184.1	PA	127	41%	33%	0%	14%	12%	
TFL48	T4067	217.2	PA	133	60%	16%	22%	1%	0%	
TFL48	T4064	348.3	PA	135	54%	31%	13%	1%		
TFL48	T4062	731.5	PA	137	26%	67%	0%	2%	6%	0%
TFL48	T5004	318.2	PA	137	46%	41%	2%	3%	9%	0%
TFL48	T4070	486.6	PA	139	36%	62%	1%	0%	1%	
TFL48	T4063	233	PA	140	11%	78%	0%	6%	5%	
TFL48	T1005	32.3	PA	141	71%	26%	3%			
TFL48	T2045	266.4	PA	141	28%	67%	4%	1%	0%	
TFL48	T4069	68.5	PA	144	20%	74%	0%	1%	4%	
TFL48	T4065	430.2	PA	145	41%	49%	9%	0%	0%	
TFL48	T4068	268.5	PA	146	34%	64%	1%	0%	0%	
TFL48	T5007	877.8	PA	146	45%	45%	3%	1%	6%	
TFL48	T4077	274.1	PA	147	46%	45%	8%	1%	0%	
TFL48	T5005	157.7	PA	147	57%	32%	3%	1%	7%	
TFL48	T1003	62.8	PA	149	77%	14%	9%			
TFL48	T2043	219.5	PA	152	40%	54%	4%	1%	0%	
TFL48	T4078	264.8	PA	155	62%	27%	11%	0%	0%	

LICENCE	CUT BLOCK #	GROSS CUTBLOCK AREA, HA	FDP STATUS	Average Age	Spruce %	Pine %	Balsam %	Aspen %	Cottonwood %	Birch %
TFL48	T4072	280.6	PA	156	42%	41%	13%	1%	2%	
TFL48	T2051	264.1	PA	157	40%	38%	14%	0%	7%	
TFL48	T2047	74	PA	159	45%	23%	18%		15%	0%
TFL48	T1004	30.4	PA	162	67%	18%	16%			
TFL48	T2049	53.5	PA	181	38%	61%	1%	0%	0%	
TFL48	T2048	71.9	PA	182	54%	44%	2%	0%	0%	
TFL48	T2050	35.9	PA	203	69%	26%	0%	0%	5%	
TFL48	T5011	69.3	PA	213	83%		17%			

REVISIONS

No revisions are suggested for this indicator or objective.

2.11 WILDLIFE TREE PATCHES

Indicator:	Objective:
11. Wildlife tree patches	Wildlife tree patches will not be less than 8% of the harvested area, on average.

STATUS AND COMMENTS

In the draft Management Plan 3 it was reported that blocks harvested since 1995 retained, on average, 17.6% in Wildlife Tree Patches (WTP). The current status of all areas harvested with WTP's is 12%, and 12% on planned and harvested blocks. This is the second reporting at the Landscape Unit by BEC variant level. It will take some time as new harvesting is conducted and planned to balance the WTP distribution by Landscape Unit and BEC variant. Some permits may have more than the required amount of WTP's however when examined in relation to the BEC variant some variants may be under represented.

The information provided in Table 11 will be used to guide future WTP placement to ensure representative distribution of WTP's.

Table 11: Wildlife Tree Patch by Landscape Unit and BEC Variant

LU	BEC / Variant	Total Forest Area	THLB	% Available for Harvest	Harvested with no WTR	% THLB Harvested with no WTR	Harvested with WTR	% THLB Harvested with WTR	Area WTR	% WTP of Area Harvested with WTR	Planned Harvest	WTP Planned Harvest	% WTP of Area Harvested or Planned
Boucher	BWBSmw1 (con)	11,359	8,281	73%	1,029	12%	0	0%	0	0%	171	2	1%
	BWBSmw1 (dec)	16,022	10,130	63%	14	0%	0	0%	0	0%	594	27	5%
	BWBSwk1 (con)	5,264	4,953	94%	299	6%	0	0%	0	0%	0	0	0%
	BWBSwk1 (dec)	1,810	914	50%	0	0%	0	0%	0	0%	0	0	0%
	SBS wk2	953	702	74%	0	0%	0	0%	0	0%	0	0	0%

LU	BEC / Variant	Total Forest Area	THLB	% Available for Harvest	Harvested with no WTR	% THLB Harvested with no WTR	Harvested with WTR	% THLB Harvested with WTR	Area WTR	% WTP of Area Harvested with WTR	Planned Harvest	WTP Planned Harvest	% WTP of Area Harvested or Planned
Burnt-LeMoray	BWBSmw1 (con)	8	8	92%	0	0%	0	0%	0	0%	0	0	0%
	BWBSmw1 (dec)	43	14	32%	0	0%	0	0%	0	0%	0	0	0%
	ESSF wc3	41,606	9,386	23%	370	4%	213	2%	2	1%	178	12	4%
	ESSF wk2	39,064	24,546	63%	3,259	13%	1,598	7%	114	7%	493	55	8%
	SBS wk2	23,027	14,090	61%	1,966	14%	409	3%	37	9%	361	81	15%
Carbon	BWBSmw1 (con)	10	1	12%	0	0%	0	0%	0	0%	0	0	0%
	BWBSmw1 (dec)	17	0	1%	0	0%	0	0%	0	0%	0	0	0%
	ESSF mv2	46,164	17,750	38%	687	4%	1311	7%	121	9%	358	40	10%
	ESSF wc3	9,696	2,202	23%	153	7%	0	0%	0	0%	116	37	32%
	ESSF wk2	4,371	2,418	55%	6	0%	146	6%	29	20%	78	51	36%
	SBS wk2	15,192	10,155	67%	1,977	19%	1,141	11%	271	24%	127	35	24%
Dunlevy	BWBSmw1 (con)	10,358	6,555	63%	225	3%	233	4%	58	25%	0	0	25%
	BWBSmw1 (dec)	9,183	2,865	31%	0	0%	0	0%	0	0%	0	0	0%
	BWBSwk2 (con)	7,401	5,396	73%	113	2%	134	2%	12	9%	0	0	9%
	BWBSwk2 (dec)	5,125	2,206	43%	0	0%	0	0%	0	0%	0	0	0%
	ESSF mv4	11,743	5,426	46%	66	1%	111	2%	1	1%	0	0	1%
East Pine	BWBSmw1 (con)	5,855	10,039	171%	657	7%	198	2%	66	33%	293	36	21%
	BWBSmw1 (dec)	13,774	6,644	48%	302	5%	41	1%	1	2%	143	5	3%
Gething	BWBSmw1 (con)	9,082	6,933	76%	2,584	37%	388	6%	104	27%	16	3	26%
	BWBSmw1 (dec)	2,508	879	35%	0	0%	0	0%	0	0%	0	0	0%
	ESSF mv2	24,039	14,503	60%	1,353	9%	1,178	8%	175	15%	319	38	14%
	SBS wk2	20,133	15,053	75%	3,964	26%	715	5%	80	11%	506	91	14%
Highhat	BWBSmw1 (con)	7,600	5,650	74%	217	4%	151	3%	18	12%	0	0	12%
	BWBSmw1 (dec)	8,604	5,053	59%	0	0%	0	0%	0	0%	72	7	10%
	BWBSwk1 (con)	10	7	65%	1	15%	1	14%	0	0%	0	0	0%
	ESSF mv2	31,308	20,794	66%	1,385	7%	887	4%	88	10%	44	3	10%
	ESSF wc3	8	2	29%	0	0%	0	0%	0	0%	0	0	0%
	ESSF wk2	2,544	1,759	69%	0	0%	101	6%	28	28%	0	0	28%
	SBS wk2	37,462	26,946	72%	1,357	5%	1,303	5%	185	14%	59	10	14%
Martin Creek	BWBSmw1 (con)	12,627	10,230	81%	1,823	18%	460	4%	47	10%	0	0	10%
	BWBSmw1 (dec)	10,518	5,332	51%	53	1%	131	2%	8	6%	0	0	6%
	BWBSwk1 (con)	18,689	15,115	81%	1,562	10%	188	1%	19	10%	182	26	12%
	BWBSwk1 (dec)	2,188	1,245	57%	0	0%	0	0%	0	0%	0	0	0%
	ESSF mv2	13,476	7,197	53%	22	0%	30	0%	2	7%	412	45	11%
Wolverine	BWBSmw1 (con)	4,061	3,041	75%	387	13%	224	7%	33	15%	27	3	14%
	BWBSmw1 (dec)	1,481	677	46%	0	0%	0	0%	0	0%	0	0	0%
	BWBSwk1 (con)	5,233	4,139	79%	416	10%	52	1%	6	12%	246	80	29%
	BWBSwk1 (dec)	1,451	369	25%	0	0%	0	0%	0	0%	0	0	0%
	ESSF mv2	34,319	17,829	52%	1,138	6%	1049	6%	17	2%	4	0	2%
	ESSF wc3	5,588	1,757	31%	53	3%	77	4%	5	6%	172	0	2%
	ESSF wk2	6,760	3,840	57%	399	10%	710	18%	58	8%	389	0	5%
	SBS wk2	13,097	8,547	65%	406	5%	239	3%	9	4%	159	38	12%
Total		565,790	321,576	57%	28,241	9%	13,419	4%	1,594	12%	5,519	725	12%

LU	BEC / Variant	Total Forest Area	THLB	% Available for Harvest	Harvested with no WTR	% THLB Harvested with no WTR	Harvested with WTR	% THLB Harvested with WTR	Area WTR	% WTP of Area Harvested with WTR	Planned Harvest	WTP Planned Harvest	% WTP of Area Harvested or Planned
	SBS wk2	109,865	75,494	69%	9,670	13%	3,807	5%	582	15%	1,212	255	17%
	ESSF wk2	52,738	32,563	62%	3,663	11%	2,555	8%	229	9%	960	106	10%
	ESSF mv2	149,307	78,074	52%	4,584	6%	3,144	4%	282	9%	779	86	9%
Sub Total by Variant	ESSF wc3	56,899	13,347	23%	576	4%	290	2%	7	2%	466	49	7%
	BWBSmw1 (con)	49,584	42,449	86%	5,894	14%	1,654	4%	326	20%	336	42	18%
	BWBSmw1 (dec)	62,151	31,592	51%	370	1%	172	1%	9	5%	215	12	5%
	BWBSwk1 (con)	29,197	24,214	83%	2,278	9%	241	1%	25	10%	428	106	20%
	BWBSwk1 (dec)	5,449	2,527	46%	-	0%	0	0%	0	0%	0	0	0%

REVISIONS

No new revisions are suggested for this indicator or objective.

2.12 OLD GROWTH MANAGEMENT AREAS

Indicator:	Objective:
12. Old growth management areas	We will sustain old growth habitat values within the TFL.

STATUS AND COMMENTS

Management Plan 3 presents a detailed analysis of the amount of available Old Growth currently available in the TFL. Old Growth Management Areas (OGMAs) will be identified by December 15, 2003. Canfor has initiated a preliminary process for identifying potential OGMAs. See also Indicator 1.2 for levels of old growth on the TFL based on the proposed 2002-2007 Forest Development Plan.

REVISIONS

No revisions are suggested for this indicator or objective.

2.13 COARSE WOODY DEBRIS

Indicator:	Objective:
13. Coarse woody debris	We will maintain natural levels of coarse woody debris (CWD) across the TFL.

STATUS AND COMMENTS

Natural levels of Coarse Woody Debris (CWD) are to be identified as part of the Vegetation Resources Inventory (VRI) Phase II sampling (completed 2002) and analysis. Following the comprehensive analysis, a CWD management strategy will be developed.

Reported below is a preliminary approximation of CWD accumulations from **incomplete** data. This is meant to demonstrate progress on this objective and provide preliminary information on the levels of CWD accumulation across the TFL.

Table 12: CWD Accumulations by Biogeoclimatic Unit (Preliminary)

Zone	Sub-Zone	<i>n</i>	Stand Age (Min)	Stand Age (Max)	Stand Age (Avg)	CWD Vol (m ³ /ha) (Min)	CWD Vol (m ³ /ha) (Max)	CWD Vol (m ³ /ha) (Avg)
BWBS	mw	26	17	178	87	0	133	40
BWBS	wk	9	25	133	83	0	69	25
ESSF	mv	30	79	170	125	0	115	30
ESSF	mvp	1	76	76	76	0	0	0
ESSF	wc	2	57	230	144	0	54	27
ESSF ^b	wk	3	N/A	N/A	N/A	7	137	86
SBS	wk	18	43	201	119	0	136	36

^a Number of plots sampled

^b Age data not available

Natural levels of CWD accumulations vary widely across the TFL both within and between biogeoclimatic units. For example BWBS mw CWD accumulations vary from 0 – 133m³/ha with an average of 40m³/ha while the ESSF mv has an average CWD accumulation of 30m³/ha and a range of 0 – 115 m³/ha (Table 12). Preliminary analysis suggests that CWD accumulations are highly variable across the landscape. Stand history, ecosystem characteristics, and age appear to account for as much variation within biogeoclimatic units as between them.

REVISIONS

No revisions are suggested for this indicator or objective.

2.14 HABITAT CONNECTIVITY

Indicator:	Objective:
14. Habitat connectivity	Maintain an adequate level of habitat connectivity at landscape and stand levels with an emphasis on species dependent on mature forest or forest types (e.g., caribou and marten) recognizing that habitat connectivity may shift across the landscape.

STATUS AND COMMENTS

This indicator is linked to patch size and distribution (Indicator 2) and habitat supply for indicator species (Indicator 5); please see Indicator 2 and 5 for progress to date.

Reporting on habitat connectivity is due by December 15, 2003. This will be included in the 2003 annual report.

REVISIONS

No revisions are suggested for this indicator or objective.

2.15 AREA OF THE TFL OCCUPIED BY PERMANENT ACCESS CORRIDORS

Indicator:	Objective:
15. Area of the TFL occupied by permanent access corridors associated with forest management activities	We will limit impacts on the landbase due to the presence of permanent access corridors to less than 3.5% of the gross landbase of the TFL.

STATUS AND COMMENTS

In Management Plan 3 Canfor committed that rehabilitated roads and landings recorded on hardcopy maps would be entered into its Forest Road Management System. This was completed and as of April 2002 there are 166 km of temporary road that are or will be rehabilitated.

The next review of this indicator will be done in conjunction with Management Plan 4. It will represent road conditions up to the end of 2004. The analysis will occur in the spring of 2005.

REVISIONS

No revisions are suggested for this indicator or objective.

2.16 NUMBER OF REPORTABLE SPILLS

Indicator:	Objective:
16. Number of reportable spills entered into Incident Tracking System	We will minimize the number of reportable spills.

STATUS AND COMMENTS

There was one spill reported to regulatory authorities in 2002. This was 13 litres of engine coolant that was comprised of approximately 35% antifreeze. Although the total amount of active agent was less than the regulatory reporting amount Canfor has decided to report all antifreeze spills greater than 5 litres, regardless of dilution.

REVISIONS

No revisions are suggested for this indicator or objective.

2.17 USE OF ENVIRONMENTALLY FRIENDLY LUBRICANTS

Indicator:	Objective:
17. Use of environmentally friendly lubricants	We will research and identify environmentally friendly lubricants biannually

STATUS AND COMMENTS

Synthetic and vegetable-based hydraulic fluids are available, however they are currently regarded as inferior to hydrocarbon based fluids on the basis of cost and performance. Therefore no operational use of these lubricants has occurred.

REVISIONS

No revisions are suggested for this indicator or objective.

2.18 SOIL PRODUCTIVITY MEASURES

Indicator:	Objective:
18. Soil productivity measures	We will use site index measures based on BEC zone to confirm the predicted long-term soil productivity.

STATUS AND COMMENTS

The current status for site index measures at free growing is shown in Table 13. The site index reported is the area weighted site index for each species by site series. The area declared free growing has increased to 6,457 ha in 2002. The majority of this area is attributable to backlog areas within the TFL.

Six of the species/site series combinations representing a total area of 190 ha (< 3% of free-growing area) are less than the acceptable variance (Table 13). However, each BEC unit average site index is higher than the average predicted site index demonstrating that overall the actual site productivity on the TFL is higher than the current predictions for these units.

Table 13: Average Site Index by Leading Species

Area Wtd Average Site Index (BHA 50)		Species					
		Alpine Fir		Spruce		Pine	
BEC	Site Series	Actual SI	Predicted	Actual SI	Predicted	Actual SI	Predicted
BWBSmw 1	01	21.7	N/A	19.2	17.8	19.3	18.0
	02	22.0	N/A	16.5	9.0	15.0	12.0
	03	21.3	N/A	19.6	17.0	24.7	18.0
	04	15.0	N/A	21.3	12.0	24.9	15.0
	05	18.4	N/A	21.2	18.0	22.9	18.0
	06	0.0	N/A	18.1	17.9	15.0	18.0
	07	0.0	N/A	20.2	18.0	0.0	
BWBSmw1 Total		21.6	N/A	19.3	16.5	20.0	17.9
BWBSwk1	01	13.1	N/A	20.2	12.0	17.0	15.0
	02	0.0	N/A	19.6	9.0	17.4	12.0
	03	15.0	N/A	16.2	9.0	15.8	12.0
	04	15.0	N/A	15.4	12.0	15.5	15.0
	05	0.0	N/A	15.0	15.0	21.0	15.0
	06	12.6	N/A	15.0	15.0	0.0	15.0
	07	0.0	N/A	15.0	9.0	0.0	12.0
	08	0.0	N/A	15.0	6.0	0.0	9.0
BWBSwk1 Total		14.1	N/A	18.7	11.0	17.0	14.3
BWBSwk2	01	19.0	N/A	18.9	12.0	0.0	15.0
	02	0.0	N/A	18.0	9.0	0.0	12.0
	03	0.0	N/A	18.0	12.0	0.0	15.0
	04	0.0	N/A	18.0	9.0	0.0	12.0
	05	0.0	N/A	18.0	15.0	0.0	15.0
BWBSwk2 Total		19.0	N/A	18.8	11.9	0.0	N/A
ESSFmv2	01	19.1	12.0	16.6	15.0	22.1	15.0
	02	23.6	9.0	18.5	9.0	21.7	12.0
	03	17.8	6.0	16.6	6.0	21.6	9.0
	04	15.9	15.0	19.3	15.0	15.3	18.0
	05	0.0	15.0	19.0	15.0	16.8	15.0
	06	0.0	15.0	20.0	15.0	15.7	15.0
ESSFmv2 Total		19.2	11.9	17.1	14.3	21.4	14.2

Area Wtd Average Site Index (BHA 50)		Species					
		Alpine Fir		Spruce		Pine	
BEC	Site Series	Actual SI	Predicted	Actual SI	Predicted	Actual SI	Predicted
ESSFmv4	01	0.0	12.0	18.0	15.0	0.0	15.0
	02	0.0	9.0	18.0	9.0	0.0	12.0
	03	0.0	6.0	18.0	6.0	0.0	9.0
	04	0.0	15.0	18.0	15.0	0.0	18.0
ESSFmv4 Total		0.0	-	18.0	15.0	0.0	N/A
ESSFwc3	01	15.0	15.0	0.0	15.0	0.0	
	02	14.8	9.0	0.0	9.0	0.0	
	03	14.3	15.0	0.0	15.0	0.0	
ESSFwc3 Total		14.8	14.5	0.0	N/A	0.0	N/A
ESSFwk2	01	15.3	15.0	16.6	15.0	19.7	
	02	15.6	9.0	17.0	9.0	19.8	
	03	15.2	12.0	16.2	12.0	21.0	15.0
	04	17.1	15.0	17.5	15.0	21.0	
	05	16.2	15.0	16.4	15.0	21.0	
ESSFwk2 Total		15.4	13.9	16.7	13.7	20.4	15.0
SBSwk2	01	15.9	15.0	18.8	18.0	21.1	21.0
	02	20.8	12.0	20.0	15.0	20.9	15.0
	03	20.9	12.0	19.4	18.0	19.5	18.0
	04	16.0	-	18.8	15.0	21.0	18.0
	05	20.3	18.0	18.5	21.0	20.0	21.0
	06	21.4	18.0	18.7	24.0	20.3	21.0
	07	17.1	-	18.0		20.9	
SBSwk2 Total		17.3	15.3	18.9	17.6	20.5	16.7

REVISIONS

No revisions are suggested for this indicator or objective.

2.19 SOIL DEGRADATION

Indicator:	Objective:
19. Soil degradation	We will not exceed site degradation guidelines.

STATUS AND COMMENTS

All areas harvested in 2001 and 2002 and assessed in 2002 were within the prescribed allowable limits for site degradation (Table 14).

Table 14: Conformance To Site Degradation Guidelines For Blocks Harvested in 2001 and 2002

Licence	Cut Block	Silviculture Prescription within Site Degradation Guidelines	Harvesting Consistent with Silviculture Prescription Site Degradation Limits
TFL48	275-002	Yes	Yes
TFL48	275-007	Yes	Yes
TFL48	276-003	Yes	Yes
TFL48	610-001	Yes	Yes
SBFEP-TFL	A57974-001	Yes	Yes

Licence	Cut Block	Silviculture Prescription within Site Degradation Guidelines	Harvesting Consistent with Silviculture Prescription Site Degradation Limits
SBFEP-TFL	A57974-004	Yes	Yes
SBFEP-TFL	A57974-005	Yes	Yes
SBFEP-TFL	A58810-001	Yes	Yes
SBFEP-TFL	A59441-001	Yes	Yes
TFL48	080-001	Yes	Yes
TFL48	080-002	Yes	Yes
TFL48	237-002	Yes	Yes
TFL48	237-004	Yes	Yes
TFL48	247-006	Yes	Yes
TFL48	247-006	Yes	Yes
TFL48	275-001	Yes	Yes
TFL48	275-005	Yes	Yes
TFL48	276-004	Yes	Yes
TFL48	276-006	Yes	Yes
TFL48	327-004	Yes	Yes
TFL48	329-002	Yes	Yes
TFL48	329-003	Yes	Yes
TFL48	329-004	Yes	Yes
TFL48	366-001	Yes	Yes
TFL48	366-002	Yes	Yes
TFL48	366-003	Yes	Yes
TFL48	366-004	Yes	Yes
TFL48	612-002	Yes	Yes
TFL48	612-004	Yes	Yes
TFL48	619-006	Yes	Yes
TFL48	619-007	Yes	Yes
TFL48	624-004	Yes	Yes
TFL48	624-005	Yes	Yes
TFL48	631-001	Yes	Yes
TFL48	631-002	Yes	Yes
TFL48	635-001	Yes	Yes
TFL48	635-002	Yes	Yes
TFL48	635-004	Yes	Yes
TFL48	635-006	Yes	Yes
TFL48	636-001	Yes	Yes
TFL48	636-002	Yes	Yes
TFL48	636-003	Yes	Yes
TFL48	636-004	Yes	Yes
TFL48	638-004	Yes	Yes
TFL48	638-005	Yes	Yes
TFL48	722-001	Yes	Yes
TFL48	722-002	Yes	Yes
TFL48	726-004	Yes	Yes
TFL48	T2001	Yes	Yes
TFL48	T2011	Yes	Yes
TFL48	T2052	Yes	Yes
TFL48	T3B003	Yes	Yes
TFL48	T3B004	Yes	Yes
TFL48	T4003	Yes	Yes

REVISIONS

No revisions are suggested for this indicator or objective.

2.20 SEEDLING GROWTH OR ESTABLISHMENT

Indicator:	Objective:
20. Seedling growth or establishment	We will meet Free Growing requirements within Silviculture Prescriptions.

STATUS AND COMMENTS

The current status of free growing stands is shown in Table 15. No areas are past the Free Growing deadline.

Table 15: Free Growing Status as of April 2002

	Licence				
	Backlog Areas (Pre 1987)	TFL48 (1987- 2002)	SBFEP (1985 -2002)	PA13 (1990-1999)	Grand Total
Avg. Logged (ha/yr)	N/A	1309	161	60	N/A
Total Area Logged to Date	20,264	19,637	2,743	542	43,186
Area NSR (ha) ¹	1,128 ²	813	554	186	2,681
Area Not FG	14,675	19,140	2,372	542	31,148
Area FG	5,589	497	371	0	6,457
Area Past FG Date	N/A	0	0	0	0

Source: Canfor Genus Report (June 2003) – Genus queries and Genus spatial data for SBFEP and PA 13

¹ Reporting of NSR changed to capture NSR greater than 1 year old. (NSR reported for all areas where harvest completion was before May 31, 2002.)

² Area increased due to inclusion of the Rice Property into Licence IO-TFL48 in Genus.

REVISIONS

No revisions are suggested for this indicator or objective.

2.21 SOIL DISTURBANCE SURVEYS

Indicator:	Objective:
21. Soil disturbance surveys	We will not exceed soil disturbance limits within cutblocks.

STATUS AND COMMENTS

Harvesting and silviculture activities completed in 2002 complied with allowable soil disturbance limits. See list of blocks referenced in Indicator 19.

REVISIONS

No revisions are suggested for this indicator or objective.

2.22 AREA IN CUTBLOCK MANAGED AS RRZ OR RMZ

Indicator:	Objective:
22. Area in cutblock managed as Riparian Reserve Zone or Riparian Management Zone by appropriate stream, lake or wetland classification	We will meet or exceed appropriate riparian measures as recommended by the Forest Practices Code Riparian Guidebook.

STATUS AND COMMENTS

Management Plan 3 describes a comprehensive approach for accounting for riparian net downs across the landbase. The Annual Reports provide updates for riparian reserve (RRZ) and management (RMZ) zones for rivers, streams, lakes and wetlands each year (Table 16). In 2000, 2001, and 2002 no blocks were harvested adjacent to wetlands or lakes, only near rivers and streams.

In 2002, all regulatory riparian management requirements were met or exceeded (Table 16). In all cases the actual Riparian Management Area (RMA) exceeded regulatory requirements. In several cases 100% retention was used in several RMZ's, effectively increasing the RRZ. Thus the total RMA values and the area weighted RMZ percent retention reported are more indicative of how riparian areas are managed.

Table 16: Summary of Riparian Reserve and Management Zones in 2000 - 2002

Year	Stream, Wetland or Lake Class	Total Stream Length (m) ^b	RRZ – Required		RRZ–Actual		RMZ Required		RMZ – Actual		Total RMA		RMZ Percent Retention (Area Weighted)
			Width (m) ^c	Area (ha) ^d	Width (m) ^c	Area (ha) ^d	Width (m) ^c	Area (ha) ^d	Width (m) ^c	Area (ha) ^d	Required (m)	Actual (m)	
2000	S1 ^a (n=0)	0	50	N/A	N/A	N/A	20	N/A	N/A	N/A	70	N/A	N/A
	S2 (n=2)	2,200	30	6.6	30	6.6	20	4.4	50	11.0	50	80	81%
	S3 (n=1)	350	20	0.7	20	0.7	20	0.7	60	2.1	40	80	100%
	S4 (n=1)	1,700	0	0	0	0	30	5.1	30	5.1	30	30	20%
	S5 (n=0)	0	0	0	N/A	N/A	30	N/A	N/A	N/A	30	N/A	0
	S6 (n=19)	13,750	0	0	0	N/A	20	27.5	32	44.0	20	32	14%
2001	S1 ^a (n=1)	800	50	4	78.7	6.3	20	1.6	0	0	70	78.7	0
	S2 (n=0)	0	30	N/A	N/A	N/A	20	N/A	N/A	N/A	50	N/A	N/A
	S3 (n=0)	0	20	N/A	N/A	N/A	20	N/A	N/A	N/A	40	N/A	N/A
	S4 (n=0)	0	0	0	N/A	N/A	30	N/A	N/A	N/A	30	N/A	N/A
	S5 (n=7)	6,680	0	0	46.3	30.9	30	20	4.8	3.2	30	51.1	0
	S6 (n=83)	36,985	0	0	9.1	33.6	20	74.0	15.3	56.5	20	24.4	2%
2002	S1 ^a (n=0)	0	50	N/A	N/A	N/A	20	N/A	N/A	N/A	70	N/A	N/A
	S2 (n=0)	0	30	N/A	N/A	N/A	20	N/A	N/A	N/A	50	N/A	N/A
	S3 (n=4)	5,100	20	10.2	61.35	31.85	20	10.2	5	1.3	40	66.35	99%
	S4 (n=3)	2,400	0	0	0	0	30	7.2	30	7.2	30	30	13%
	S5 (n=9)	6,050	0	0	0	0	30	18.15	34.2	20.7	30	34.2	83%
	S6 (n=42)	40,590	0	0	0	0	20	81.18	26.7	108.38	20	26.7	49%

^a Channel widths for S1 streams are >20m, <100m. ^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) and the widths are not doubled. ^d Areas are equal to the length of stream as reported on the table multiplied by the reserve width.

REVISIONS

No revisions are planned for this indicator.

2.23 AREA OF A STREAM AFFECTED BY HARVESTING AND ROAD CONSTRUCTION

Indicator:	Objective:
23. Area of a stream affected by timber harvesting and road construction	<p>23-1 We will identify hazard indices through watershed assessment procedures as necessary.</p> <p>23-2 We will identify watercourses and hazards to watercourses as they arise.</p>

2.23-1 Hazard Indices

STATUS AND COMMENTS

Objective 23-1 is no longer being monitored.

REVISIONS

No revisions are proposed for this objective.

2.23-2 Watercourses and Hazards to Watercourses

STATUS AND COMMENTS

In 2002 Canfor completed maintenance activities on 474 km of road at 218 locations. One bridge maintenance activity was conducted at 0.7 km of the Table Road by placing rip-rap to armour the banks and prevent erosion.

REVISIONS

Canfor recommends that this indicator no longer be monitored. Canfor manages roads within our Environmental Management System (EMS). The EMS Roads Environmental Program outlines the environmental aspects, objectives, legislation, performance measures, operational controls, supervision, monitoring and inspection frequency, and risk assessment. The Roads Environmental Program ensures that risks are assessed and maintenance is conducted as necessary

The Stream Crossing Quality Index effectively monitors of our practices to determine how successful our Roads Environmental Program is at dealing with potential sediment delivery to streams.

2.24 SEDIMENT LEVELS

Indicator:	Objective:
24. Sediment levels	<p>24-1) We will conduct a sampling of stream crossing quality assessments and ensure that the watershed level SCQI score does not exceed 0.40</p> <p>24-2) We will visit all crossings with a High Water Quality Concern Rating (WQCR) within one year of detection and prepare an action plan to reduce the WQCR. Priority for remedial projects shall be in the following order: streams used for domestic water supply, fish bearing streams, and others.</p>

STATUS AND COMMENTS

A) Continuous Monitoring:

The Meadow Creek Water Quality Monitoring Program is a long term (2–5 year), continuous watershed monitoring project designed to investigate point-source and cumulative impacts of forest management on sediment levels, discharge and temperature. The study area is within the Fort St. John TSA, but the control site is located on a tributary of Aylard Creek that is within TFL 48. The goals of this project are to identify and quantify the effect of forest management on sediment generation, to field test the Stream Crossing Quality Index (explained below), and to provide information on erosion and sediment delivery to streams (Beaudry 2002_a). The second year of data was collected on the Meadow Creek Program in 2002.

B) Stream Crossing Quality Index:

The method chosen for monitoring stream crossings is known as the Stream Crossing Quality Index (SCQI). The SCQI is a refinement of the stream crossing density index (SCDI) that has traditionally been used to determine the impact that stream crossings have on the aquatic resources within a watershed. The advantage of the SCQI approach is that it assesses impacts of individual stream crossings on water quality and the cumulative effect of the individual crossings on the watershed. The SCQI can be used to inform of specific crossing problems as well as monitor watershed level impacts of forest management.

SCQI scores for individual crossings range between 0 and 1, depending on the impact the crossing is having on water quality. A score of 1 indicates that the crossing has a substantial impact on water quality. As the impact is reduced the score decreases until it eventually reaches 0. Watershed level SCQI's are calculated by adding the individual crossing scores and dividing this value by the watershed area. Time, sediment control, erosion control and drainage control techniques can improve a crossing's SCQI score which provides an incentive to implement appropriate construction and deactivation techniques.

Example Calculation of SCQI (Table 17):

Watershed name: Bogus watershed
 Watershed size: 30 km²

Table 17: Stream Crossing Inventory for Bogus Watershed

Culvert ID	Field Comments	Score	Sum of Score
#1	Not checked	1	
#2	No erosion	0	
#3	Severe erosion	1	
#4	Mild erosion	0.2	

Culvert ID	Field Comments	Score	Sum of Score
#5	Not checked	1	
#6	De-activated and stable	0	
#7	Not checked	1	
#8	Moderate erosion	0.5	
#9	Not checked	1.0	
#10	Severe erosion	1.0	
Equivalent Stream Crossing Number =			6.7

Stream crossing density = $10/30 \text{ km}^2 = 0.33 \text{ crossings/km}^2$

The SCQI score for the Bogus watershed = $6.7/30\text{km}^2 = 0.22 \text{ crossings/km}^2$

2001 Follow-up

SCQI values were calculated for six sub-basins on 279 crossings within the TFL in 2001 (Table 18). All of the sub-basins surveyed had significantly lower SCQI scores than the threshold of 0.40. All of the crossings with high WQCR ratings (n= 45) surveyed in 2001 were visited by Canfor staff in 2002. An action plan was developed or remedial action was taken for each crossing visited in 2002.

2002 Sampling

WQCR values were calculated by Pierre Beaudry and Associates for 283 crossings during 2002. There were 76 crossings inspected during 2002 with a high WQCR reported. Canfor staff will inspect all of these crossings during the 2003 field season to develop an action plan and implement remedial works to reduce the WQCR. Most of the sub-basin SCQI values reported for 2002 are significantly less than their corresponding SCDI values (Table 19). This suggests that overall, crossings within each watershed are having a low impact on water quality (Beaudry 2002_b), and the watersheds surveyed would have to experience a severe degradation in crossing quality or a rapid increase in crossing density to have a medium or high impact on water quality (Beaudry 2002_b). However, in the Hasler sub-Basin, the Stream Crossing Quality Index for the watershed is 0.36 (threshold = 0.40). This is due to the relatively high density of crossings in this area and the fact that several individual crossings are having a significant impact on water quality. Canfor will evaluate these crossings and develop an action plan to address the crossings with a high WQCR and reduce the watershed level SCQI score in 2003.

IMPLEMENTATION SCHEDULE

Sampling of the Stream Crossing Quality Index will continue to be monitored and reported on an annual basis. Canfor will monitor SCQI using the following sampling approach:

- 1) The TFL will be divided into practical sub-basins.
- 2) SCQI will be assessed in each sub-basin on approximately a five year cycle (e.g. if there were 15 sub-basins defined in 1, three sub-basins would be sampled in each year),
- 3) All crossings will be assessed in the selected sub-basins.
- 4) Terrain/topography type and the amount of existing vs. proposed activity within the sub-basin would prioritize sub-basins. For example the Adams or Aylard Creek would not be sampled until such time as development takes place in these sub-basins.
- 5) Reports on SCQI and WQCR will be presented in the Annual Report.

Table 18: SCQI and Water Quality Concerns for Six Sub-Basins within TFL 48 – Sampling Completed During 2001

Watershed Name	n	Erosion Indices			Water Quality Concern Ratings				
		Stream Crossing Density Index	Sum of Stream Crossing Quality Scores	Stream Crossing Quality Index	Stream Width Class ⁵	None ¹ % (#streams/ #streams sampled)	Low ² % (#streams/ #streams sampled)	Medium ³ % (#streams/ #streams sampled)	High ⁴ % (#streams/ #streams sampled)
Gaylard	47	0.30	14.9	0.10	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	33.3 (2/6)	66.7 (4/6)	0.0 (0/6)	0.0 (0/6)
					3	40.0 (6/15)	20.0 (3/15)	26.7 (4/15)	13.3 (2/15)
					4	46.7 (7/15)	13.3 (2/15)	26.7 (4/15)	13.3 (2/15)
					5	36.4 (4/11)	18.2 (2/11)	9.0 (1/11)	36.4 (4/11)
Lower Peace	61	0.44	18.7	0.14	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	33.3 (1/3)	33.3 (1/3)	33.3 (1/3)	0.0 (0/3)
					3	12.5 (1/8)	75.0 (6/8)	12.5 (1/8)	0.0 (0/8)
					4	31.3 (5/16)	50.0 (8/16)	0.0 (0/16)	18.7 (3/16)
					5	23.5 (8/34)	41.2 (14/34)	11.8 (4/34)	23.5 (8/34)
Gething	70	0.38	28.3	0.15	1	60.0 (3/5)	40.0 (2/5)	0.0 (0/5)	0.0 (0/5)
					2	0.0 (0/3)	0.0 (0/3)	66.7 (2/3)	33.3 (1/3)
					3	36.4 (4/11)	27.2 (3/11)	36.4 (4/11)	0.0 (0/11)
					4	24.0 (6/25)	40.0 (10/25)	4.0 (1/25)	32.0 (8/25)
					5	19.2 (5/26)	23.1 (6/26)	19.2 (5/26)	38.5 (10/26)
Wolverine	51	0.28	16.2	0.09	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	25.0 (1/4)	75.0 (3/4)	0.0 (0/4)	0.0 (0/4)
					3	60.0 (3/5)	0.0 (0/5)	0.0 (0/5)	40.0 (2/5)
					4	46.7 (7/15)	33.3 (5/15)	13.3 (2/15)	6.7 (1/15)
					5	18.5 (5/27)	44.5(12/27)	33.3 (9/27)	3.7 (1/27)
Middle Wolverine	22	0.13	3.96	0.02	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	66.7 (2/3)	0.0 (0/3)	0.0 (0/3)	33.3 (1/3)
					3	72.7 (8/11)	9.1 (1/11)	0.0 (0/11)	18.2 (2/11)
					4	50.0 (2/4)	50.0 (2/4)	0.0 (0/4)	0.0 (0/4)
					5	75.0 (3/4)	25.0 (1/4)	0.0 (0/4)	0.0 (0/4)

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

2 SCQI scores of 0.00

3 SCQI scores between 0.01 and 0.39

4 SCQI scores between 0.40 and 0.79

5 SCQI scores greater than 0.80

Table 19: SCQI and Water Quality Concerns for Three Sub-Basins within TFL 48 – Sampling Completed During 2001/2002

Watershed Name	n	Erosion Indices			Water Quality Concern Ratings				
		Stream Crossing Density Index	Sum of Stream Crossing Quality Scores	Stream Crossing Quality Index	Stream Width Class ⁵	None ¹ % (#streams/ #streams sampled)	Low ² % (#streams/ #streams sampled)	Medium ³ % (#streams/ #streams sampled)	High ⁴ % (#streams/ #streams sampled)
Hasler Sub-Basin	112	0.59	69.30	0.36	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	0 (0/6)	66.7 (4/6)	33.33 (2/6)	0.0 (0/6)
					3	5.9 (1/17)	17.7 (3/17)	29.4 (5/17)	47.1 (8/17)
					4	3.4 (2/59)	25.4 (15/59)	27.1 (16/59)	44.1 (26/59)
					5	0 (/31)	22.6 (7/31)	35.5 (14/31)	41.9 (13/31)
Brazion	70	0.22	26.37	0.08	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	0.0 (0/4)	50.0 (2/4)	0 (0/4)	50.0 (2/4)
					3	7.7 (1/13)	38.5 (5/13)	15.4 (2/13)	38.5 (5/13)
					4	18.4 (7/38)	52.6 (20/38)	18.4 (7/38)	10.5 (4/38)
					5	20.0 (3/15)	60.0 (9/15)	13.3 (2/15)	6.7 (1/15)
Upper Carbon	110	0.24	38.77	0.08	1	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)	0.0 (0/0)
					2	18.2 (2/11)	54.6 (6/11)	27.3 (3/11)	0.0 (0/11)
					3	0.0 (0/9)	22.2 (2/9)	66.7 (6/9)	11.1 (1/9)
					4	25.5 (13/41)	43.1 (22/41)	21.6 (11/41)	9.8 (5/41)
					5	28.2 (11/39)	30.8 (12/39)	12.8 (5/39)	28.2 (11/39)

1 SCQI scores of 0.00

2 SCQI scores between 0.01 and 0.39

3 SCQI scores between 0.40 and 0.79

4 SCQI scores greater than 0.80

5 1 = greater than 20m, 2 = 5 to 20m, 3 = 1.5 to 5m, 4 = 0.5 to 1.5m, 5 = less than 0.5m

REVISIONS

Canfor recommends changing the name of this indicator to Stream Crossing Quality Index (SCQI) as this is the variable we are measuring. The SCQI system does not make direct measurements of sediment levels, but rather assesses the potential of delivering sediment to streams.

2.25 STREAM FLOWS

Indicator:	Objective:
25. Stream flows	We will design forest management activities so those Peak Flow Indices (PFI) thresholds in designated sub-basins are not exceeded. (See Tables 20 and 21)

STATUS AND COMMENTS

Maximum PFI's have been established by an independent hydrologist for most of the watersheds within Canfor's TFL (Tables 20 and 21). These thresholds differ based on the characteristics of the watershed and are conservative targets aimed at maintaining the sustainability of the aquatic resource. Currently none of the blocks of the TFL 48 have any concerns for increased peak flows (Tables 20 and 21).

The PAC requested that PFI analyses be completed for several watersheds not completed during the initial PFI analyses and these be reported in the 2002 Annual Report. The Carbon sub-drainages were not modelled because they are too small to act as functional watersheds and to have any impact on water quantity in Williston Reservoir. However five watersheds were analyzed for the 2002 Annual Report: Gwillim, Trapper, Cameron, LeBleau, and Medicine Woman. The new analysis indicates very low PFI and ECA values which reflects the negligible level of development that has occurred in these watersheds.

Monitoring of this indicator will be once every 5 years in conjunction with the Management Plan, unless a sub-basin is approaching the threshold target. Where sub-basins are approaching the threshold targets proposed harvesting will be assessed to ensure the target is not exceeded. Next reporting of this indicator will be done in conjunction with Management Plan 4. It will represent conditions up to the end of 2004 and be completed in the spring of 2005.

Methodology

Peak Flow Index (PFI) is a tool used to ensure that forest management practices do not increase stream flows beyond a level that a given watershed can withstand. The tool assumes that harvesting and other disturbances increase snowpack accumulation in openings during the winter and increase the rate of melt in the spring, causing larger quantities of water to flow through the streams. This increase could potentially damage the watershed or destroy fish habitat and should be avoided. Also of importance is that the technique assumes that disturbance and harvesting occurring at higher elevations contribute more to the potential for damage due to even higher snowpack accumulations. A current and threshold PFI value is calculated for each watershed. The current PFI represents the current impact of disturbance in a watershed. The threshold is the amount of disturbance a watershed could reasonably absorb with out any undesirable changes to water quantity.

The PFI is based on the Equivalent Clearcut Area principle (i.e. the percentage of a watershed that is or will be disturbed) and the amount of disturbance occurring at higher elevations. Equivalent clear-cut area (ECA) is the amount of a watershed that has been disturbed, reduced by a factor that accounts for the hydrological recovery due to the growth in height of a regenerating forest. The recovery factors are obtained from the Coastal and Interior Watershed Assessment Procedure Guidebook (BC Government 1999) and heights can be obtained from forest inventory data or predicted using site index. The PFI index also acknowledges that disturbance occurring in higher elevations has a greater effect on stream flows than disturbance at lower elevations. Therefore the ECA is weighted an additional 50% when harvesting takes place at higher elevations. (Example: an ECA of 100 ha, half of which is at low elevations and the other half at high elevations would have a PFI of $50 \text{ ha} \times 1.5 + 50 \text{ ha} = 125$.)

Table 20: Peak Flow Index (Current and Target) and Watershed Characteristics for Block 1 and Block 2

Block	Watershed Name	Current ECA (%)	Current PFI	Amount of Lakes and Swamps	Mainstream Gradient	Dominant Topography	Mainstream Channel Type	Mainstream Stability	Peak Flow Sensitivity	Threshold ECA	Threshold PFI
Block 1 - Dunlevy Area	Adams	0.0	0.0	Low	Moderate	3	RPc	Stable	3	35	43
	Aylard	0.0	0.0	Low	Moderate	3	SPc	Localized instability	4	30	37
	Dunlevy	0.8	1.1	Low	Low	3	SPc	Generally unstable	5	25	31
	North Peace	0.0	0.0	Low	N/A	2	N/A	Stable	2	40	50
	Ruddy	1.1	1.1	Low	Low	2	RPc	Generally unstable	5	25	31
	Beany	0.0	0.0	Low	Moderate	2	RPc	Generally unstable	4	30	37
	Basin 862	6.1	8.4	Low	Low	1	RPg	Localized instability	3	35	43
Block 2 - Gething Area	Seven Mile	1.9	2.5	Low	Moderate	2	RPg	Stable	3	35	43
	Lower Carbon	9.5	11	Low	Low	3	RPg	Stable	2	40	50
	Eleven Mile	3.2	3.2	Low	Moderate	3	RPg	Localized instability	3	35	43
	Upper Carbon	3.6	3.6	Low	Low	3	RPc	Localized instability	4	30	37
	Lower Peace	16.3	19.9	Low	N/A	2	N/A	Stable	2	40	50
	Gaylard	11.7	13.5	Low	Low	3	RPc	Generally unstable	5	25	31
	Gething	10.8	12.7	Low	Low	3	RPc	Generally unstable	5	25	31
	Johnson	12.9	18	Low	Moderate	2	RPc	Localized instability	4	30	37
	*Cameron	0.0	0.0	Numerous	Moderate	2	CPc	Stable	2	40	50
	*LeBleau	0.0	0.0	None	Low	2	CPc	Stable	2	40	50
	*Medicine Woman	0.0	0.0	None	Low	2	CPc	Localized instability	3	35	35

Table 21: Peak Flow Index (Current and Target) and Watershed Characteristics for Block 4 and Block 5

Block	Watershed Name	Current ECA (%)	Current PFI	Amount of Lakes and Swamps	Mainstream Gradient	Dominant Topography	Mainstream Channel Type	Mainstream Stability	Peak Flow Sensitivity	Threshold ECA	Threshold PFI
Block 4 – Hasler Area	Lower Pine	4.2	6.4	Low	N/A	2	N/A	Stable	3	35	43
	Highhat	10.2	13.1	Low	Low	2	RPc	Localized instability	3	35	43
	Lower Sukunka	6	7.6	Low	Low	3	RPg	Localized instability	3	35	43
	Hasler	8.5	11.2	Low	Low	3	N/A	Localized instability	4	30	37
	Brazion	13.3	16	Low	Low	3	RPc	Localized instability	4	30	37
	Burnt Creek	9.8	11.6	Low	Low	3	RPc	Localized instability	4	30	37
	Upper Pine	2.3	2.8	Low	N/A	3	N/A	Localized instability	4	30	37
	LeMoray	5.1	5.1	Low	Moderate	3	CPc	Localized instability	4	30	37
	*Gwillim	3.0	4.0	Low	Low	3	RPc	Stable	3	35	43
	*Trapper	0.0	0.0	Low	Low	3	RPc	Very Unstable	4	30	37
Block 5 – Wolverine Area	Lower Wolverine	6.9	8.4	Low	Low	3	RPc	Localized instability	4	30	37
	Middle Wolverine	20.9	29.3	Low	Low	3	RPc	Stable	3	35	43
	Upper Wolverine	5.7	6.4	Low	Low	3	RPc	Localized instability	4	30	37
	Lower Murray	0.2	0.3	Low	Low	3	RPc	Localized instability	4	30	37
	Upper Murray	5.7	6.7	Low	Low	3	RPc	Localized instability	4	30	37

1. Topography classes: 1= Gently rolling, 2= Hilly, gentle mountains, 3= Mountainous with localized steepness, 4= Generally steep
2. Peak flow sensitivity classes: 1= least sensitive, 2=mildly sensitive, 3=moderately sensitive, 4=sensitive, 5=very sensitive
3. Mainstem gradient definitions: Low = less than 2%, Moderate = 2-6%, High = 6- 12%, very High = greater than 12%
4. Mainstem channel types: RPg = Riffle-pool-gravel, RPc= Riffle-pool cobble, CPc=Cascade-pool-cobble, CPb=Cascade-pool-boulder, SPb=Step-pool-boulder, SPR=Step-pool-rock.

REVISIONS

Canfor recommends changing the name of this indicator to Peak Flow Index (PFI) as this relates directly to the quantifiable measurements in the objective.

2.26 FOREST HEALTH

Indicator:	Objective:
26. Forest health	We will minimize Non-Recoverable Losses to less than 10% of AAC based on a 10 year rolling average.

STATUS AND COMMENTS

See Indicator 8.

This indicator is a complete duplication of Indicator 8. In the 2000 Annual Report Canfor proposed to delete Indicator 26 and continue to track Indicator 8. The PAC accepted this recommendation

REVISIONS

No revisions are suggested for this indicator or objective.

2.27 ALLOWABLE ANNUAL CUT

Indicator:	Objective:
27. Allowable Annual Cut	We will ensure that the allowable annual cut will not adversely impact Long Term Harvest Level.

STATUS AND COMMENTS

On September 20, 2001 the British Columbia Deputy Chief Forester determined the allowable annual cut will be 580,000 cubic metres, a 66,000 cubic metre increase from the last determination in 1996. Of the total allowable annual cut, 525,000 cubic metres are to come from coniferous stands and 55,000 cubic metres from deciduous stands. This AAC will not adversely impact the Long Term Harvest Level.

REVISIONS

No revisions are suggested for this indicator or objective.

2.28 SAWMILL LRF, CRF AND SHIPMENT OF MINI-CHIPS

Indicator:	Objective:
28. Sawmill Lumber Recovery Factor, Chip Recovery Factor and shipment of mini-chips	We will target an annual range of 246 - 252 fbm/m ³ , 0.15 BDU/m ³ and 60,000 tonnes/year respectively.

STATUS AND COMMENTS

Sawmill Lumber Recovery performance in 2002 exceeded the target range (Table 22). This is due to ongoing improvements to processes within the sawmill.

Canfor now reports chip recovery and mini-chip shipments in Oven Dry Tonnes (ODt).

Bone Dry Unit: A measure of wood chips volume equal to 2400 pounds of dry chips from which all the moisture has been removed.

Oven Dry Tonne: A measure of wood chips volume equal to 2204.6 pounds (1 tonne) of dry chips from which all the moisture has been removed.

Conversion: 1 ODt = 0.91858 BDU, or 1 BDU = 1.08863 ODt.

Chip Recovery in 2002 was below the target range (Table 22). This is primarily due to the significant improvements in Lumber Recovery.

Mini-chip shipments were incorrectly reported in the 2001 annual report. The amount has been corrected in Table 22. Mini-chip shipments for 2002 narrowly missed the target and the difference is negligible.

Table 22: Summary of Sawmill LRF, CRF and Shipment of Mini-Chips

Measure (Target)	1999	2000	2001	2002
Lumber Recovery Factor: 1999 to 2001 - (247-252 fbm/m ³) 2002 - (260 - 270 fbm/m ³) 2003 - (275 fbm/m ³ minimum)	250 fbm/m ³	248 fbm/m ³	264 fbm/m ³	280 fbm/m ³
Chip Recovery: 1999 to 2002 - (0.145-0.155 BDU/m ³) 2003 - (0.140 ODt/m ³ minimum)	0.150 BDU/m ³	0.160 BDU/m ³	0.148 BDU/m ³	0.134 BDU/m ³ 0.146 ODt/ m ³
Minichip shipments: 1999 to 2002 - (50-70,000 tonnes) 2003 - (40,000 ODt minimum)	60,000 tonnes	33,000 tonnes	26,604 tonnes 31,064 ODt	49,940 ODt

REVISIONS

Canfor suggests that the Lumber Recovery Factor target be changed to a minimum of 275 fbm/m³ and the Chip Recovery to a minimum 0.140 ODt/m³ to reflect improvements within the sawmill. The shipment of mini-chips is largely dependent on Pope and Talbot’s pulpmill in Mackenzie requirements. These requirements have been sporadic. Canfor suggests that the minichip shipments be changed to a minimum of 40,000 ODt.

2.29 HARVEST LEVELS / VOLUMES

Indicator:	Objective:
29. Harvest levels/volumes	We will achieve periodic cut control within 10% of target, over 5 years.

STATUS AND COMMENTS

Volumes harvested by year since 1987 are summarized in Table 23. For the period ending in 2001, we achieved periodic cut control within 10% of target. The actual cut was 113% of allowable during 2002, with four years remaining in the cut control period.

Table 23: Actual Recorded and Allowable Annual Cut Summary

Year	Allowable Annual Cut (m ³)	Adjustment (m ³)	Actual Recorded Cut (m ³)	Cut Control (%)
1987	348,500.0		319,871.0	91.8
1988	348,500.0		277,930.0	79.8
1989	348,500.0		183,330.0	52.6
1990	348,500.0		456,600.0	131.0
1991	348,500.0		555,001.0	159.3
Subtotal	1,742,500.0		1,787,732.0	102.6
1992	348,500.0	-8,315.0	280,820.0	82.5
1993	348,500.0	-8,315.0	389,447.9	114.5
1994	348,500.0	-8,314.0	284,526.6	83.6
1995	348,500.0	-8,314.0	313,409.0	92.1
1996	348,500.0	-8,314.0	391,717.0	115.1
Subtotal	1,742,500.0	-41,572.0	1,659,920.5	97.6
1997	401,370.0	16,516.0	343,587.6	82.2
1998	401,370.0	16,516.0	435,088.2	104.1
1999	401,370.0	16,516.0	532,574.3	127.4
2000	401,370.0	16,516.0	302,668.0	72.4
2001	419,713.0	16,516.0	339,306.1	77.8
Subtotal	2,025,193.0	82,580.0	1,953,224.2	92.7
2002	466,370.0	14,393.76	542,721	113

Source: MoF Annual Cut Control Letters (1987-2002)

For the period April 1999-March 2000 the SBFEP harvested 35,354 m³, and for the period April 2000-March 31, 2001, 50,068 m³ was harvested. For these 2 years the SBFEP has harvested under their 55,350 m³ annual apportionment. In 2001, 80,261 m³ was harvested from SBFEP areas.

REVISIONS

No revisions are suggested for this indicator or objective.

2.30 WASTE

Indicator:	Objective:
30. Waste	We will assess all waste volumes for harvested blocks and report annually.

STATUS AND COMMENTS

In 2002 all areas harvested by Canfor and SBFEP were within the MOF benchmarks (Table 24).

Table 24: Summary of Waste and Residue

YEAR	BEC	Total Net Area (ha)	Average Waste (mandatory utilization) m ³ per ha	Average of MOF Benchmark
2001	BWBS	201	1.69	4.0
	ESSF	964	1.70	20.0
	SBS	249	2.66	10.0
2001 Total		1414	1.89	
2002	BWBS	246	1.59	4.0
	ESSF	1253	2.28	20.0
	SBS	261	2.98	10.0
2002 Total		1719	2.60	

REVISIONS

No revisions are suggested for this indicator or objective.

2.31 TIMBER HARVESTING UTILIZATION STANDARDS

Indicator:	Objective:
31. Timber harvesting utilization standards	We will meet or exceed timber utilization standards of 1999 (i.e., 4 inch tops).

STATUS AND COMMENTS

Timber harvesting utilization levels were discussed at the 8th PAC meeting on December 7, 2000. The top size diameter limit has been varied due to severe economic conditions.

From May 1, 2002 to April 30, 2003 approximately 10.8% of the total log volumes were optional grades of timber. This is an increase from the previous year (7.6%) and from 2001 (8.4%).

REVISIONS

No revisions are suggested for this indicator or objective.

2.32 AREA OF FORESTED LAND

Indicator:	Objective:
32. Area of forested land	32-1 We will track, monitor and project losses to other uses and incorporate these losses in to AAC calculations every 5 years.

2.32-1 Track and Project Losses**STATUS AND COMMENTS**

The next review of area of forested land will be done in conjunction with Management Plan 4. It will represent forest conditions as of March 31, 2005. This analysis will occur in the spring of 2005.

REVISIONS

No revisions are suggested for this indicator or objective.

2.33 INVESTMENT IN NEW TECHNOLOGY, CAPITAL MAINTENANCE AND CONSTRUCTION

Indicator:	Objective:
33. Average investment in new technology, capital maintenance and construction at Canfor operations in Chetwynd	We will invest \$2.5 million annually based on a 10 year rolling average, in new technology, capital maintenance and construction.

STATUS AND COMMENTS

Average investment for the last 4 reporting periods has been higher than the \$2.5 MM target (Table 25).

Table 25: Annual Average Investment

10 Year Period (Rolling)	Average Annual Investment
1990-1999	\$4.0 MM
1991-2000	\$4.3 MM
1992-2001	\$4.4 MM
1993-2002	\$4.5 MM

REVISIONS

No revisions are suggested for this indicator or objective.

2.34 ECONOMIC CONTRIBUTION TO LOCAL COMMUNITIES AND CONTRACTORS

Indicator:	Objective:
34. The economic contribution that Canfor Chetwynd makes to local communities and contractors	<p>34-1 We will report annually on the economic indices that reflect Canfor's contribution to local communities and contractors, and jobs per cubic metre.</p> <p>34-2 We will provide contracting opportunities that support local employment where the skills exist.</p>

2.34-1 Local Economic Indices

STATUS AND COMMENTS

Canfor's contribution to the local economy is shown in Table 26. The number of "Jobs/ 1000m³" was 1.34 for 2002. The provincial average employment produced in the forest industry is approximately 1.4 jobs/1000m³ based on 1997 data (COFI 1998). These differences reflect the variation in production costs in the industry. Contract services to local contractors was \$19,700,000 for 2002. In this case, local contractors are defined as those having a business mailing address in the Dawson Creek Forest District, with the exception of Load'EmUp Contracting which has a mailing address in Prince George but maintains a business in

Chetwynd. Community donations were \$0 in 2002, however donations are now being administered through Canfor's corporate offices.

Table 26: Canfor's Contribution to Local Communities

Index	Amount (\$MM) 1999	Amount (\$MM) 2000	Amount (\$MM) 2001	Amount (\$MM) 2002
Property Taxes	0.3	0.3	0.4	0.43
Salary Wages and Benefits	13.3	13.8	11.5	14.2
Contract Services (Local)	23.1	16.7	16.9	19.7
Contract Services (Non-local)	13.5	6.4	9.25	14.9
Supplies	2.4	1.7	1.6	1.9
Community Donations	0.008	0.10	0.002	0
Jobs/m ³	1.39/1000 m ³	1.82/1000 m ³	1.66/1000 m ³	1.34/1000m ³

The number of jobs/m³ is calculated as follows:

(Total Wages/Average Provincial Wage)/Actual Recorded Cut

Where:

Total wages = Salaries, Wages and Benefits + Local Contractors + Non-local Contractors

Average Provincial Wage = This is based on Pricewaterhouse Coopers Annual Report on the Forest Industry in British Columbia. In 1999 the provincial average forest industry employee earned \$67,042.

Actual Recorded Cut = Indicator 29

REVISIONS

No revisions are suggested for this indicator or objective.

2.34-2 Local Contractors

STATUS AND COMMENTS

In this case "local" contractors are those found in the Fort St. John and Dawson Creek Forest Districts. The EMS contractor database is used to provide the total number of contractors.

The percentage of local contractors in Canfor's Peace Region approved contractor database was 71%, 68%, 61%, and 66% during 1999, 2000, 2001 and 2002, respectively. For 2002 there were 336 total contractors on the approved contractor database. There were 221 local contractors on the list or 66% of the total.

REVISIONS

No revisions are suggested for this indicator or objective.

2.35 ANIMAL UNIT MONTHS

Indicator:	Objective:
35. Animal unit months	We will maintain an annual average of 1000 Animal Unit Months (excludes brush control by sheep).

STATUS AND COMMENTS

Table 27 shows the animal unit months (AUM) of range tenures that were issued on the TFL for 2002. Some of these tenures overlap the TFL and are not totally contained within the TFL. The methodology to derive this was to simply prorate by area the number of AUM's attributable to the TFL.

The total number of AUM's has increased by 47 from 2,503 in 2000 to 2,550 in 2001 and an additional 107 AUM's to 2,657 in 2002.

Table 27: Animal Unit Months on TFL 48 for 2001

Range Tenure	Total AUM's	% Area TFL	AUM's on TFL
Grazing Lease	10	100.0%	10
RAN075680	268	98.8%	265
RAN075491	263	11.3%	30
RAN071818	148	99.6%	147
RAN072876	30	100.0%	30
RAN072880	20	95.9%	19
RAN073021	944	58.2%	549
RAN073876	1,080	34.8%	376
RAN074239	50	100.0%	50
RAN074307	240	40.3%	97
RAN075673	204	100.0%	204
RAN075676	120	100.0%	120
RAN075675	280	100.0%	280
RAN075674	480	100.0%	480
Total			2,657

REVISIONS

No revisions are suggested for this indicator or objective.

2.36 VISUAL LANDSCAPE INVENTORY

Indicator:	Objective:
36. Visual Landscape Inventory	We will maintain and update an approved visual landscape inventory.

STATUS AND COMMENTS

A new Visual Landscape Inventory (VLI) was completed in 2000. Canfor submitted recommended Visual Quality Objectives for the VLI completed in 2000 on March 4, 2002. The Ministry of Forests has responded with comments and questions. Canfor has not provided requested data at this time. This will be completed in 2003.

REVISIONS

No revisions are suggested for this indicator or objective.

2.37 LEVEL OF PUBLIC ACCEPTANCE

Indicator:	Objective:
37. Level of public acceptance of Visual Landscape inventory	<p>37-1 We will include public input in reviewing and updating the visual landscape inventory.</p> <p>37-2 We will propose and manage harvesting cutblocks consistent with Visual Sensitivity Classes.</p>

2.37-1 Visual Landscape Inventory Public Input

STATUS AND COMMENTS

There were no public comments received during 2002 concerning visual impacts or designs.

REVISIONS

No revisions are suggested for this indicator or objective.

2.37-2 Visual Impact Assessments

STATUS AND COMMENTS

Requirements for landscape design and perspective modelling is identified at each forest development plan.

The following table, Table 28, shows the status of blocks that were harvested in 2001 but still had outstanding assessments required. All permits associated with 2001 have now been completed and post harvest assessments are scheduled for the 2003 field season.

Table 28: Blocks Harvested in 2001 with Post Harvest Assessments Required

Licence	Cut Block	Visual Impact Assessment	Harvesting Consistent with VIA
TFL48	080-002	Done	Yes
TFL48	236-006	Done	Not Visible; confirmed
TFL48	275-002	Done	CP complete assessment to be completed by Oct 1, 2003

Licence	Cut Block	Visual Impact Assessment	Harvesting Consistent with VIA
TFL48	275-007	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	276-003	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	330-001	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	330-002	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	330-003	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	640-001	Done	Yes
TFL48	T2012	Done	Not Visible; confirmed

Harvested blocks were compared with the 1995 Visual Landscape Inventory (VLI) and the 2000 Visual Landscape Inventory. Table 29 shows all blocks where harvesting was completed in 2002. Those highlighted fall within either the 1995 or 2000 VLI. All blocks in a visual area have had visual impact assessments completed. Some blocks have had VIA completed that were outside of the defined visual areas.

All blocks in visual areas have post harvest visual assessments scheduled to ensure that the plans have achieved the desired results.

Table 29: Blocks Harvested in 2002 with VIA Requirements

Licence	Cut Block	Visual Impact Assessment	Harvesting Consistent with VIA
IO-TFL48	T3B003	Not Required	
IO-TFL48	T3B004	Not Required	
SBFEP-TFL	A57974-001	Not Required	
SBFEP-TFL	A57974-004	Not Required	
SBFEP-TFL	A57974-005	Not Required	
SBFEP-TFL	A58810-001	Done	
TFL48	080-001	Done	Yes
TFL48	080-002	Done	Yes
TFL48	237-002	Done	
TFL48	237-004	Done	
TFL48	247-006	Not Required	
TFL48	275-001	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	275-005	Done	
TFL48	276-004	Done	
TFL48	276-006	Done	
TFL48	327-004	Done	
TFL48	329-002	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	329-003	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	329-004	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	366-001	Not Required	
TFL48	366-002	Not Required	
TFL48	366-003	Not Required	
TFL48	366-004	Not Required	
TFL48	612-002	Not Required	
TFL48	612-004	Not Required	
TFL48	619-006	Not Required	

Licence	Cut Block	Visual Impact Assessment	Harvesting Consistent with VIA
TFL48	619-007	Not Required	
TFL48	624-004	Not Required	
TFL48	624-005	Not Required	
TFL48	631-001	Not Required	
TFL48	631-002	Not Required	
TFL48	635-001	Not Required	
TFL48	635-002	Not Required	
TFL48	635-004	Not Required	
TFL48	635-006	Not Required	
TFL48	636-001	Not Required	
TFL48	636-002	Not Required	
TFL48	636-003	Not Required	
TFL48	636-004	Not Required	
TFL48	638-004	Not Required	
TFL48	638-005	Not Required	
TFL48	722-001	Not Required	
TFL48	722-002	Not Required	
TFL48	726-004	Not Required	
TFL48	T2001	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	T2011	Done	
TFL48	T2052	Done	CP complete assessment to be completed by Oct 1, 2003
TFL48	T4003	Not Required	

REVISIONS

No revisions are suggested for this indicator or objective.

2.38 BACK COUNTRY CONDITION

Indicator:	Objective:
38. Back country condition	We will maintain or increase backcountry condition in Klin Se Za, Bocoock, Butler Ridge, Pine LeMoray, Peace Boudreau, and Elephant Ridge/Gwillim Protected Areas and manage special management zones (Klin Se Za, North Burnt, Dunlevy) as per LRMP.

STATUS AND COMMENTS

In 2002, Canfor had harvesting and road building activities within the Dunlevy and the North Burnt SMZ. These activities are shown in Tables 30 and 31. In 2003 scheduled activities are to complete initial silviculture activities and complete deactivation works.

Table 30: Canfor Road Activity within Backcountry Areas in 2002

PAS / SMZ	Road Name	Length (km)	Activity
Dunlevy SMZ	27507.100	1.6	Semi-permanent deactivation
	27502.100	1.0	Semi-permanent deactivation
	27505.100	0.5	Semi-permanent deactivation
	27603.200	0.2	Semi-permanent deactivation
	27603.100	0.5	Semi-permanent deactivation
	27604.100	1.4	New construction temp deactivation spring 2002, semi-permanent deactivation fall 2002
	27604.110	0.3	New construction and de-build temp road spring 2002
	27604.120	0.3	New construction semi-permanent deactivation
	27606.100	1.5	New Construction of additional 1.5 km, gate maintained at ~0.5 km to control access.
	27606.110	0.8	New construction temp deactivation
27501.100	2.2	Semi-permanent deactivation	
Dunlevy Total		10.3	
North Burnt SMZ	72201.100	0.7	New construction, semi-permanent deactivation, culverts removed Outside of SMZ bridge was removed at start of road (0+150), and two sections of road were rehabilitated/recontoured to restrict ATV access into SMZ
	72201.110	0.7	New Construction temp road, un-build road
	72609.100	10.9	New Construction temporary seasonal deactivation
North Burnt Total		12.3	

Table 31: Canfor Harvest Activity within Backcountry Areas in 2002

PAS / SMZ	Block	Area (ha)	Activity
Dunlevy SMZ	275-001	20.6	Harvest started 2001 and completed 2002
	275-005	21.5	Harvest started and completed spring 2002
	276-004	44.4	Harvest started and completed spring 2002
	276-006	80.9	Harvest started and completed 2002
Dunlevy Total		167.4	
North Burnt SMZ	722-001	29.8	Harvest Started and completed spring 2002
	722-002	3.0	Harvest Started and completed spring 2002
	726-004	12.5	Harvest Started and completed Dec 2002
	726-006	8.6	Harvest Started and completed spring 2003
	726-007	103.0	Harvest Started and completed spring 2003
North Burnt Total		156.9	

The Dunlevy Management Plan has been accepted and was approved by government on January 30, 2002. This indicator will be further reviewed and revised if necessary to ensure consistency with the Dunlevy Management Plan. Operations conducted in 2001 were consistent with the Dunlevy Management Plan.

The following Table 32 is as per the Management Plan 3 and shows the ROS for the Backcountry areas. During 2000 the roaded areas were further investigated and all existing motorized access was identified. Maps and Table 33 was presented to the PAC at the December 6, 2001 meeting. For the purposes of tracking forest industry impacts to the ROS in the Dunlevy SMZ and the Butler Ridge Protected Area Table 33 will be considered the baseline condition.

Table 32: Area of ROS Class by PAS and SMZ's from MP 3

PAS / SMZ	Recreation Opportunity Spectrum			
	Roaded (ha)	Semi-Primitive Motorized (ha)	Semi-Primitive Non Motorized (ha)	Grand Total (ha)
Bocock			988	988
Butler Ridge	1,479		5,035	6,513
Dunlevy SMZ	3,619	8,672	18,871	31,162
Elephant Ridge/Gwillim	25		2,890	2,915
Klin Se Za			2,668	2,668
North Burnt SMZ	6,305		10,574	16,879
Peace River/Boudreau	2,089			2,089
Pine/LeMoray	1,017	1	2,262	3,280
Klin Se Za Mountain SMZ	1,709		7,364	9,073
Klin Se Za Headwaters SMZ	7,146	140	10,419	17,704
Total	23,388	8,813	61,071	93,272

Table 33: Revised Baseline Area of ROS Class for Butler Ridge and Dunlevy

PAS / SMZ	Recreation Opportunity Spectrum			
	Roaded (ha)	Semi-Primitive Motorized (ha)	Semi-Primitive Non Motorized (ha)	Grand Total (ha)
Butler Ridge	1,133	1,309	4,150	6,591
Dunlevy SMZ	5,283	4,589	21,976	31,848
Total	6,415	5,897	26,126	38,439

REVISIONS

No revisions are suggested for this indicator or objective.

2.39 BOTANICAL FOREST PRODUCTS

Indicator:	Objective:
39. Habitat supply for botanical forest products	We will investigate local uses of botanical forest products to determine habitat requirements.

STATUS AND COMMENTS

Canfor will complete the native medicinal plant and plant community inventory project in co-operation with West Moberly First Nation (WMFN) during the 2003 field season. This inventory will provide Canfor with knowledge about important plants and the ecosystems that they inhabit. Canfor can then develop management plans that conserve or protect these plants and potentially develop habitat models to assist with long-term planning. WMFN will benefit from

this inventory by having a list of plants used by elders for teaching and archive purposes. Canfor's knowledge of botanical forest product use in the TFL is currently based on anecdotal information. At present there is no large-scale commercial use of botanical forest products in the TFL. Current uses include gathering of berries, medicinal plants and possibly such features as mushrooms and tree burls by both the public and Aboriginal people.

REVISIONS

No new revisions are proposed at this time. As per the 2001 Annual Report the completion date of the native medicinal plant and plant community inventory project will be during the 2003 field season. The report will be completed in time for the 2003 Annual Report.

2.40 PUBLIC ADVISORY COMMITTEE

Indicator:	Objective:
40. Public Advisory Committee	<p>40-1 We will establish and maintain a Public Advisory Committee and hold at least two meetings annually.</p> <p>40-2 We will hold an annual open house to review SFM plan performance.</p>

2.40-1 Public Advisory Committee

STATUS AND COMMENTS

Canfor held four meetings with the Public Advisory Committee in 2002 (Table 34). PAC meetings were mainly focused on reviewing indicators and providing input on Canfor's recommendations for change.

* One field trip was conducted with the PAC during 2002 to review the results of visual design, road deactivation, block designs, silviculture, and the Stream Crossing Quality Index.

Table 34: Summary of Meeting Dates, Committee, Advisors and Public Attendance

Meeting #	Date	# of Committee Members	Quorum	# of Advisors	# of Public
1	May 22, 2002	5	Y	7	1
2	June 30, 2002	8	Y	9	0
3	Sept 29, 2002	3	N/A*	4	2
4	Dec 5, 2002	9	Y	8	3

REVISIONS

No revisions are suggested for this indicator or objective.

2.40-2 Annual Open House

STATUS AND COMMENTS

An open house was held on June 12, 2002. In attempt to increase attendance, it was held in conjunction with Canfor's contractors' conference. This annual conference is attended by Canfor's primary logging contractors and their employees. The open house was set up in the

same facility as the contractors' conference, and displayed the forest development plan, the notification for intent to treat, and the SFM plan. Eleven visits to the open house were recorded.

REVISIONS

No revisions are suggested for this indicator or objective.

2.41 PARTICIPATION IN LRMP

Indicator:	Objective:
41. Participation in LRMP	We will attend meetings, and provide information as required, for LRMP functions.

STATUS AND COMMENTS

Canfor has attended 100% of all LRMP related meetings scheduled in 1999 (2) and 2000 (4) and 2002 (1). Special Management Zone meetings were held for the Dunlevy in 2000 (3) and 2001 (4) as well as one meeting held for the Klin Se Za in 2000. The Dunlevy Creek Management Plan was accepted and approved by government on January 30, 2002.

REVISIONS

No revisions are suggested for this indicator or objective.

2.42 LRMP AND LAND USE PLANS

Indicator:	Objective:
42. LRMP and land use plans	We will manage operations to the spirit and intent of the Dawson Creek LRMP.

STATUS AND COMMENTS

The 2002 Forest Development Plan has been approved and includes wording regarding the spirit and intent of the Dawson Creek LRMP. Canfor continues to work and report on items of the LRMP such as Protected Areas (Indicator 3), Special Management Zones (Indicators 38 and 41) and wildlife species (Indicators 4 and 5).

REVISIONS

At the December 5, 2002 PAC meeting information concerning Canfor's internal audit was presented expressing the concern that indicator 42 was un-quantifiable and un-measurable. The PAC recommended that this indicator be deleted and that the intent should be captured in the SFMP with a cross-reference to the objectives and strategies in the LRMP. Canfor accepted this recommendation and will include the suggestion within MP 4 scheduled for completion in 2005.

This indicator will no longer be tracked.

2.43 PROACTIVE CONSULTATION PROCESS

Indicator:	Objective:
43. Proactive consultation process for significant activities such as proposed timber harvesting	Forest Development Plan will be referred to Saulteau and West Moberly First Nations.

STATUS AND COMMENTS

The 2002 – 2007 Forest Development Plan was to referred to West Moberly First Nation, Saulteau First Nation and McLeod Lake Indian Band on January 28, 2002. Summaries of concerns are presented in Indicator 48.

REVISIONS

No revisions are suggested for this indicator or objective.

2.44 ARCHAEOLOGICAL IMPACT ASSESSMENTS

Indicator:	Objective:
44. Archaeological impact assessments on proposed harvest blocks	We will conduct archaeological impact assessments as indicated through archaeological overviews or inventory.

STATUS AND COMMENTS

No Archaeological Impact Assessments were conducted or required in 2002. AIA's will continue to be conducted as required.

REVISIONS

No revisions are suggested for this indicator or objective.

2.45 ABORIGINAL LIAISON

Indicator:	Objective:
45. Aboriginal liaison	We will increase the level of aboriginal input to forest management by meeting with band councils, representatives, contractors and/or individuals as issues and opportunities arise.

STATUS AND COMMENTS

In 2002, Canfor held six meetings with First Nations: three with Saulteau First Nations, one with West Moberly First Nation and two with the McLeod Lake Indian Band. The Forest Development Plan was also referred to the three First Nations on January 28, 2002. Canfor also referred information on the use of herbicides and invited review and comment (see Indicator 48) on the Pesticide Management Plan.

Table 35: Number of Meetings Held with First Nations Annually

First Nation	1999	2000	2001	2002
Saulteau	1	1*	3	3
West Moberly	2	1	4	1
McLeod Lake Indian Band	N/A	N/A	N/A	2

* Chief and Council did not attend a meeting on Nov. 30, 2000 but trappers from Saulteau did.

REVISIONS

No revisions are suggested for this indicator or objective.

2.46 INCORPORATE OBJECTIVES OF KLIN SE ZA INTO FDP AND MP

Indicator:	Objective:
46. Incorporate objectives of Klin Se Za into FDP and MP	We will maintain or increase backcountry condition in Klin Se Za, Bocoock, Butler Ridge, Pine LeMoray, Peace Boudreau, and Elephant Ridge/Gwillim Protected Areas and manage special management zones (Klin Se Za, North Burnt, Dunlevy) as per LRMP.

STATUS AND COMMENTS

See Indicator 38.

REVISIONS

No revisions are suggested for this indicator or objective.

2.47 ABORIGINAL EMPLOYMENT

Indicator:	Objective:
47. Aboriginal employment	We will budget \$100,000 annually for aboriginal contractors.

STATUS AND COMMENTS

Aboriginal Contractors conducted \$43,839 of forestry related work in 2002. Contributions were \$99,358 in 2001, \$447,988 in 2000 and \$465,000 in 1999.

REVISIONS

No revisions are suggested for this indicator or objective.

2.48 FDP, PMP AND MP

Indicator:	Objective:
48. FDP, PMP AND MP	We will advertise and refer plans to all parties in a proactive manner (public, agencies and other licence holders).

STATUS AND COMMENTS

Plan referrals and advertisements during 2002 were as follows (Table 36):

Table 36: Summary of Plan Referrals in 2002

Plan Type	Date	Location/Group
MP	N/A	<ul style="list-style-type: none"> No Management Plan Prepared in 2002
FDP	January, 28, 2002	<ul style="list-style-type: none"> Referrals: MoF, MWLAP, MSRM, OGC, Hudson's Hope Municipality, District of Chetwynd, Tumbler Ridge Municipality, Community of Kelly Lake. All trappers and outfitters notified by mail. Chetwynd Environmental Society notified by mail.
	January 29, 2002	<ul style="list-style-type: none"> Chetwynd Echo, Peace River Block News
	January 31, 2002	<ul style="list-style-type: none"> BC Gazette
	February 3, 2002	<ul style="list-style-type: none"> Tumbler Ridge Observer
	February 5, 2002	<ul style="list-style-type: none"> Chetwynd Echo
	February 10, 2002	<ul style="list-style-type: none"> Tumbler Ridge Observer
PMP	February 04 & 11, 2002	<ul style="list-style-type: none"> Referral of PMP to MWLAP
	February 19, 2002	<ul style="list-style-type: none"> Chetwynd Echo
	February 20, 2002	<ul style="list-style-type: none"> Tumbler Ridge Community Connections
	February 22, 2002	<ul style="list-style-type: none"> Dawson Creek Mirror
	March 6, 2002	<ul style="list-style-type: none"> Referral to Saulneau and West Moberly First Nations
	March 7, 2002	<ul style="list-style-type: none"> Referral to all Guides, Range users and Trappers in area
	March 8, 2002	<ul style="list-style-type: none"> Referral to Treat Eight Tribal Association, Kelly Lake First Nation Society, McLeod Lake Indian Band
	March 12, 2002	<ul style="list-style-type: none"> Referral to Interested Citizen

REVISIONS

No revisions are suggested for this indicator or objective.

2.49 PUBLIC ENQUIRY FORMS

Indicator:	Objective:
49. Public enquiry forms	We will respond to public inquiries on our practices (in addition to normal planning processes) within 1 month of receipt, and maintain and track forms as per the Environmental Management System.

STATUS AND COMMENTS

Canfor received 10 Public Inquiries in 2002; this is 3 more than received in 2001 (Table 37). There are no outstanding issues from the Public Inquiries received in 2002. Generally public inquiries documented from 1999 – 2002 have been easy to resolve by providing information to the concerned parties.

Table 37: Summary of Public Enquiries Received in Relation to TFL 48 in 2001

Person - Date	Concern	Canfor Response
Northern Lights College – 2002/01/19	Request for information on softwood lumber dispute.	Presentation given.
Chetwynd Environmental Society – 2002/03/22, 2002/06/03	Request to re-contour sections of CP 722 access roads.	Two written responses given. Re-contouring completed in October 2002.
First Nation – 2002/05/24	Request for development of consultation protocol.	Letter written.
Hunter – 2002/08/29	Request for hunting map.	Canfor does not produce maps for general purposes. Explanation provided.
Public – 2002/09/10	Complaint over speed of logging trucks and use of jake brakes early in the morning.	Notices posted at scale; discussed at truckers meeting.
Guide – 2002/09/24	Complaint over use of Canfor ribbon by hunters, speed of trucks on Dunlevy road, and request to defer layout in Upper Dunlevy.	Use of ribbon by Canfor staff investigated. Speed of trucks discussed with truckers and radio lent by Canfor to guide for hunting season, layout deferred in Dunlevy until 2004.
Hunter – 2002/10/19	Complaint that access to hunting area restricted because skidder was blocking road.	Canfor staff explained that the skidder was parked there on purpose to prevent deterioration of new construction by road use.
Public – 2002/11/18	Complaint that abandoned tree planting camp was left in disarray.	Canfor investigated site and found site to be clean. Asked MOF to investigate the status of planting camps in area. Summer students will visit site in spring 2003 and clean up if necessary.
Trapper – 2002/12/15	Complaint that when a contractor moved to new block, trapper was not notified and traps set in area were destroyed or removed.	Complaint was reviewed with trapper and foreman. Foreman advised of notification requirements.
Trapper – 2002/12/01	Trapper concerned about use of large blocks proposed on trapline.	Canfor sent letter to trapper explaining the benefits of large block sizes.

REVISIONS

No revisions are suggested for this indicator or objective.

2.50 LEVEL OF PUBLIC COMMENTS

Indicator:	Objective:
50. Level of public comments	We will provide feedback to concerned individuals and the PAC on how concerns were addressed.

STATUS AND COMMENTS

As per the May 17th, 2001 PAC meeting and the 2000 Annual Report, this objective for this indicator is reported as part of Indicator 49.

REVISIONS

No revisions are suggested for this indicator or objective.

2.51 SPATIAL AND TEMPORAL MODELS

Indicator:	Objective:
51. Spatial and temporal models	<p>51-1 We will use leading edge modelling systems to develop rotation length plans.</p> <p>51-2 We will use up-to-date vegetation inventory.</p> <p>51-3 We will use the best available science to develop an understanding of ecological response.</p>

2.51-1 Modelling Systems

STATUS AND COMMENTS

A three-year research partnership between Canfor, the Canadian Forest Service and National Science and Engineering Research Council (NSERC) was approved in November 2000 and has provided funding for the University of British Columbia to develop and refine an ecosystem-based modelling framework.

In 2002 UBC attended a PAC meeting on June 20 and provided an update on work completed to date. By the end of 2002 UBC had completed natural disturbance modelling and other scenario planning for Block 4 of TFL 48 choosing to postpone scenario planning for the whole TFL until 2003. During 2002 it was determined that an updated data set was required to properly accommodate the new scenarios. This was completed and information is now in place to complete the scenario analysis for the whole TFL.

A presentation detailing the results of the 3 year study is planned to be presented to the PAC in the fall of 2003.

REVISIONS

No revisions are suggested for this indicator or objective.

2.51-2 Vegetation Inventory

STATUS AND COMMENTS

The VRI has been updated to October 2001. Current status and post development plan analysis was completed in support of the 2002-2007 FDP. The next scheduled update of the VRI for disturbance will be conducted in support of the next proposed developments.

Phase II sampling was completed in 2002. An analysis and report (JS Thrower 2003) was completed which provides the Phase I (unadjusted inventory data), Phase II (ground plot data), and the adjusted inventory statistics for this VRI. The target population for VRI statistical adjustment was the Vegetated Treed (VT) areas ≥ 30 years old.

After statistical adjustment, site index increased 8% and net merchantable volume increased approximately 30%. In high priority areas (likely the timber harvesting land base: 269,069 ha), net merchantable volume increased approximately 13%. Adjusted volume estimates were not

corrected for taper and hidden decay bias with Net Volume Adjustment Factor (NVAF) sampling. Therefore, the volume increase is slightly overstated.

The management impacts of these inventory changes are:

- The overall upward adjustment of approximately 13% for standing volume in the high priority areas may have an upward pressure in the allowable annual cut for the TFL.
- There may be an increase in the land base classified as VT moderate priority if the adjusted database is re-classified by land type.

REVISIONS

No revisions are suggested for this indicator or objective.

2.51-3 Best Available Science

STATUS AND COMMENTS

See 51-1 for status and comments.

REVISIONS

No revisions are suggested for this indicator or objective.

2.52 NUMBER OF RECREATIONAL TRAILS AND CAMPSITES

Indicator:	Objective:
52. Number of recreational trails and campsites	We will provide and/or maintain a minimum of one trail and three recreation sites on the TFL.

STATUS AND COMMENTS

Carbon, Gething, and Wright Lake recreation sites had inspections conducted in 2002. The outhouse at the Carbon recreation site was relocated and snag falling was conducted at Carbon, Gething, along the trail to Wright Lake and at the Wright Lake site itself.

REVISIONS

No revisions are suggested for this indicator or objective.

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Appendix 1. Glossary of Acronyms and Terms

GLOSSARY OF TERMS

AAC (Allowable Annual Cut)

The annual rate of timber harvesting specified for an area of land by the chief forester of the BC Ministry of Forests. The chief forester sets AACs for timber supply areas (TSAs) and Tree Farm Licences (TFLs) in accordance with Section 8 of the *Forest Act*.

Abiotic

Not of biological origin (see biotic). E.g., windthrow, forest fires, flooding.

Active Access

Active access is defined as those roads that have not been deactivated to a level that restricts motorized access.

Adaptive Management

A learning approach to management that incorporates the experience gained from the results of previous actions into decisions. It is a continuous process requiring constant monitoring and analysis of the results of past actions that are used to update current plans and strategies.

Anthropogenic

Influenced by the impact of man on nature.

BEC (Biogeoclimatic Ecosystem Classification)

A hierarchical classification scheme having three levels of integration; regional, local and chronological; and combining climatic, vegetation and site factors. The hierarchical classification includes Biogeoclimatic Zone ⇒ sub-zone ⇒ variant ⇒ site series.

Biogeoclimatic Zone

A geographic area having similar patterns of energy flow, vegetation, and soils as a result of a broadly homogenous macroclimate. British Columbia has 14 biogeoclimatic zones, of which the AT (Alpine Tundra), ESSF (Englemann Spruce Subalpine fir), SBS (Subboreal Spruce), BWBS (Boreal White and Black Spruce) are found in TFL 48.

Biogeoclimatic Variant

A subdivision of a biogeoclimatic subzone. Variants reflect further differences in regional climate and are generally recognised for areas slightly drier, wetter, snowier, warmer or colder than other areas in the subzone. For example, the BWBS mw1 is warmer than the BWBS wk1.

Biodiversity (or Biological Diversity)

The variability among living organisms from all sources including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Biotic

Relating to living beings, or of biological origin (see abiotic). E.g., insect outbreak, disease

Blue-listed Species

In British Columbia, the designation of an indigenous species, sub-species, or population as being vulnerable or at risk because of low or declining numbers or presence in vulnerable habitats. Included in this classification are populations generally suspected of being vulnerable, but for which information is too limited to allow designation in another category.

Botanical Forest Products

Non-timber based products gathered from forest and range land. There are seven recognised categories: wild edible mushrooms, floral greenery, medicinal products, fruits and berries, herbs and vegetables, landscaping products, and craft products.

CDC (Conservation Data Centre)

The British Columbia Conservation Data Centre (CDC) (see Blue-listed and Red-listed Species). The staff specialists at the CDC, in co-operation with scientists and specialists throughout the province, have identified those vertebrate animals, vascular plants and plant associations in the province which have become most vulnerable. Each of these rare and endangered species and plant associations has been assigned a [global](#) and [provincial](#) rarity rank according to an objective set of criteria established by [The Nature Conservancy of the United States](#), and a status on the provincial [Red or Blue lists](#).

CITES (Convention on International Trade in Endangered Species)

Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is an international agreement which regulates trade in a number of species of animals and plants, their parts and derivatives, and any articles made from them. The Convention is applied in Canada in accordance with the Wild Animal and Plant Trade Regulations made under the Wild Animal and Plant Protection and Regulation of International and Interprovincial Trade Act (WAPPRIITA).

Appendix I animals and plants are rare or endangered, and people are not allowed to trade them, or their parts or derivatives for commercial purposes. Animals and plants listed on Appendix II are there for one of two reasons: 1) Their trade is being controlled because, if left unregulated, there is a risk that they will become rare or endangered, or 2) the species are similar to a rare or endangered Appendix I species. Appendix III animals and plant are being carefully managed by the country which has asked to have them added to the CITES control list.

COSEWIC

The Committee on the Status of Endangered Wildlife In Canada (COSEWIC) determines the national status of wild Canadian species, sub-species and separate populations suspected of being in danger. It bases its decisions on the best up-to-date scientific information available.

DFA (Defined Forest Area)

A specific area of land, forest and water delineated for the purposes of registration of a Sustainable Forest Management system (i.e., TFL 48).

CMT (Culturally Modified Tree)

A culturally modified tree (CMT) is a tree that has been altered by native people as part of their traditional use of the forest. Non-native people also have altered trees, and it is sometimes difficult to determine if an alteration (modification) is of native or non-native origin. There are no reasons why the term "CMT" could not be applied to a tree altered by non-native people. However, the term is commonly used to refer to trees modified by native people in the course of traditional tree utilization.

ECA (Equivalent Clearcut Area)

Equivalent clearcut area (ECA) is the area that has been harvested, cleared or burned, with consideration given to the silvicultural system, regeneration growth, and location within the watershed. ECA and road density are the two primary factors considered in an evaluation of the potential effect of past and proposed forest harvesting on peak flows.¹⁰

Ecosystem

A dynamic complex of plants, animals, and micro-organisms and their non-living environment interacting as a functioning unit. The term "ecosystem" can describe small-scale units, such as a drop of water, as well as large-scale units, such as the biosphere.⁴ Ecosystems are commonly described according to the major type of vegetation, for example, forest ecosystem, old growth ecosystem, or range ecosystem.¹

EMS (Environmental Management System)

An Environmental Management System is a set of standards established by the International Organization for Standardization (ISO 14001). This process includes commitment, public participation, preparation, planning, implementation, measuring and assessing performance, and review and improvement of a management system. The incorporation of feedback loops into the process allows for ongoing enhancement of the integrity and performance of the management system, and is designed to lead to continual improvement.

FDP (Forest Development Plan)

An operational plan guided by the principles of integrated resource management (the consideration of timber and non-timber values), which details the logistics of timber development over a period of usually five years. Methods, schedules, and responsibilities for accessing, harvesting, renewing, and protecting the resource are set out to enable site-specific operations to proceed.

FPC (Forest Practices Code)

The Code is a term commonly used to refer to the Forest Practices Code of BC Act, the regulations made by Cabinet under the act and the standards established by the chief forester. The term may sometimes be used to refer to field guides as well. It should be remembered that unlike the act, the regulations and standards, field guides are not legally enforceable.

Free Growing

Young trees that are as high or higher than competing brush vegetation with one metre of free-growing space surrounding their leaders. As defined by legislation, a free growing crop means a crop of trees, the growth of which is not impeded by competition from plants, shrubs or other trees. Silviculture regulations further define the exact parameters that a crop of trees must meet, such as species, density and size, to be considered free growing.

GIS (Geographic Information System)

Computer systems designed to allow users to collect, manage, and analyse large volumes of spatially referenced information and associated attribute data.

Greened-up

A cutblock that supports a stand of trees that has attained the green-up height specified in a higher level plan for the area, or in the absence of a higher level plan for the area, has attained a height that is 3 m or greater. Also, if under a silviculture prescription, meets the stocking requirements of that prescription, or if not under a silviculture prescription, meets the stocking specifications for that biogeoclimatic ecosystem classification specified by the regional manager.

Harvested Area

The area that was actually harvested. Differs from NAR in that it excludes every area that did not have a commercial crop of trees harvested. Also excludes areas harvested under a different cutting authority i.e. road permit areas within cutblocks. See also Net Area to be Reforested.

Incident Tracking System (ITS)

A database maintained by Canfor to track regulatory incidents.

Indicator Species

Species chosen for their ecological, social and economic attributes to monitor habitat supply over time. Based on the LRMP, provincial and federal endangered species lists, the Identified Wildlife Guide and input from the PAC Canfor has selected the following indicator species: grizzly bear, marten, fisher, wolverine, moose, elk, caribou, mountain goat, Blackthroated Green Warbler, Northern Goshawk, Trumpeter Swan and Three-toed Woodpecker.

Or, in a silvicultural prescription, species of plants used to predict site quality and characteristics.

IWMS (Identified Wildlife Management Strategy)

Those species at risk that the deputy minister of Environment, Lands and Parks or a person authorised by that deputy minister, and the chief forester, agree will be managed through a higher level plan, wildlife habitat area or general wildlife measure.

Long Run Sustained Yield (LRSY)

The maximum biological capacity of the land base with no recognition of items such as Non Recoverable Losses.

Long-term

At a minimum, twice the period in years of the average life expectancy of the predominant tree species up to a maximum of 300 years.

Long Term Harvest Level (LTHL)

The level at which harvest can occur given management assumptions and rate of harvest. In contrast to LRSY, LTHL takes into account Non Recoverable Losses.

Lumber Recovery Factor (LRF)

The volume of lumber recovered in board feet per cubic metre of log processed (fbm/m³).

LU (Landscape Units)

An area of land and water used for long-term planning of resource management activities. It is important for designing strategies and patterns for landscape level biodiversity and for managing other forest resources. A landscape unit may be used by the District Manager (DM) to establish objectives for any propose permitted under section 2 of the *Forest Practices Code of British Columbia Act*.

Mean Annual Increment (MAI)

The average annual increase in volume of individual trees or stands up to the specified point in time. The MAI changes with different growth phases in a tree's life, being highest in the middle years and then slowly decreasing with age. The point at which the MAI peaks is commonly used to identify the biological maturity of the stand and its readiness for harvesting.

MELP (Ministry of Environment, Lands and Parks)

Provincial government ministry.

MoF (Ministry of Forests)

Provincial government ministry responsible for the management and protection of the province's forest and range resources for the best balance of economic, social, and environmental benefits to British Columbia.

Monitor

Repeated observation, through time, of selected objects and values in the ecosystem to determine the state of the system. In particular, it entails the comparison of objects (e.g., organisms) and processes (e.g., streamflow) before and after management actions to determine the effect of those actions upon the ecosystem.¹

NAR (Net Area to be Reforested)

The area under a Silviculture Prescription that will be reforested. This excludes areas occupied by permanent roads, areas incapable of growing a stand of trees (rock, wetland etc.), and reserves. This may include areas that did not contain a commercial stand of trees, but because it is capable of growing a stand of trees, will be reforested. See also harvested area

Non Recoverable Losses (NRLs)

Losses of timber due to fire, insects or windfall that are either too small or too inaccessible to be retrieved for lumber production.

OGMA (Old Growth Management Area)

Defined in the *Forest Practices Code of British Columbia Act* Operational Planning Regulation as an area established under a higher level plan which contains or is managed to replace structural old growth attributes.

Old growth forests on BC's coast are characterised by the following:

1. Two or more tree species of variable sizes and spacing;
2. Large live trees;
3. Patchy understory;
4. A deep, multi-layered crown canopy with gaps;
5. Standing dead trees (snags) and coarse woody debris of variable sizes.

OPR (Operational Planning Regulations, Operational Plans)

Within the context of area-specific management guidelines, operational plans detail the logistics for development. Methods, schedules, and responsibilities for accessing, harvesting, renewing, and protecting the resource are set out to enable site-specific operations to proceed. Operational plans include a forest development plan, logging plan, access management plan, range use plan, silviculture prescription, stand management prescription and 5 year silviculture plan.

PAC (Public Advisory Committee)

A public group comprised of a variety of interests, which provides input to Canfor on local Values, Goals, Indicators and Objectives.

Permanent Access Corridors

Permanent Access Corridors are defined as those access corridors that are not planned to be returned to a forested state. Some of these roads or corridors may be managed to meet access strategies but are still classed as a permanent reduction in forest area

Preferred and Acceptable Species

Preferred and acceptable tree species are those commercial tree species that are suited to the growing conditions of the site, and are identified in the Silviculture Prescription.

Red-listed Species

In British Columbia, the designation of an indigenous species, sub-species, or population as endangered or threatened because of its low abundance and consequent danger of extirpation or extinction. Endangered species are any indigenous species threatened with imminent extinction or extirpation throughout all or a significant portion of their range in BC. Threatened species are any indigenous species that are likely to become endangered in BC if factors affecting that vulnerability are not reversed.

Regeneration Delay

The maximum time allowed in a prescription, between the start of harvesting in the area to which the prescription applies, and the earliest date by which the prescription requires a minimum number of acceptable well-spaced trees per hectare to be growing in that area.

Registered Seed

Seeds which are tested to standards for germination and quality, from a healthy source and ensures the uses of local seed sources.

Reportable Spills

Reportable level spill as defined in Canfor-Chetwynd's Emergency Preparedness and Response Plan (2000). The following is adapted from that document:

Material	Reportable Levels	
	Canfor	MOE
a) Antifreeze	5 l	5 kg
b) Diesel Fuel	20 l	100 l
c) Gasoline (auto & chainsaw)	20 l	100 l
d) Greases	20 l	100 l
e) Hydraulic Oil	20 l	100 l
f) Lubricating Oils	20 l	100 l
g) Methyl Hydrate	10 l	5 kg
h) Paints & Paint Thinners	10 l	100 l
i) Solvents	10 l	100 l
j) Pesticides	Any	1 kg
k) Explosives	Any	Any

ROS (Recreation Opportunity Spectrum)

A recreation opportunity is the availability of choice for someone to participate in a preferred recreation activity within a preferred setting and enjoy the desired experience.

Rotation

The planned number of years between the formation and regeneration of a tree crop or stand and its final cutting at a specified stage of maturity.

Sawmill Lumber Recovery Factor

(Define?)

Selection Silviculture System

A silviculture system that removes mature timber either as single scattered individuals or in small groups at relatively short intervals repeated indefinitely, where the continual establishment of regeneration is encouraged and an uneven-aged stand is maintained. As defined in the Code's Operation Planning Regulation, group selection removes trees to create openings in a stand less than twice the height of mature trees in the stand.

Seral Stage

Any stage of development of an ecosystem from a disturbed, unvegetated state to a climax plant community. (FP Code)

Seral Stage Age Classes by BEC Zone	Early	Juvenile	Mature	Old
BEC Zone				
BWBS – Conifer	<40	40-100	100-140	>140
BWBS – Deciduous	<20	20-80	80-100	>100
SBS	<40	40-100	100-250	>250
ESSF	<40	40-120	120-250	>250
BWBS – Boreal White and Black Spruce Zone SBS – Sub-Boreal Spruce Zone ESSF – Engelmann Spruce – Subalpine Fir Zone				

Shelterwood Silviculture System

A silviculture system in which trees are removed in a series of cuts designed to achieve a new even-aged stand under the shelter of remaining trees.

SFMP

Sustainable Forest Management Plan

Site Degradation

Productive forest land significantly degraded or permanently lost to forest production.

Site Index

An expression of the forest site quality of a stand, at a specified age, based either on the site height, or on the top height (height of the largest diameter tree on a 0.01 ha plot, providing the tree is suitable), which is a more objective measure (FPCode). The measure of the relative productive capacity of a site for a particular tree species, based on height at a given reference or base age (50)

Site Series

Variation in site conditions encountered within a biogeoclimatic unit is accommodated within the site classification of BEC. The site series describes all land areas capable of supporting specific climax vegetation. This can usually be related to a specified range of soil moisture and nutrient regimes within a subzone or variant, but sometimes other factors, such as aspect or disturbance history, are important determinants as well. A classification of site series for most of the biogeoclimatic units of the province has been developed by the BC Ministry of Forests and is presented in regional field guides.¹²

SFM (Sustainable Forest Management)

Management to maintain and enhance the long-term health of forest ecosystems, while providing ecological, economic, social, and cultural opportunities for the benefit of present and future generations.

SMZ (Special Management Zone)

The Dawson Creek LRMP has Special Management Zones based on major resource values to be given a high priority in land and resource planning and development. Resource development is permitted but must consider and address all significant values identified. SMZ include: wildlife habitat and wilderness recreation, major river corridors, and culture and heritage.

Snag

Standing dead tree or part of a dead tree.

SP (Silviculture Prescription)

A site-specific management plan that is a legal prerequisite to logging on Crown Land. SPs specify planned forest activities, the methods to be used, and the proposed constraints necessary to protect the site and its resource values.

Stand Level

The level of forest management at which a relatively homogeneous land unit can be managed under a single prescription, or set of treatments, to meet well-defined objectives.

Terrain Stability Map

Terrain mapping is a method to categorise, describe and delineate characteristics and attributes of surficial materials, landforms, and geological processes within the natural landscape. Terrain stability mapping is a method to delineate areas of slope stability with respect to stable, potentially unstable, and unstable terrain within a particular landscape. Terrain stability map polygons indicate areas or zones of initiation of slope failure.¹¹ (See *Terrain Survey Intensity*).

TFL (Tree Farm Licence)

A Tree Farm Licence (TFL) is a stewardship agreement based on a sustained yield, land-based management unit. This includes the right to harvest a specified volume of timber annually and the obligation to carry out all phases of forest management on behalf of the Ministry of Forests. The licence has a term of 25 years and is replaceable every 10 years.

Timber

Timber means trees, whether standing, fallen, living, dead, limbed, bucked or peeled (Forest Act)

Timber Harvesting Land Base

The portion of the total area of a management unit considered contributing to, and being available for, long-term timber supply. The harvesting land base is defined by reducing the total land base according to specified management assumptions.

Timber Supply Analysis

An assessment of future timber supplies over long planning horizons (more than 200 years) by using timber supply models for different scenarios identified in the planning process.

Timber Supply Review (TSR)

The timber supply review program regularly updates timber supply in each of the 37 TSAs and 34 TFLs areas throughout the province. By law, the chief forester must re-determine the AAC at least once every five years to ensure AACs are current and reflect new information, new practices and new government policies.

TIPSY (Table Interpolation Projection Program For Stand Yields)

A program that interpolates data from TASS (tree and stand simulator) – a computer model that simulates the growth of individual trees and stands. This program is based on growth trends observed in fully stocked research plots growing in a relatively pest free environment. The yields will be very close to the potential of a specific site, species and management regime.

Twenty Year Plan

A TFL licensee submits an operational timber supply projection that indicates the availability of timber by setting out a hypothetical sequence of harvesting over a period of at least 20 years, consistent with proposed management objectives. The main purpose of the plan is to demonstrate whether or not the harvests projected in the base case over the next 20 years are spatially feasible, taking into account constraining factors such as Code requirements, timber harvesting land base deductions and the volume assignments per hectare on each entry.

Vegetation Resources Inventory (VRI)**Visual Quality Objective (VQO)**

An approved resource management objective that reflects a desired level of visual quality based on the physical and sociological characteristics of the area; refers to the degree of acceptable human alteration to the characteristic landscape.

Waste

The volume of timber left on the harvested area that should have been removed in accordance with the minimum utilisation standards in the cutting authority. It forms part of the allowable annual cut for cut-control purposes.

Waterbody

Any land covered by water.

Windthrow

A tree or trees uprooted by the wind.

Appendix 2. ROS Polygon Delineation Standards

ROS Class	Factors					
	Remoteness		Naturalness		Social Experience	
	Distance from road (km)	Size (ha)	Motorized Use	Evidence of Humans	Solitude/Self-reliance	Social Encounters
Primitive (P)	>8	>5000 ha	<ul style="list-style-type: none"> occasional air access, otherwise no motorized access or use in the area. 	<ul style="list-style-type: none"> very high degree of naturalness; structures are extremely rare generally no site modification little on-the-ground evidence of other people evidence of primitive trails 	<ul style="list-style-type: none"> very high opportunity to experience solitude, closeness to nature; self-reliance and challenge. 	<ul style="list-style-type: none"> very low interaction with other people; very small party sizes expected;
Semi-Primitive Non-Motorized (SPNM)	> 1	> 1000 ha	<ul style="list-style-type: none"> generally very low or no motorized access or use may include primitive roads and trails if usually closed to motorized use. 	<ul style="list-style-type: none"> very high degree of naturalness; structures are rare and isolated except where required for safety or sanitation minimal or no site modification. little on-the-ground evidence of other people. 	<ul style="list-style-type: none"> high opportunity to experience solitude, closeness to nature, self-reliance and challenge. 	<ul style="list-style-type: none"> low interaction with other people; very small party sizes expected;
Semi-Primitive Motorized (SPM)	> 1	> 1000 ha	<ul style="list-style-type: none"> a low degree of motorized access or use. 	<ul style="list-style-type: none"> high degree of naturalness in the surrounding area as viewed from access route; structures are rare and isolated minimal site modification. some on-the-ground evidence of other people evidence of motorized use 	<ul style="list-style-type: none"> high opportunity to experience solitude, closeness to nature, self-reliance and challenge. 	<ul style="list-style-type: none"> low interaction with other people; small party sizes expected;
Roaded Natural (RN)	< 1	N/A	<ul style="list-style-type: none"> moderate amount of motorized use within the area. may have high volume of traffic through the main travel corridor. 	<ul style="list-style-type: none"> moderate degree of naturalness in surrounding area structures may be present and more highly developed; moderate site modification. some on-the-ground evidence of other people, some on-site controls. typically represent main travel corridors and recreation areas that have natural-appearing surroundings 	<ul style="list-style-type: none"> moderate to high opportunity to experience solitude, closeness to nature, self-reliance and challenge. 	<ul style="list-style-type: none"> moderate interaction with other people; small to large party sizes expected;
Roaded Modified (RM)	< 1	N/A	<ul style="list-style-type: none"> moderate to high degree of motorized use for both access and recreation. 	<ul style="list-style-type: none"> low degree of naturalness; moderate number of more highly developed structures; highly modified in areas; generally dominated by resource extraction activities. on-the-ground evidence of 	<ul style="list-style-type: none"> low to moderate opportunity to experience solitude, closeness to nature, self-reliance and challenge. 	<ul style="list-style-type: none"> moderate to high interaction with other people; moderate to large party sizes expected;

ROS Class	Factors					
	Remoteness		Naturalness		Social Experience	
	Distance from road (km)	Size (ha)	Motorized Use	Evidence of Humans	Solitude/Self-reliance	Social Encounters
				other people and on-site controls.		
Rural (R)	< 1	N/A	<ul style="list-style-type: none"> high degree of motorized use for both access and recreation. 	<ul style="list-style-type: none"> very low degree of naturalness; complex and numerous structures, high concentrations of human development and settlements associated with agricultural land. obvious on-the-ground evidence of other people and on-site controls. 	<ul style="list-style-type: none"> low opportunity to experience solitude, closeness to nature, self-reliance and challenge. 	<ul style="list-style-type: none"> high interaction with other people; large party sizes expected;
Urban (U)	< 1	N/A	<ul style="list-style-type: none"> very high degree of motorized use for both access and recreation. 	<ul style="list-style-type: none"> very low degree of naturalness; highly developed and numerous structures associated with urban development; very high site modification. obvious on-the-ground evidence of other people and on-site controls. 	<ul style="list-style-type: none"> very low opportunity to experience solitude, closeness to nature, self-reliance and challenge. 	<ul style="list-style-type: none"> very high interactions with other people; very large party sizes expected;

Appendix 3. KPMG Forest Certification Update – February 2003

UPDATE

Forest Certification



Canadian Forest Products Chetwynd TFL 48

TFL 48 is located in central B.C. around the communities of Chetwynd, Hudson's Hope and Tumbler Ridge. As part of Canfor's commitment to sustainable forest management and forest certification, an audit team from KPMG Performance Registrar Inc. completed the following assessments of Canfor's Tree Farm Licence (TFL) 48 in October 2002:

- Re-registration of TFL 48 to the Canadian Standards Association's standard for Sustainable Forest Management (SFM) Systems (CAN/CSA Z809-96); and
- Field assessment of the TFL as part of a corporate-wide re-registration to the ISO 14001 standard for Environmental Management Systems (EMS).

The audit determined that both the SFM System and EMS in use on the TFL continue to meet the requirements of CSA Z809 and ISO 14001 and are, overall, well implemented.

The combination of ISO 14001 and CSA Z809 registration demonstrates a strong commitment to sustainable forest management on the TFL and is a significant achievement for Canfor. The registration applies to a defined forest area (DFA) of 643,500 hectares with an allowable annual harvest of 580,000 cubic meters.

Background

- The ISO 14001 and CSA Z809 standards require regular audits by an accredited Registrar to assess continuing conformance with the standards and the implementation of action plans related to previous assessments.
- A team of two auditors conducted the ISO 14001 and CSA Z809 assessments in October 2002.
- The team conducted interviews with staff, contractors and stakeholders and examined EMS and SFM System records, monitoring information and public involvement information.
- The team conducted field assessments of 31 sites during the 4-day audit to assess the operation's planning, harvesting, silviculture, road construction, maintenance and deactivation, as well as fuel and facilities management.



Noteworthy comments

- The operation has developed and implemented "Project Monitoring Sheets" as a means to document and address a number of non-EMS work progress and forest practice issues on active roads and cutblocks.
- High quality seasonal and semi-permanent road deactivation practices were noted at several of the field sites inspected.
- The operation has made effective use of irregular shelterwood harvesting practices in high elevation Engleman Spruce-Subalpine Fir (ESSF) stands with a spruce overstory, resulting in improved visual esthetics, increased post-harvest stand level biodiversity and a more favourable growing environment to aid forest regeneration.
- The operation has developed a "Camp Guidelines Flowchart" to assist contractors in interpreting the legislative requirements and best management practices involved in setting up remote camps. The flowchart is a good example of Canfor's commitment to taking preventative action to avoid nonconformance.
- Fuel storage and handling at a remote helicopter logging refueling and maintenance site was found to be very well managed, resulting in a reduced risk of environmental impacts.
- The operation has effectively addressed all nonconformances and opportunities for improvement identified during previous assessments. In addition, a commitment has been made to resolve a previous concern relating to the coordination of forest management planning on the TFL between Canfor and the Ministry of Forest's Small Business Forest Enterprise Program.



A heli-logging contractor lands for refueling during active harvesting on the TFL. The audit team observed strong performance in the areas of fuel management and SOP awareness.

October, 2002 CSA Z809 Re-registration Assessment	
Major nonconformances	0
Minor nonconformances	0
Opportunities for improvement	1

Key Areas of Nonconformance

- There were no areas of major or minor nonconformance identified during the re-registration audit indicating overall sound SFM planning, a high level of field performance and a strong commitment to continuous improvement.

Key Opportunities for improvement

- The audit found that some of the operation’s SFM system objectives were either difficult to measure, or not sufficiently responsive to management practices to allow the Company to identify when improvements to the SFM system may be required. As such, there is an opportunity for the Chetwynd operation to review and (where necessary) revise their SFM system objectives to improve their utility in measuring the performance of sustainable forest management on the TFL.

Major nonconformances:

- Are pervasive or critical to the achievement of the EMS/SFM Objectives.

Minor nonconformances:

- Are isolated incidents that are non-critical to the achievement of the EMS/SFM Objectives.

All nonconformances require an action plan within 30 days and must be addressed by the operation.

Major nonconformances must be addressed immediately or registration cannot be achieved/maintained.

Opportunities for Improvement:

- Are not nonconformances but are comments on specific areas of the EMS or SFM where improvements can be made.

Through KPMG PRI, KPMG’s Vancouver based forestry specialist group is accredited to register forest companies to ISO 14001, CSA-SFM and AF&PA SFI certification standards. The group is led by Mike Alexander and consists of a highly qualified team of professional foresters and industry experts.

Contacts:

Mike Alexander, RPF, CEA (604) 691-3401
 Chris Ridley-Thomas, RPBio, CEA (604) 691-3088
 David Bebb, RPF, CEA (604) 691-3451

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Appendix 4. Canfor - Chetwynd SFM Matrix

Canfor SFM Matrix June 12, 2003
Version 2.0

Matrix Updated to reflect June 12, 2003 PAC Meeting Summary

Canfor Changes additions / deletions
PAC Suggestions

<p>4.4 CCFM Criteria and Critical Elements The Canadian Council of Forest Ministers has developed criteria and indicators to define sustainable forest management in a national context. The six CCFM criteria reflect broad Canadian values to guide sustainable forest management. Each criterion contains a number of critical elements that further refine the scope of the criteria. All of the following critical elements of the CCFM criteria shall be addressed at the DFA level in order for an SFM System to be registered.</p>	<p>Value - a principle, standard, or quality considered worthwhile or desirable.</p>	<p>Goal - a broad, general statement that describes a desired state or condition related to one or more forest values.</p>	<p>Indicator - a measurable variable used to report progress toward the achievement of a goal.</p>	<p>Objective - a clear, specific statement of expected quantifiable results to be achieved within a defined period of time related to one or more goals. An objective is commonly stated as a desired level of an indicator.</p>
<p>1. Conservation of Biological Diversity - <i>Biological diversity is conserved by maintaining the variability of living organisms and the complexes of which they are part.</i></p>				
<p><i>(a) Ecosystem diversity is conserved if the variety and landscape-level patterns of communities and ecosystems that naturally occur on the DFA are maintained through time.</i></p>	<p>Landscape level ecosystem diversity</p>	<p>We will conserve or restore ecosystem diversity within the natural limits of variation within DFA over time.</p>	<p>1) Forest type and seral stage distribution 2) Patch size distribution 3) Protected area by seral stage</p>	<p>1-1) We will sustain forest types over time. 1-2) We will sustain seral stage within the natural range of variation over time. 2) We will maintain a patch size consistent within natural disturbance units 3) Identify seral stage distribution in Protected Areas within the TFL (e.g., Boco, Butler Ridge, Elephant Ridge/Gwillim, Kiln Se Za, Pine/Lemoray, Peace River/Boudreau).</p>
<p><i>(b) Species diversity is conserved if all native species found on the DFA prosper through time.</i></p>	<p>Native species diversity</p>	<p>We will sustain suitable habitat levels to sustain species diversity</p>	<p>4) Number of forest dependant plant species, plant associations, fish and wildlife classified as threatened, endangered, or vulnerable in the TFL. 5) Habitat supply for indicator species. (grizzly bear, wolverine, marten, fisher, elk, moose, mountain goat, caribou, Northern Goshawk, Trumpeter Swan, Black-throated Green Warbler, and Three-toed Woodpecker) 6) Disease transmission from domestic sheep grazing activities.</p>	<p>4) We will ensure no species is uplisted as a result of Canfor management activities within the TFL. 5-1) We will ensure distribution of habitat for indicator species across the TFL. 5-2) We will ensure sufficient furbearer habitat on a drainage-by-drainage basis exists to enable the maintenance of populations. 6) No disease transmission from domestic sheep to wild sheep populations from domestic sheep use in Canfor activities.</p>
<p><i>(c) Genetic diversity is conserved if the variation of genes within species is maintained.</i></p>	<p>Genetic diversity</p>	<p>We will conserve genetic diversity of native plant species. We will conserve genetic diversity of wildlife</p>	<p>1) Forest type and seral stage distribution 7) The number of seeds for coniferous species collected and seedlings planted in accordance with the regulations 2) Patch size distribution to address habitat fragmentation</p>	<p>1-1) We will sustain forest types over time. 1-2) We will sustain seral stage within the natural range of variation over time. 7) All coniferous seeds will be collected and seedlings will be planted in accordance with the regulations 2) We will maintain a patch size consistent with natural disturbance types.</p>

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2. Maintenance and Enhancement of Forest Ecosystem Condition and Productivity - Forest ecosystem condition and productivity are conserved if the health, vitality, and rates of biological production are maintained.				
(a) Forest health is conserved if biotic (Including anthropogenic) and abiotic disturbances and stresses maintain both ecosystem processes and ecosystem conditions within a range of natural variability.	Forest Health	We will conserve forest health	8) Area and severity of incidence of fire, windfall, insects and disease.	8-1) We will minimize Non Recoverable Losses to less than 10% of AAC based on a 10 year rolling average. 8-2) We will salvage 90% of merchantable timber volumes within the THLB damaged by fire, windfall, insects and disease within 18 months of occurrence.
(b) Ecosystem resilience is conserved if ecosystem processes and the range of ecosystem conditions allow ecosystems to persist, absorb change, and recover from disturbances.	Ecosystem resilience	We will sustain ecosystem capability to recover from disturbance.	9) Percent of a harvested area that is reforested. 1) Forest type and seral stage distribution	9) We will reforest 100% of net area to be reforested within 2 years of harvest, on average. 1-1) We will sustain forest types over time. 1-2) We will sustain seral stage within the natural range of variation over time.
		We will sustain ecosystem components.	10) Minimum harvest age (as a surrogate for nutrient cycling). 11) Wildlife Tree Patches	10) Minimum harvest ages in years will be: Aspen 61, Cottonwood 61, Pine 81, Subalpine Fir 81, Spruce 121 (based on leading species and average stand age). 11) Wildlife Tree Patches will not be less than 8% of the harvested area, on average.
			3) Protected Area by seral stage 12) Old Growth Management Areas	3) Identify seral stage distribution in Protected Areas within the TFL (e.g., Bock, Butler Ridge, Elephant Ridge/Gwillim, Kiln Se Za, Pine/Lemoray, Peace River/Boudreau). 12) We will sustain old growth habitat values within the TFL.
			13) Coarse Woody Debris 14) Habitat Connectivity	13) We will maintain natural levels of coarse woody debris (CWD) across the TFL. 14) Maintain an adequate level of habitat connectivity at landscape and stand levels with an emphasis on species dependant on mature forest or forest types (e.g., caribou and marten) recognizing that habitat connectivity may shift across the landscape.
(c) Ecosystem productivity is conserved if ecosystem conditions are capable of supporting all naturally occurring species.	Ecosystem productivity	We will sustain or enhance ecosystem productivity over time.	15) Area of the TFL occupied by permanent access corridors associated with forest management activities. 9) Percent of a harvested area that is reforested.	15) We will limit impacts on the landbase due to the presence of permanent access corridors to less than 3.5% of the gross landbase of the TFL. 9) We will reforest 100% of net area to be reforested within 2 years of harvest, on average.
		We will sustain habitat for all naturally occurring species at natural ranges.	5) Habitat supply for indicator species. (grizzly bear, wolverine, marten, fisher, elk, moose, caribou, Northern Goshawk, Black-throated Green Warbler, and Three-toed Woodpecker)	5-1) We will ensure distribution of habitat for indicator species across the TFL.

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3. Conservation of Soil and Water Resources- <i>Soil and water resources and physical environments are conserved if the quantity and quality of soil and water within forest ecosystems are maintained.</i>				
<i>(a) Physical environments are conserved if the permanent loss of forest area to other uses or factors is minimized, and if rare physical environments are protected.</i>	Forest land base	We will conserve productive area of forest land base.	15) Area of the TFL occupied by permanent access corridors associated with forest management activities.	15) We will limit impacts on the landbase due to the presence of permanent access corridors to less than 3.5% of the gross landbase of the TFL.
<i>(b) Soil resources are conserved if the ability of soils to sustain forest productivity is maintained within characteristic ranges of variation.</i>	Soil productivity	We will conserve productive capacity of soil.	15) Area of the TFL occupied by permanent access corridors associated with forest management activities.	15) We will limit impacts on the landbase due to the presence of permanent access corridors to less than 3.5% of the gross landbase of the TFL.
			16) Number of reportable spills entered into Incident Tracking System.	16) We will minimize the number of reportable spills.
			17) Use of environmentally friendly lubricants	17) We will research and identify environmentally friendly lubricants biannually
			18) Soil productivity measures	18) We will use site index measures based on BEC zone (SIBEC) to confirm the predicted long-term soil productivity.
			19) Soil degradation	19) We will not exceed site degradation guidelines.
<i>(c) Water resources are conserved if water quality and quantity is maintained.</i>	Water quality and quantity	We will conserve water quality and quantity within the natural range of variation.	22) Area in cutblock managed as Riparian Reserve Zone or Riparian Management Zone by appropriate stream, lake or wetland classification.	22) We will meet or exceed appropriate riparian measures as recommended by the Forest Practices Code Riparian Guidebook.
			16) Number of reportable spills entered into Incident Tracking System.	16) We will minimize the number of reportable spills.
			24) Stream Crossing Quality Index (SCQI)	24-1) We will conduct a sampling of stream crossing quality assessments and ensure that the watershed level SCQI score does not exceed 0.40 24-2) We will visit all crossings with a High Water Quality Concern Rating (WQCR) within one year of detection and prepare an action plan to reduce the WQCR. Priority for remedial projects shall be in the following order: streams used for domestic water supply, fish bearing streams, and others.
			25) Peak Flow Index (PFI)	25) We will design forest management activities so that Peak Flow Indices (PFI) thresholds in designated sub-basins are not exceeded.

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4. Forest Ecosystem Contributions to Global Ecological Cycles – <i>Forest conditions and management activities contribute to the health of global ecological cycles. This contribution is maintained if</i>				
<i>(a) the processes that are responsible for recycling water, carbon, nitrogen, and other life-sustaining elements are maintained;</i>	Ecological cycles	We will maintain or restore ecological cycles within levels of historic variation.	1) Forest type and seral stage distribution 8) Area and severity of incidence of fire, windfall, insects and disease. 9) Percent of a harvested area that is reforested.	1-1) We will sustain forest types over time. 1-2) We will sustain seral stage within the natural range of variation over time. 8-1) We will minimize Non Recoverable Losses to less than 10% of AAC based on a 10 year rolling average. 9) We will reforest 100% of net area to be reforested within 2 years of harvest, on average.
<i>(b) utilization and rejuvenation are balanced and sustained; and</i>	Sustainable yield of timber	We will balance annual growth rate and harvest rate.	27) Allowable Annual Cut 28) Sawmill Lumber Recovery Factor (SLRF), Chip Recovery Factor and shipment of mini chips. 29) Harvest levels/volumes 30) Waste 31) Timber harvesting utilization standards	27) We will ensure that the Allowable Annual Cut will not adversely impact Long Term Harvest Level. 28) We will target an annual minimum of 275 fbm/m3, 0.140 ODT/m3 and 40,000 ODT/year, respectively. 29) We will achieve periodic cut control within 10% of target, over 5 years. 30) We will assess all waste volumes for harvested blocks and report annually 31) We will meet or exceed timber utilization standards of 1999 (i.e., 4 inch tops).
<i>(c) forest lands are protected from sustained deforestation or conversion to other uses.</i>	Forested land base	We will sustain forests within the TFL.	32) Area of forested land. 15) Area of the TFL occupied by permanent access corridors associated with forest management activities. 9) Percent of a harvested area that is reforested.	32-1) We will track and monitor losses to other uses and incorporate these losses into AAC calculations every five years. 15) We will limit impacts on the landbase due to the presence of permanent access corridors to less than 3.5% of the gross landbase of the TFL. 9) We will reforest 100% of net area to be reforested within 2 years of harvest, on average.

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5. Multiple Benefits to Society - Forests provide a sustained flow of benefits for current and future generations if multiple goods and services are provided over the long term. Multiple benefits are maintained if				
(a) extraction rates are within the long-term productive capacity of the resource base;	Sustainable harvest levels	We will establish harvest at a level that can be maintained in perpetuity for coniferous and deciduous species.	27) Allowable Annual Cut 29) Harvest levels/volumes	27) We will ensure that the Allowable Annual Cut will not adversely impact Long Term Harvest Level. 29) We will achieve periodic cut control within 10% of target, over 5 years.
(b) resource businesses exist within a fair and competitive investment and operating climate; and	Economic viability for Canfor	We will maintain a local, up to date timber processing facility and infrastructure.	33) Average investment in new technology, capital maintenance and construction at Canfor operations in Chetwynd.	33) We will invest \$2.5 million annually, based on 10 year rolling average, in new technology, capital maintenance and construction.
	Local employment	We will ensure local communities and contractors have the opportunity to share in benefits such as jobs, contracts and sales.	34) The economic contribution that Canfor Chetwynd makes to local communities and contractors.	34-1) We will annually report on the economic indices that reflect Canfor's contribution to local communities and contractors. (property taxes, salary and wages, contract services {split out local vs. non-local}, supplies, community donations, and jobs/m3) 34-2) We will provide contracting opportunities that support local employment where the skills exist.
(c) forests provide a mix of market and non-market goods and services.	Economic diversity	We will maintain domestic grazing levels over time.	35) Animal unit months	35) We will maintain an annual average of 1000 Animal Unit Months (excludes brush control by sheep grazing)
		We will sustain acceptable levels of habitat for key furbearer and big game species.	5) Habitat supply for indicator species (marten, fisher, moose, elk).	5) We will ensure distribution of habitat for indicator species across the TFL.
		We will sustain acceptable levels of visual quality in key public access, recreation, and tourism corridors.	36) Visual landscape inventory.	36) We will maintain and update an approved visual landscape inventory.
		We will sustain backcountry condition in key backcountry areas.	37) Level of public acceptance of Visual Landscape Inventory 38) Back country Condition	37-1) We will include public input in reviewing and updating the visual landscape inventory. 37-2) We will propose and manage harvesting cutblocks consistent with Visual Sensitivity Classes. 38) We will maintain or increase backcountry condition 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.
		We will sustain acceptable levels of habitat to provide botanical forest products.	39) Habitat supply for botanical forest products.	39) We will investigate local uses of botanical forest products to determine habitat requirements.
		We will provide recreation opportunities on the TFL.	52) Number of recreation trails and campsites.	52) We will provide and/or maintain a minimum of one trail and three recreation sites on the TFL.

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6. Accepting Society's Responsibility for Sustainable Development - Society's responsibility for sustainable forest management requires that fair, equitable, and effective forest management decisions are made. Sustainable forest management requires that				
<i>(a) forests are managed in ways that reflect social values, and management is responsive to changes in those values;</i>	Social responsibility	We will seek active partnerships that build community relationships and strengthen Canfor's business We will develop a process to provide ongoing involvement to reflect changes in social values. We will reflect the LRMP and other land use planning decisions in operations.	40) Public Advisory Committee 40) Public Advisory Committee 41) Participation in LRMP.	40-1) We will establish and maintain Public Advisory Committee and hold at least two meetings annually. 40-1) We will establish and maintain Public Advisory Committee and hold at least two meetings annually. 41) We will attend meetings and provide information as required, for LRMP functions.
<i>(b) duly established Aboriginal and treaty rights are respected;</i>	Treaty and Aboriginal rights	We will respect Treaty 8 rights	43) Pro-active consultation process for significant activities such as proposed timber harvesting. 44) Archaeological impact assessments on proposed harvest blocks.	43) Forest Development Plan to be referred to Saulteau and West Moberly FNs. 44) We will conduct archaeological impact assessments as indicated through archaeological overviews or inventory.
<i>(c) the special and unique needs of Aboriginal peoples are respected and accommodated in forest management decisions;</i>	Aboriginal needs	We will increase our understanding of Aboriginal issues and needs and work with Bands to find solutions or give assistance where possible.	45) Aboriginal Liaison 46) Incorporate objectives of Klin Se Za into Forest Development Plan and Management Plan. 47) Aboriginal employment	45) We will increase the level of aboriginal input to forest management by meeting with Band councils, representatives, contractors, and/or individuals as issues and opportunities arise. 46) We will maintain Klin Se Za Protected Area and Special Management Zone as per LRMP. 47) We will budget \$100,000 annually for aboriginal contractors.
<i>(d) the decision-making process is developed with input from directly affected and local interested parties;</i>	Public acceptance of decision making process	We will involve all parties (public, agencies, other licence holders, etc.) in development of decision-making process	40) Public Advisory Committee 48) Forest Development Plan, Pest Management Plan, TFL Management Plans 49) Public Enquiry Forms	40-1) We will establish and maintain Public Advisory Committee and hold at least two meetings annually. 40-2) We will hold an annual open house to review SFM plan performance. 48) We will advertise and refer plans to all parties in a proactive manner (public, agencies and other licence holders). 49) We will respond to public inquiries on our practices (in addition to normal planning processes) within 1 month of receipt and maintain and track forms as per Environmental Management System.
<i>(e) decisions are made as a result of informed, inclusive, and fair consultation with people who have an interest in forest management or are affected by forest management decisions; and</i>	Informed Decision Making	We will involve all parties (public, agencies, other licence holders, etc.) in decision making process.	40) Public Advisory Committee 50) Level of Public Comments (e.g., FDP Public Comments)	40-1) We will establish and maintain Public Advisory Committee and hold at least two meetings annually. 40-2) We will hold an annual open house to review SFM plan performance. 50) We will provide feedback to concerned individuals commenting on planning processes (e.g., FDP, PMP) within one month and the PAC by the next scheduled meeting on how concerns were addressed.
<i>(f) collective understanding of forest ecosystems, values, and management is increased and used in the decision-making process.</i>	Continual Improvement	We will improve and apply knowledge of forest ecosystems, values and management.	51) Spatial and temporal models	51-1) We will use leading edge modelling systems to develop rotation length plans within 3 years. 51-2) We will use up-to-date vegetation inventory. 51-3) We will use the best available science to develop an understanding of ecological response.