

SUSTAINABLE FOREST MANAGEMENT PLAN

2003/04 Annual Report

TREE FARM LICENCE 30

Canadian Forest Products Ltd.

Prince George Operations



CSA – SFM
SUSTAINABLE FOREST
MANAGEMENT PLAN
for
Canadian Forest Products Ltd.
Prince George Operations – TFL 30 DFA

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1.0 INTRODUCTION

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) 30 in July 2001. A public group - The TFL30 Public Advisory Group (PAG) was formed in September 2000 to help Canfor identify quantifiable local-level indicators and Objectives of Sustainable Forest Management. The 40 Indicators and Objectives identified by the TFL 30 PAG were detailed with associated forest management practices to achieve those objectives in a Sustainable Forest Management Plan (SFMP) for Tree Farm Licence 30 (Canfor SFMP, June 2001). This report summarizes the status of each of those indicators.

This report is prepared as part of the annual assessment to confirm Canfor's continued implementation of the registered CSA SFM. This report provides a status, to the end of 2003 or to March 31, 2004, of the 40 Indicators and Objectives of the SFMP. In this report, each Indicator is re-iterated, and a brief status update is provided. For further reference to the intent of the Indicators and Objectives, or the practices involved, the reader should refer to Canfor's Sustainable Forest Management Plan for Tree Farm Licence 30 (Canfor SFMP, June 2001).

Generally, the status of the Indicators has changed little since they were first reported in June's 2001 SFMP. Given the long-term nature of forest management and forest management practices, these small changes are not surprising. Continued harvesting and growing forests have resulted in some changes to the seral stage and old growth representation, but generally, either the Objectives are still being met, or results are expected in the long-term.

Progress in 2003/04 has been made on many Objectives such as Stream Crossing Quality Index with 7 new watersheds assessed, Alpha Wildlife's work on Rare and Endangered Species under Species Related Verifiers, and reworking of the survey methodology for Commercial & Non Commercial Diversity Index. The remainder of this document and the detailed status of each indicator are provided below.

As shown in the following table 92.5% (37 of 40) of the indicator objectives have been met or are pending and 7.5% (3 of 40) of the indicator objectives were not met.

Indicator	Objective Met	Objective Pending	Objective Not Met
2.1 Late Seral Stage	X		
2.2 Forest Patches	X		
2.3 Forest Interior Condition	X		
2.4 Biodiversity Reserves	X		
2.5 American Marten Habitat	X		
2.6 Native plant Species Diversity	X		
2.7 Caribou Habitat	X		
2.8 Riparian Management Areas	X		
2.9 Fish Stream Crossings	X		
2.10 Species-related Verifiers	X		
2.11 Deciduous Tree Species		X	
2.12 Sanitation Harvest Index	X		
2.13 Accidental Industrial Fires	X		
2.14 Site Index	X		
2.15 Permanent Access Structures	X		
2.16 Rare Plant Communities	X		
2.17 Stream Crossing Quality Index		x	
2.18 Terrain stability	X		
2.19 Soil Conservation	X		
2.20 Peak Flow Index	X		
2.21 Seral Stage Distribution	X		
2.22 Volume of Timber Harvested	X		
2.23 Waste Residue			X
2.24 Areas Meeting Free Growing Dates	X		
2.25 Areas Regenerated with Ecologically Suitable Species	X		
2.26 Mean Annual Increment		x	
2.27 Long Term Sustainable Harvest	X		
2.28 Commercial & Non-commercial Use		x	
2.29 Supply to Local Processing Facilities	X		
2.30 Local Contract Value	X		
2.31 Forest Management Satisfaction Score		x	
2.32 Canfor Response to Public Concerns	X		
2.33 Number of Public Advisory Meetings	X		
2.34 Public Advisory Group Questionnaire	X		
2.35 Aboriginal and Treaty Rights	X		
2.36 Aboriginal Participation on the PAG			X
2.37 Special & Unique Needs of Aboriginal Peoples			X
2.38 Approved Terms of Reference	X		
2.39 Approved Public Plans	X		
2.40 Opportunities for Public Input	X		

2.0 SFM INDICATORS AND OBJECTIVES

2.1 LATE SERAL STAGE DISTRIBUTION

Indicator: Late seral stage distribution by natural disturbance type by BEC zone by landscape unit within the DFA.

Management Objective: Maintain “old” and “mature & old” forests consistent with the targets (0% variance) in Table 1.

This is a “state of the forest” indicator and portrays the percentage of the landscape that is represented by the older age classes.

Table 1 identifies the current status of late seral representation and targets associated with each landscape and ecosystem on TFL 30. See Appendix 1 for a map that spatially shows the late seral stage distribution across TFL30.

The late seral objective has been met in 2003/04 as 100% of the mature and old seral stage targets that were to be achieved annually were accomplished.

In a number of cases due to natural disturbances (such as fire) and past harvesting, the status of the mature and old seral stage category is below the target required. As the forest grows older, the seral stage status will start trending toward the targets. In these circumstances, it will take several decades before the targets are achieved.

In late seral stages areas below the target, harvesting will not normally occur until the status is above the targets. Exceptions to this may be made for forest protection activities (beetles, windthrow).

Table 1. Current State of Indicator and Late Seral Stage Targets.

Land- scape Unit	N D T	BEC Subzones	Seral Stage (years)	Current Status as of March 31, 2003	Target %	Achieved By
Averil	3	SBSwk1, mk1	Mature>100	15.7 %	> 11%	Annually
			Old>140	23.7 %	> 11%	Annually
	1	ICHvk2*	Mature>100	42.2 %	> 17%	Annually

			Old>250	14.5 %	Short-term > 12%	Annually
					Long-term > 13%	2010
Seebach	1	ESSFwk2*	Mature>120	60.8 %	> 19%	Annually
			Old>250	0.0 %	> 19%	2081
	2	SBSvk	Mature > 100	45.5 %	> 15%	Annually
			Old > 250	1.5 %	> 9%	2055
	3	SBSwk1	Mature > 100	6.3 %	> 11%	2055
			Old > 140	45.7 %	> 11%	Annually
	1	ICHvk2	Mature > 100	34.4 %	> 17%	Annually
			Old > 250	14.5 %	> 13%	Annually
	1	ESSFwk2, wc3	Mature > 120	54.5 %	> 19%	Annually
			Old > 250	1.5 %	> 19%	2055
Woodall	2	SBSvk	Mature > 100	42.4 %	> 15%	Annually
			Old > 250	0.3 %	Long-term > 9%	2055
	1	ICHvk2	Mature > 100	63.4 %	> 17%	Annually
			Old > 250	1.9 %	> 13%	2055
	1	ESSFwk2, wc3	Mature > 120	64.0 %	> 19%	Annually
			Old > 250	1.0 %	> 19%	2055

2.2 FOREST PATCHES

Indicator: Percentage of forest patches by patch size category by landscape unit within the DFA.

Management Objective: Achieve the distribution of forest patches consistent with the targets (+/-10% variance) in Table 2.

The forest patch indicator provides information regarding the representation of young forest patches in various sizes across ecosystems and landscapes. Since ecosystems have different natural patterns, patch size distribution is important in order to establish patch size objectives by natural disturbance types (NDT). Patch size targets are based on the current numbers found in the landscape planning guidebook and biodiversity guidebook.

Table 2 identifies the current status of patch size distribution and targets associated with each landscape and ecosystem on TFL 30. See Appendix 1

for a map that spatially shows the current patch size distribution across TFL30.

Table 2. Current Patch Size Distribution and Targets by Category by Landscape Unit.

Landscape Unit	Category	Size Range (ha)	Current Status as of March 31, 2004	Projected Status to Dec. 2008	Target	Achieved By
Averil (grouped into NDT 3)	Small	< 40	6.5 %	8.0%	10-20%	2020
	Medium	40-249	46.3 %	37.9%	10-20%	2080
	Large	250-1000	32.7 %	46.2%	60-80%	2080
	Very Large	> 1000	14.4 %	8.0%	0%	2015
Seebach (grouped into NDT 2)	Small	< 40	4.8 %	7.6%	30-40%	2018
	Medium	40-79	17.2 %	24.5%	30-40%	2060
	Large	80-250	29.1 %	36.3%	20-50%	Annually
	Very Large	> 250	48.9 %	31.5%	0%	2020
Woodall (grouped into NDT 1/2)	Small	< 40	5.4 %	11.9%	30-40%	2080
	Medium	40-79	19.6 %	18.2%	30-40%	2060
	Large	80-250	29.3 %	24.1%	20-50%	Annually
	Very Large	> 250	45.6 %	45.8%	0%	2020

The patch size objective has been met in 2003/04 as the targets that were to be achieved annually were accomplished.

In most cases (10 of 12), due to past harvesting trends, the current status of the patch size category is outside of the target. As the forest grows older, and new harvesting is carried-out, the targets will be generally trending toward the target range as shown in the table; however, in some cases this process will take several decades. One exception is the medium sized patches in the Woodall Landscape Unit. In future Forest Stewardship Plans, emphasis will be placed on adding medium blocks to the Woodall landscape unit to provide a favorable trend toward the desired target.

Current and future practice will be to prescribe further harvesting that will accelerate the trend toward the desired target for each category.

2.3 FOREST INTERIOR CONDITION

Indicator: Forest interior condition by variant by landscape unit within the DFA.

Management Objective: Maintain the forest interior condition (-1% variance) consistent with the targets in Table 3.

Forest interior condition refers to the area in old forests where edge effects no longer influence environmental conditions (i.e. generally habitat conditions). Table 3 identifies the current status of the forest interior condition.

Table 3. Current Forest Interior Condition and Targets by Variant by Landscape Unit.

Landscape Unit	BEC	Current Status as of March 31, 2003	Projected Status as of Dec. 31, 2008	Target	Achieved By
Averil	SBSmk1	22.9 %	23.4%	> 3.6%	Annually
	SBSwk1	19.1%	23.7%	> 3.6%	Annually
	ESSFwk2	0.0%	0.0%	> 6.3%	2074
	ICHvk2	13.4%	13.5%	> 4.3%	Annually
Seebach	SBSvk	0.7 %	1.0%	> 3.0%	2090
	ICHvk2	5.4 %	0.0%	> 4.3%	Annually
	SBSwk1	54.3 %	47.2%	> 3.7%	Annually
	ESSF wk2 & wc3	1.0 %	2.0%	> 6.3%	2100
Woodall	SBSvk	0.7 %	1.0%	> 3.0%	2100
	ICHvk2	1.1 %	2.1%	> 4.3%	2066
	ESSF wk2 & wc3	0.5 %	1.1%	> 6.3%	2070

As shown in Table 3, the current status of the forest interior condition exceeds the minimum levels required in 100% of the ecosystems to be achieved annually (5 of 5). In these areas, current and future practice will be to continue to harvest while monitoring the availability the forest interior condition to ensure the minimum threshold limits are maintained. In the remaining ecosystems however, the forest interior condition is less than the

target, or zero. This is due to the fact that currently there is very little or no forest in these ecosystems that is classified as old seral age class - having an age greater than 250 years old (a requirement for forest interior condition in these ecosystems). Current and future practice in these cases will be to avoid harvesting of any old forest while planning for recruitment of the interior forest condition from mature stands.

2.4 BIODIVERSITY RESERVES

Indicator: Proportion of biodiversity reserves by BEC zone within the DFA.

Management Objective: Maintain the proportion of biodiversity reserves consistent with the targets (-1% variance) in Table 4.

Biodiversity reserves consist of any forest area deducted from the timber harvesting landbase including; mapped wildlife tree patches, riparian reserves, and all other large reserve areas. This indicator displays the proportion of TFL30 which is considered to be a “biological reserve” for each of the BEC zones.

As shown in Table 4, this indicator is further subdivided according to the type of biological reserve (small and large reserves). Small reserves are considered to be any reserve that is prescribed as part of the Silviculture Prescription/Site Plan. Large reserves are large geographical areas as established in the management plan.

Table 4. Current Status of Biodiversity Reserves and Targets by BEC Subzone

Biodiversity Reserve Type	BEC Subzone	Current Status As of March 31, 2004	Target (% area after 1996)	Achieved by
Small Scale Reserves: ✓ Wildlife Tree Patches ✓ Riparian Reserve	Averil SBS mk1	9.47 %	> 8	Annually except for Seebach ESSFwk2
	Averil SBS wk1	10.71 %	> 10	
	Averil ICH vk2	7.20 %	> 7	
	Averil ESSF wk2	12.11 %	> 8	

Zones				(2010)
	Seebach SBS vk	12.30 %	> 9	
	Seebach SBS wk1	17.00 %	> 8	
	Seebach ICH vk2	100%	> 11	
	Seebach ESSF wk2	5.82 %	> 6	
	Woodall SBS vk	15.18 %	> 10	
	Woodall ICH vk2	12.33 %	> 6	
	Woodall ESSF wk2	1.55 %	> 2	
Large Scale Reserves: ✓ Giscome Portage Trail (Class A Provincial Park) ✓ Horseshoe Recreation Area ✓ High Value Caribou Habitat ✓ McGregor River Management Zone ✓ Seebach Riparian Management Zone ✓ Tri Lakes Recreation Area ✓ Woodall Recreation Area	SBS	2.10 %	> 2.0 %	Each 5-year re-inventory period proportional to the total productive forested area of the TFL.
	ICH	0.16 %	> 0.05 %	
	ESSF	4.81 %	> 4.5 %	
	Total	7.06 %	> 6.55 %	

10 of 11 of the small scale reserves are above the target. The only small scale reserve not meeting the target (slightly below) is in the Seebach ESSFwk2. Over the past year the percent has increased from 4.7% in 2002/03 to 5.82% in 2003/04. As blocks are harvested in the Seebach ESSFwk2 reserve areas are usually planned for 8-12% retention, therefore the overall small scale reserve is expected to continue to increase over time and is forecasted to meet the target of 6% in 2010. One hundred percent of the large scale reserves are above the targets.

2.5 AMERICAN MARTEN HABITAT

Indicator: Proportion of American Marten habitat by landscape unit within the DFA.

Management Objective: Maintain the proportion of wildlife habitat (0% variance) consistent with the targets in Table 5.

The current status of wildlife habitat as measured by American Marten habitat is shown in Table 5 and spatially on a map in Appendix 1. The targets have been achieved in 2003/04.

Current and future practice will be to continue to harvest while monitoring the availability the wildlife habitat to ensure the minimum threshold limits are maintained.

Table 5. Area of American Marten Habitat.

Landscape Unit	Current Status (area %) as of March 31, 2003	Marten Habitat Target (area %)	Achieved By
Averil	29.2 %	>25%	annually
Seebach	44.7 %	>25%	annually
Woodall	47.1 %	>30%	annually

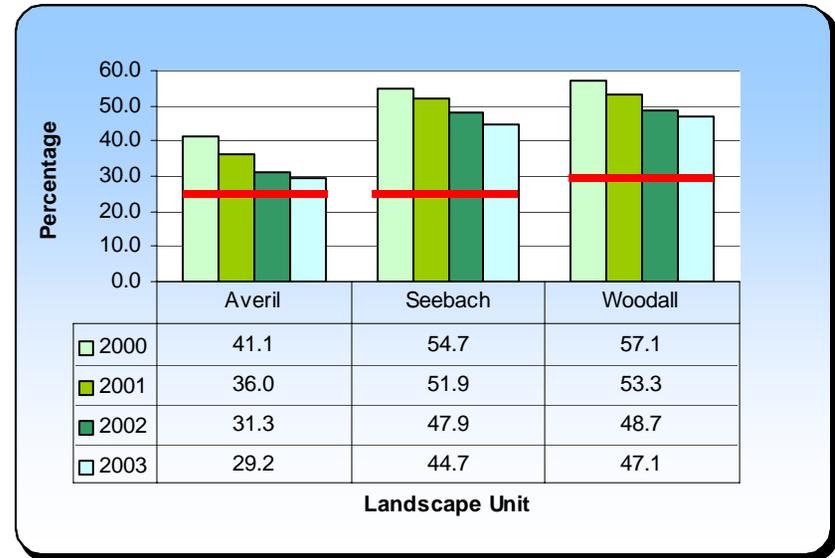


Figure 1. Area of American Marten Habitat by Landscape Unit and Year.

2.6 NATIVE PLANT SPECIES DIVERSITY

Indicator: Native plant species diversity index by plant associations within the DFA.

Management Objective: Maintain plant species within the range of variability found in natural forest processes. Targets and variance to be determined by March 2003.

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator management objective with the following: Maintain plant species diversity consistent (-10% variance) with table 17.

A diversity index is a mathematical measure of species diversity in a community. Diversity indices provide more information about community composition than simply species richness (i.e., the number of species

present); they also take the relative abundance of different species into account.

In order for entire ecosystems to function effectively and be able to recover from disturbances (e.g. forest harvesting activities), it is necessary to retain a natural diversity of elements that are fundamental to ecosystem recovery. Largely, plant species provide the basic requirements and fundamental habitat for faunal species and contribute to the recycling of nutrients and other life sustaining elements necessary to sustain the productive capacity of the ecosystem. As a result, ecosystem resilience is strengthened if a natural diversity of plant life can be maintained throughout TFL30.

Progress to date includes the following:

- The TFL30 landscape has been stratified into site associations, then grouped into ecologically similar units, which were termed grouped site associations
- An analysis of TRENDS plot data has provide the following current status (based on the Shannon-Wiener Diversity Index) current status.

Table 6. Plant stand diversity index by Grouped site association

Grouped Site Association	Current Status as of March 31, 2004	Shannon-Wiener Target	Achieved By
Sxw – Devil’s club	3.121	>2.029	December 2003
Sxw – Oak fern	3.060	>2.041	December 2003
Sxw – Huckleberry	3.297	>1.415	Annually
Sxw – Horsetail	2.753	>2.216	Annually
BI – Oak fern	3.060	>2.041	December 2004

To date, 65 NIVMA Plots have been established: Swx-Devil’s Club (16), BI-Oak fern (7), Sxw-Oak fern (25), Sxw-Huckleberry (14), and Sxw-Horsetail (3). The data indicates that the managed stand plant diversity index exceeds the target derived from natural stands for each of the 5 Group Site Associations listed in the table above.

2.7 CARIBOU HABITAT

Indicator: Availability of caribou habitat and connectivity corridors within the DFA.

Management Objective: Maintain the availability of caribou habitat (0% variance) and connectivity corridors (-1 variance) consistent with the targets in Table 7.

This indicator tells us how much of the TFL 30 is being maintained as caribou habitat. Current status of this indicator is shown in Table 7 and the targets have been met in 2003/04. No harvest activities took place in Caribou high, Caribou medium or within the 7 connectivity corridors.

Table 7. Current Caribou Habitat and Connectivity Corridors and Targets.

Caribou Management Areas	Current Status	Target	Allowable Variance	Achieved By
High Value Caribou Habitat	Current status is 100% reserved from harvest. (7171 ha in reserve)	Reserve 100% of the high value Caribou habitat (7171ha) from harvesting.	None	Annually
Medium Value Caribou Habitat	No harvesting was done in 2003/04 in medium Caribou habitat	Retain at least 67% of the pre-harvest basal area within each cutblock. Re-entry into the cutblock is after 81 years.	None	Annually
Caribou Connectivity Corridors	There are 7 corridor units (5459 ha) with a total of 20 BEC/NDT combinations for tracking. On average across all units currently 76% of the forested area is mature.	Maintain 7 functional caribou connectivity corridors. (functional is defined as at least 200 m in width and 70% mature forest.)	- 1 connectivity corridor	Annually



2.8 RIPARIAN MANAGEMENT AREAS

Indicator: Percent of riparian management areas consistent with the silviculture prescription after harvesting within the DFA.

Management Objective: 100% (-10% variance) of all riparian management areas will be consistent with the silviculture prescription after harvesting.

Riparian areas occur next to the banks of streams, lakes and wetlands and include both the area covered by continuous high moisture content and the adjacent upland vegetation. Riparian management areas contribute to sustainable forest management of TFL 30 through the conservation of riparian and aquatic environments which are key for the survival of flora and fauna species. Riparian management areas also provide for critical habitats, home ranges, and travel corridors for wildlife.

Over the last harvesting year (April 1, 2003 to March 31, 2004), from a review of our Incident Tracking System and EMS final harvest inspection forms, 100% (30 out of 30 cutblocks) of all riparian management areas were consistent with the silviculture prescription after harvesting. The represents a similar number to that obtained last year on 36 openings harvested .

2.9 FISH STREAM CROSSINGS

Indicator: Barriers to fish migration within the DFA.

Management Objective: 100% (0% variance) of new fish-stream crossings will provide for fish passage.

In order to maintain the natural diversity of fish species, fish stream crossings cannot be a barrier to the migration of fish species. As fish are also an important food source for other faunal species, the success of these stream crossings (i.e. to provide for fish migration) contributes to the maintenance of other faunal species on the DFA. This indicator contributes to the

maintenance of species diversity and the maintenance of ecosystem productivity by maintaining of the natural diversity of flora and fauna.

Over the last harvesting year (April 1, 2003 to March 31, 2004), from a review of the company EMS final inspection forms completed, 100% (16 out of 16) indicated that fish passage was maintained as no non-conformances were reported into ITS (EMS internal tracking system).

2.10 SPECIES-RELATED VERIFIERS

Indicator: Species-related verifiers (faunal) within the DFA.

Management Objective: Identify and evaluate proposed species related verifiers and develop a discussion report to be reviewed by the PAG within one year (+ 3 months variance).

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator and target with the following:

Indicator: The percent of species at risk with management strategies being implemented.

Objective: On an annual basis, ensure that 100% (0% variance) of species at risk management strategies are being implemented as scheduled. On an annual basis, ensure that 100% (-20% variance) of species related projects are being implemented.

The word species in this indicator refers to faunal. With regard to Canfor's management mandate, Canfor does not have authority to manage faunal populations directly. Many other factors can affect faunal populations (e.g. predation, hunting, disease) that are outside the management mandate of Canfor. The company, however, can manage toward the maintenance of habitat for faunal populations.

A verifier can then be used to investigate if the particular faunal populations of interest exist. This verifier could suggest if management of the particular faunal habitat is effective. In order for the verifier to be meaningful, it must be able to allow for the evaluation of the habitat indicator with as few external influences as possible (i.e. predation, hunting, disease, etc.).

Progress during 2003/04 on this indicator includes:

- The Development of a Conservation Measures Guide for Canfor's Operation in the North Central Interior which includes the DFA of TFL 30. The Guide incorporates existing legal requirements in addition to developed conservation best practices providing direction for Planning and Operational decision making.
- A spreadsheet was developed over the past year in order to create an occurrence record for SAR Animal Occurance as noted by company staff.
- The Field Guide developed in 2002 has been updated to incorporate new endangered species identified by IWMS.
- Training on the updated field guide has been scheduled for company staff for Spring 2004.
- A set of maps showing predicted distribution of Mountain Caribou, Wolverine, Fisher and Grizzly Bear for TFL 30 have been developed
- A report on verification of predicted distribution of Fisher in TFL 30 has been written.

This objective was achieved in 2003/2004 as no reported exceptions were noted. In TFL 30, only two SAR faunal occurrences: 1. The spotting of a Goshawk in flight. Time was taken search for a nest site but one was not found during field work. 2. The viewing of a Grizzly Bear sighted along a roadside.

2.11 DECIDUOUS TREE SPECIES

Indicator: Proportion of deciduous tree species basal area by BEC subzone within the DFA.

Management Objective: Achieve the proportion of deciduous tree species basal area by BEC subzone consistent with the targets (-1% variance) in Table 8.

Current status of this indicator (Table 8) remains unchanged from the information presented in the Sustainable Forest Management Plan for TFL30 – June 27, 2001. This indicator is expected to change after the next re-inventory period scheduled for early 2007.

Table 8. Current Deciduous Tree Species Component and Targets.

BEC subzone	Natural Stands Current Status *	Managed Stands Current Status *	Target Managed Stands (% deciduous species based on basal area)	Achieved by
SBS mk1	11	14%	>6%	Every 5 year re-inventory period
SBS wk1	7	15%	>5%	
ICH vk2	2	4%	>1%	
ESSF (all subzones)	0	0%	0	
SBS vk	2	8%	>2%	

* the current status % were obtained by multiplying the percent composition of deciduous in each stand by BEC subzone reported in the VRI attribute file by the forested area within the stand then dividing by the total forest area in each BEC subzone variant (see table 51 and 52 in the MP 9 data information package for more details).

2.12 SANITATION HARVEST INDEX

Indicator: Sanitation Harvest Index for bark beetle infected area (pine, spruce, Douglas-fir) within the DFA.

Management Objective: Maintain Sanitation Harvest Index below 1000 (+100 variance) for all areas infected with pine, spruce, or Douglas- fir bark beetle.

Bark beetle populations (especially spruce bark beetle) have historically caused significant damage to TFL 30. To effectively manage a forest it is necessary to take a proactive approach in controlling potentially catastrophic outbreaks of bark beetles through the use of a variety of treatment techniques. The sanitation harvest index (SHI) is a method to prioritize treatments and the measure the relative success of the beetle management program. Over the long term, the index will help to identify trends in forest productivity and resilience.

Progress during the 2003/04 season includes:

- Aerial overview mapping (Heli-GPS) was conducted in the summer of 2003 on the western portions of TFL 30 to assess beetle populations with the remainder of the TFL area having the 2002 beetle sites “grown” utilizing the FORHEAL data base. No ground data was collected in 2003.
- The Sanitation Harvest Index was calculated with the following assumptions in place for individual epicenters: a) the area of the epicenter is 3.14 hectares based upon a 100 metre radius about a point and b) stand density was set a 350 stems per hectare and 100% of the stems were “host species.” The sanitation harvest index was calculated for each identified site and the following averages were taken for three areas of the TFL: North TFL (IBM) SHI= 27-LOW Ranking , South TFL (IBM) SHI=28-LOW, East TFL (IBM) SHI-143- LOW and East TFL (IBS) SHI-30 LOW.
- In summary, the SHI are consistent with the target indicator (<1000 SHI) in consideration of the active beetle management activities within the DFA. The range of SHI is generally interpreted as follows: 0-599=low priority, 600-999=moderate priority, and > 1000 = high priority.
- Two of the areas with SHI >1000 identified in 2003 were addressed during the 2003/2004 winter harvest program in cutblocks GIS057 and GIS058.

The objective has been met in 2003/04.

2.13 ACCIDENTAL INDUSTRIAL FIRES

Indicator: Area of accidental industrial caused fires within the DFA.

Management Objective: No more than 10 hectares (0% variance) of accidental industrial caused fires annually.

This indicator provides an indication of forest losses due accidental industrial fires. An accidental industrial caused fire is a fire that is initiated because of industrial activity on the defined forest area.

After reviewing the Canfor Incident Tracking System and cross referencing the Ministry of Forests Fire Center information for the period April 1, 2003 to

March 31, 2004, it was confirmed there was 0 hectares of accidental industrial caused fires on TFL 30. The objective has been met in 2003/04.

2.14 SITE INDEX

Indicator: Site index by BEC subzone within the DFA.

Management Objective: Maintain the site index consistent with the targets (-5% variance) in Table 9.

Site index is a relative measure of forest site quality. It is a measure of the height growth that can be expected in 50 years (after trees reach 1.3 m in height) by a particular tree species on a given site.

Since site index is a physical measure of the growth of trees in a stand at a specified point in time, it provides a good method to evaluate if the productivity capacity of the forest is being maintained..

Data in 1999-2002 was collated by BEC subzone for the site index calculation (4-year average). The data mainly included pre 1987 silviculture surveys which allowed for growth intercept assessment of site index. The current status of this indicator (Table 9) in bold shows that it has been updated while the others remains unchanged from the information presented in the Sustainable Forest Management Plan for TFL30 – June 27, 2001 (as there was not enough or zero sample data).

Table 9. Current Site Index and Targets by BEC Subzone.

BEC Subzone	Elevation	Current Status (Average Spruce Site Index (m))	Target (Average Spruce Site Index (m))	Achieved By
SBSmk1, SBSvk, SBSwk1	< 1000m	21.4	>20.8	A 5-year rolling average.
SBSvk, SBSwk1	> 1000m	23.5	>19.6	
ESSFwc3	> 1000m	12.1	>11.5	
ESSFwk2	> 1000m	15.0	>13.7	
ESSFwcp3	> 1000m	6.0	>5.7	
ICHvk2	> 1000m	22.4	>20.2	

2.15 PERMANENT ACCESS STRUCTURES / LAND CONVERSION

Indicator: Proportion of the DFA converted to permanent access structures or conversion to other uses.

Management Objective: Maintain reductions to the forest landbase due to permanent access structures or conversion to other uses to a maximum of 4 % (+/- 2 % variance).

A permanent access structure is a structure, including a road, bridge, landing, gravel pit or other similar structure, that provides access for timber harvesting and remains after timber harvesting activities on the area are complete. This indicator is simply a measure of the amount of area permanently removed on an annual basis from the productive forest as a result of development, in relation to the defined forest area.

The objective has been met in 2003/04 as a total of 1.94.% of the productive forest landbase have been converted to permanent access structures.

Current practices will ensure that development needs are minimized by:

- Maintaining road widths to a minimum while providing for safe and effective access,
- Prescribing temporary road/trails (road/trail that is reclaimed to productive forest) within site plans where the road/trail will not be used for future access, and
- Using roadside harvesting methods (as opposed to landings) as a preferred method of access development.

2.16 RARE PLANT COMMUNITIES

Indicator: Proportion of rare plant communities with protection measures in place within the DFA.

Management Objective: 100% of rare plant communities will have protection measures established and implemented within 1 year (+3 months variance).

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator management objective with the following: On an annual basis, ensure that 100% (0% variance) of rare plant community management strategies are being implemented.

This indicator tells us about the extent that TFL 30 is being managed respective of rare plant communities. It provides structure relating to recognition, management and reporting on these communities, leading to management practices that positively impact the indicator.

Rare plant communities on TFL 30 include the following:

- Black Spruce / Lodgepole Pine / Bog Laurel / Spagnum (BS)
- Western Red Cedar / Devil's Club / Ostrich Fern (DO)
- Hybrid White Spruce / Douglas Fir / Thimbleberry (DT)
- Western Hemlock / Western Red Cedar / Cladonia (HC)

The amount of each of these rare plant communities is shown in the following table.

Table 10. Rare Plant Community Areas on TFL 30.

Rare Plant Community	BEC Subzone	BEC Subzone Area (ha)	Rare Plant Community Area (ha)
BS	SBSvk	81946	1013
DO	ICHvk2	10399	1181
DT	SBSvk	81946	1188
HC	ICHvk2	10399	160

Canfor has developed management/protection strategies for these plant communities and amended them into the Forest Development Plan for implementation during the 2003 field season. Species at risk training including rare plants and plant communities has been completed for operational staff. Checklists for rare plant communities have been added to the eco phase and layout phase. In addition, rare plant community protection strategies have been defined for use in the Pest Management Plans.

For 2003/2004, a query of Genus indicted that six blocks contained rare site series on which herbicide spraying was planned. Three out of the 6 blocks that were scheduled were of no concern because the rare plant community was protected within a reserve, 2 were field verified as not being in ICHvk2-

05 and the final block only had 10% of the ecological unit comprising of the rare site series.

The results indicate compliance with the written risk management procedures for dealing with rare plant communities.

2.17 STREAM CROSSING QUALITY INDEX

Indicator: Stream Crossing Quality Index (SCQI) for each watershed within the DFA.

Management Objective: Implement the SCQI within 1 year (+6 month variance) by: inventorying stream crossings by ownership class; developing a SCQI scoring methodology; and developing a long term inspection schedule that will prioritize watersheds and then demonstrate continuous improvement over time.

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator with the following management objective: Maintain SCQI consistent (-10% variance) with table 18.

The stream crossing quality index is a measure, which indicates the potential of a stream crossing (permanent road stream crossings) to deliver sedimentation into the stream. A high index indicates a high potential for the crossings to add sediment to the adjacent stream whereas a low index indicates that the crossings are being well managed to reduce the possibility of sediment entering the stream from the crossing.

The following progress has been made on this indicator since June 2001:

- A stream crossing quality index scoring methodology has been developed by P. Beaudry & Associates for Canfor.
- An inventory map of stream crossing has been produced for TFL30 and is included in Appendix 1.
- An associated database of stream crossing information has been developed.
- Sampling of stream crossing covering 8 sub basins in TFL30 during 2002.
- Sampling continued in the summer of 2003 with the completion of the Upper Seebach and 7 new watersheds.

- Two restoration projects were completed to improve stream crossing quality within the DFA: 17.5 Km Hayden Rd-bridge approach fill removal in addition to old subgrade material and 6K Rd. deactivation with the removal of two 800mm corrugated steel pipes.

The SCQI current status of TFL30 sub basins sampled in 2002 and 2003 are shown in the following tables:

Table 11. Current Stream Crossing Quality Index within TFL30 for 2002.

Sub-Basin	Number of crossing surveyed	SCQI Current Status (March 31, 2003)	SCQI Rating Sum of ind. Crossing scores/sq. km	% crossings high H2O quality concern
Barney Creek	70	0.54	High	5.71
East Olsson	39	0.39	Moderate	5.13
Herring	67	0.30	Moderate	4.48
Lower Olsson	48	0.29	Moderate	14.89
Residual D	44	0.19	Low	2.27
Upper Seebach	154	0.29	Moderate	5.19
Basin 4	48	0.29	Moderate	14.58
Woodall	96	0.55	High	7.29

Table 12. Current Stream Crossing Quality Index within TFL30 for 2003.

Sub-Basin	Number of crossing surveyed	SCQI Current Status (March 31, 2004)	SCQI Rating Sum of ind. Crossing scores/sq. km	% crossings high H2O quality concern
Herring	83	0.39	Moderate	10.84
Upper Seebach	300	0.62	Very High	8.33
East Seebach	270	0.61	Very High	10.04
Averil	157	0.57	High	13.38
Limestone	60	0.30	Moderate	1.67
Watershed 20	62	0.81	Very High	22.58
Basin A	100	0.34	Moderate	5.0
Watershed 25	22	0.12	Low	13.64

Work will continue in 2004 to assess further stream crossings in the remaining sub basins. In addition, restoration plans for specific sites will be developed.

2.18 TERRAIN STABILITY

Indicator: Percent of silviculture prescriptions and road designs consistent with terrain stability field assessments within the DFA.

Management Objective: 100 % (0% variance) of silviculture prescriptions and road designs are consistent with the terrain stability field assessments annually.

A terrain stability field assessment (TSFA) are completed on any harvest or road building proposal that lies within an area identified as either unstable or potentially unstable. The TSFA is usually completed coincidentally with the silviculture prescription or road layout and design. The recommendations of the TSFA are then integrated into the silviculture prescription or road layout and design and carried-out in forest operations. To ensure the recommendations are carried through, Canfor provides for internal checks prior to the development project (pre-work meeting), and after completion of the project (final inspection). Inconsistencies are reported through our Environmental Management System.

Over the period April 1, 2003 to March 31, 2004, from a review of silviculture prescriptions, road designs, terrain stability field assessments and EMS forms, 100% of silviculture prescriptions (5 of 5) are consistent with the terrain stability field assessments. No terrain stability field assessments were required on roads during 2003/04.

2.19 SOIL CONSERVATION

Indicator: Number of cutblocks consistent with soil conservation targets in silviculture prescriptions within the DFA.

Management Objective: 100% (0% variance) of cutblocks are consistent with soil conservation targets identified in the silviculture prescription.

Over the period April 1, 2003 to March 31, 2004, from a review of silviculture prescriptions and completed EMS forms, 100% of 55 cutblocks having activity conducted on them were consistent with soil conservation targets in silviculture prescription.

All areas proposed for harvest are reviewed to ensure protection of soil resource within acceptable limits. Minimizing the negative impact caused by forest management activities such as harvesting, road building, and silviculture conserves soil. These impacts include soil compaction, displacement and mass wasting. The Silviculture Prescription provides standards to minimize impacts on soil productivity. Conservation of soils sustains the long-term productivity of the ecosystem.

2.20 PEAK FLOW INDEX

Indicator: Peak flow index (PFI) for each watershed within the DFA.

Management Objective: Maintain the PFI consistent with the targets (0 variance) in Table 13.

At the April 14, 2003 Public Advisory Group meeting, members approved the following change to the management objective: Each year, 100% (- 10% variance) of the watersheds will be below the baseline target in Table 13. Each year, all watersheds that exceed the baseline target will have a watershed review completed wherever new harvesting is planned (0% variance).

The peak flow index is a measure, which indicates the potential effect of harvested areas on water flow in a particular watershed. Most hydrologic impacts occur during periods of the peak stream flow in a watershed. Peak flow is the maximum flow rate that occurs within a specified period of time, usually on an annual or event basis. In the interior of British Columbia, peak flows occur as the snowpack melts in the spring.

Current status of peak flow index into the 27 independent watersheds is shown in the following table. A PFI 4 year trend graph is shown in Appendix 2.

Table 13. Current Peak Flow Index on the DFA.

Watershed name	PFI as of March 31, 2003	Target	Achieved by
Averil	48	< 65	Annually
Barney Creek	33	< 37	Annually
Basin 20	37	< 65	Annually
Basin 25	45	< 80	Annually
Basin 27	44	< 80	Annually
Basin 7	44	< 80	Annually
East Olsson	35	< 37	Annually
Herring	46	< 65	Annually
Horn	28	< 37	Annually
Hubble	32	< 80	Annually
Limestone	47	< 80	Annually
Lower Olsson	41	< 65	Annually
Mokus	78	< 90	Annually
Residual A	23	< 65	Annually
Residual B	33	< 37	Annually
Residual C	43	< 65	Annually
Residual D	25	< 37	Annually
Residual E	27	< 65	Annually
Residual F	43	< 65	Annually
East Seebach	33	< 80	Annually
Lower Seebach	63	< 65	Annually
Upper Seebach	35	< 80	Annually
Tay Creek	33	< 80	Annually
Upper Olsson	29	< 80	Annually
Basin 4	34	< 65	Annually
Woodall	28	< 37	Annually
West Torpy	16	< 37	Annually

Currently, 100% of the watersheds are below the targets. One watershed (as identified by bolding) has a current status very close to the target threshold.

2.21 SERAL STAGE DISTRIBUTION

Indicator: Seral stage distribution by landscape units by BEC zone within the DFA.

Management Objective: To achieve seral stage representative distribution (+/- 10% variance) consistent with the targets in Table 14.

Table 14 identifies the current status of seral stage distribution as of March 31, 2004 associated with each landscape and ecosystem on TFL 30. A Seral Stage Distribution Map in Appendix 1 displays the current status spatially.

Table 14. Current Seral Stage Distribution and Targets.

Land-scape Unit	NDT	BEC Subzones	Seral Stage	Current Status	Target %	Achieved By
Averil	3	SBSwk1, mk1	Early < 40 yrs	42 %	34-44	12 decades
			Mid 40 – 100 yrs	14 %	34-44	12 decades
			Mature > 100 yrs	18 %	> 11	Annually
			Old > 140 yrs	26 %	> 11	Annually
	1	*ICHvk2	Early < 40 yrs	27 %	30-40	12 decades
			Mid 40 – 100 yrs	16 %	30-40	12 decades
			Mature > 100 yrs	42 %	> 17	12 decades
			Old > 250 yrs	15 %	> 13	2010
	1	*ESSFwk2, wc3	Early < 40 yrs	30 %	26-36	12 decades
			Mid 40 – 120 yrs	8 %	26-36	12 decades
			Mature > 120	62 %	> 19	12 decades
			Old > 250 yrs	0 %	> 19	2081
Seebach	2	SBSvk	Early < 40 yrs	42 %	33-43	12 decades
			Mid 40 – 100 yrs	3 %	33-43	12 decades
			Mature > 100 yrs	53 %	> 15	Annually
			Old > 250 yrs	2 %	> 9	2055
	3	SBSwk1	Early < 40 yrs	34 %	34-44	12 decades
			Mid 40 – 100 yrs	5 %	34-44	12 decades
			Mature > 100 yrs	7 %	> 11	Annually
			Old > 140 yrs	54 %	> 11	Annually
	1	ICHvk2	Early < 40 yrs	46 %	30-40	12 decades
			Mid 40 – 100 yrs	1 %	30-40	12 decades
			Mature > 100 yrs	37 %	> 17	Annually
			Old > 250 yrs	16 %	> 13	Annually
	1	ESSFwk2, wc3	Early < 40 yrs	22 %	26-36	12 decades
			Mid 40 – 120 yrs	13 %	26-36	12 decades

Woodall	2	SBSvk	Mature > 120 yrs	63 %	> 19	Annually
			Old > 250 yrs	2 %	> 19	2055
			Early < 40 yrs	45 %	33-43	12 decades
			Mid 40 – 80 yrs	8 %	33-43	12 decades
	1	ICHvk2	Mature > 100 yrs	46 %	> 15	Annually
			Old > 250 yrs	1 %	> 9	2055
			Early < 40 yrs	25 %	30-40	12 decades
			Mid 40 – 100 yrs	6 %	30-40	12 decades
	1	ESSFwk 2, wc3	Mature > 100 yrs	67 %	> 17	Annually
			Old > 250 yrs	2 %	> 13	2055
			Early < 40 yrs	5 %	26-36	12 decades
			Mid 40 – 120 yrs	17 %	26-36	12 decades
			Mature > 120 yrs	77 %	> 19	Annually
			Old > 250 yrs	1 %	> 19	2055

* New ecosystems resulting from TEM

Seral stage is a representation of the forest by age classes. Forest stands that exist under different soils, climatic, ecological and natural disturbance conditions will have different seral stage representations.

Canfor has been implementing the principles of landscape biodiversity at the Forest Development Plan level since 1999. These principles have included managing for a range of seral stages across landscapes and ecosystems. The current seral stage distribution is heavily skewed to the old/ mature and young ages. Very little change is noted from the numbers shown in the 2002/03 annual report.

2.22 VOLUME OF TIMBER HARVESTED

Indicator: Annual volume of timber harvested (m³/year) within the DFA.

Management Objective: Maintain the allowable annual cut (AAC) at the levels determined by the Provincial Chief Forester within ± 50% of the AAC annually and ± 10% of the AAC over each 5-year cut control period.

At the April 14, 2003 Public Advisory Group meeting, members approved the following change to the management objective: The volume harvested will not exceed 100% (+10% variance) of the total AAC for the five year cut control period.

This indicator is a simple annual summary the volume of timber harvested from the DFA. These values are determined from timber scale billings and is the same data used by the crown to determine stumpage revenue.

The current status of volume cut in 2003 is shown in the following table. Since the year 2000, the actual volume cut for any single year has varied from 50% (2001) of the AAC to 114% (2002).

Table 15. Current Allowable Annual Cut on the DFA.

Year	Actual Recorded Cut (m ³)	Allowable Annual Cut (m ³)	% Recorded Cut of AAC	Rolling 5 Year Cut Control %
2000	285,016	328,688	86.7%	85.7%
2001	165,183	328,688	50.3%	
2002	375,231	328,688	114.2%	
2003	301,940	328,688	91.9%	

2.23 WASTE RESIDUE

Indicator: Proportion of avoidable sawlog waste within the DFA.

Management Objective: No more than 4 m³/ha (+2.0 m³/ha variance for W 2003/04) of the timber harvested seasonally will be attributable to avoidable sawlog waste from MOF waste billings.*

*Change of variance from 0.5 m³/ha to 2.0 m³/ha accepted at Oct. 30, 2003 PAG meeting.

Proportion of avoidable sawlog waste is the volume of timber left on the harvested areas that should have been removed (in accordance with the utilization standards in the cutting authority) compared to the total timber harvested on an annual basis. It does not include the volume of timber that could not be removed because of physical impediments, safety considerations, or other reasons beyond the control of the licensee.

Currently Canfor, as part of our cutting authorities, must conduct waste and residue surveys following harvest. These surveys are then compiled and forwarded to the Ministry of Forests who may bill the company for avoidable waste. Summer 2003 and Winter 2003 current status of avoidable sawlog waste is shown below:

Table 16. Current Avoidable Sawlog Waste by Harvest Season.

Harvest Season	Avoidable Sawlog Waste (m3/ha)
Winter 1998	2.2
Summer 1998	3.2
Winter 1999	2.7
Summer 1999	3.9
Winter 2000	1.6
Summer 2000	3.4
Winter 2001	3.25
Summer 2001	2.9
Winter 2002	2.63
Summer 2002	1.98
Winter 2003	5.82
Summer 2003	6.44

The target for avoidable sawlog waste has not been met for the past two seasons in which data is available for. The residue and waste numbers currently are less than the government standard (10 m3/ha) but the trend is away from the 4 m3 per hectare originally proposed as a CSA indicator target. At the October 30, 2003 Public Advisory Group meeting, a change to the variance of +0.5 to +2 m³/ha was presented and accepted by the PAG. With the adjusted variance, the number has still been exceeded with the summer 2003 compiled data.

2.24 AREAS MEETING FREE GROWING DATES

Indicator: Percentage of cutblock stratum meeting free growing dates within the DFA.

Management Objective: 100% (-5% variance) of cutblock stratum will meet free growing dates as outlined in approved silviculture prescriptions or exemptions.

A Silviculture Prescription (SP) is a legal contract between the Provincial Government and a Forest Licensee. The SP provides the Crown with a commitment from the licensee to establish a new stand on a harvested area within a specified timeframe. Silviculture Prescriptions are completed by a Registered Professional Forester and detail the steps required to establish a new stand over a harvested area. All harvested areas require a Silviculture

Prescription prior to harvest. The only exception being, if the area is very small (< 1 ha) and the trees are being removed for the purposes of sanitation, the Ministry of Forests may approve an exemption. Exemption sites for sanitation harvesting are a temporary measure in the life of a stand. It is expected that the entire stand will be harvested and reforested at some point the future. Exemption sites make-up less than a fraction of a percent of the total area harvested each year.

Given the recent changes in forest acts and regulations, silviculture prescriptions are being replaced by site plans and will not require approval from the Ministry of Forests. However, licencees will be held to similar standards as in the past as there will be a requirement for stocking standards to be approved at the Forest Development Plan stage that will be subsequently referenced in the Site Plan.

From 1987 to present, 100% of harvested areas within TFL30 have met the late free growing dates as outlined in the Silviculture Prescription.

2.25 AREAS REFORESTED WITH ECOLOGICALLY SUITABLE SPECIES

Indicator: Percent of harvested areas adequately reforested with ecologically suitable species within the DFA.

Management Objective: 100% (0% variance) of harvested areas will be adequately reforested with ecologically suitable species.

In maintaining the existing condition of the forest landbase, reforestation efforts should be directed at regenerating the harvested areas with tree species that are ecologically compatible with the harvested site and the surrounding forest ecosystem. Ecologically suitable tree species are those coniferous or deciduous tree species that are naturally adapted to a site's environmental condition, including the variability in these conditions that may occur over time.

Currently, 100% of the areas planted within TFL30 from April 1, 2003 to March 31, 2004 were planted with ecological suitable tree species.

2.26 MEAN ANNUAL INCREMENT

Indicator: Mean Annual Increment by BEC subzone within the DFA

Management Objective: Maintain the MAI (-10% variance) consistent with the targets in Table 16 (Sustainable Forest Management Plan – June 27, 2001).

The mean annual increment ($m^3/ha/year$) is the average annual (year) volume growth (m^3) for a given area of forest (ha). The mean annual increment will change with the life of the stand. MAI is generally highest in the mid-seral stages and then declines as trees get older.

There is a network of growth and yield permanent sample plots (PSPs) distributed across TFL 30 within natural and managed stands, however data needs to be re-measured and analyzed over time to monitor changes in status.

In 2002/03 an indicator business process and gap analysis was completed for the MAI indicator.

In 2003/04, a report entitled “strategic recommendations for growth and yield data collection in the Prince George TSA” was completed. Current permanent sample plots located on TFL 30 and outside TFL 30 (but on the same subzones) are being evaluated along with the 2003/04 growth and yield strategic recommendation report to finalize a sample plan for MAI.

2.27 LONG-TERM SUSTAINABLE HARVEST

Indicator: Long-term sustainable harvest level

Management Objective: Do not negatively impact (-10% variance) the long-term sustainable harvest level.

The long-term sustainable harvest level is a level of harvest that can be maintained indefinitely given a particular forest management regime. The first determination of the long-term sustainable harvest level occurred in the first round of the first timber supply review (1992-1996). The analysis that accompanies the TSR is based on the best available information and

provides a timber supply forecast for the next 250 years while considering various socio-economic and ecological issues

Since the Timber Supply Review occurs every five years, and incorporates new information and changing social values, this provides the opportunity to fine tune short-term and long-term harvest levels throughout time. Therefore being responsive to changing conditions while still considering the long-term sustainability of the forest ecosystem.

The following tables from the June 2001, Sustainable Forest Management Plan for TFL 30 has been updated to include long-term sustainable harvest information from Management Plan 9 (MP 9). The long-term sustainable harvest level from MP 9 basecase is 508,759 m^3 .

Table 17. Long Term Sustainable Harvest Levels Forecasting Results.

Scenario Planning Option	Long-term Sustainable Harvest Level ($m^3/year$)	Difference over MP 8 Status Quo Long Term Harvest Level
MP 8 Status Quo	373,360	0 %
MP 8 Base Case	479,998	29 %
MP 8 Intensive Management	569,998	53 %
MP 8 Biodiversity/Wildlife	429,998	15 %
MP 8 Watershed/Fish	439,998	18 %
MP 8 Scenic Area/Recreation	439,998	18 %
MP 8 Biodiversity Guidebook	419,995	12 %
MP 8 Priority Biodiversity Planning	489,997	31 %
MP 9 Base Case	508,759	36 %
MP 9 short term 15% decline	512,399	37 %
MP 9 Increase yield 10%	559,999	50 %
MP 9 Decrease yield 10%	457,519	23 %

2.28 COMMERCIAL AND NON-COMMERCIAL USE

Indicator: Results of annual survey of commercial and non-commercial uses for the DFA.

Market and non-market use diversity index within the DFA.

A diversity index is a mathematical measure of diversity within a community. Diversity indices provide more information about community composition than simply the number of uses present. A commercial/non-commercial (market/non-market) diversity index is a result of information regarding: 1) the number of different uses/values on the DFA, and 2) the intensity (number of participants) for each use/value. As these data are collected through annual public surveys, it is possible to evaluate the change in diversity of uses/values over time.

Progress on this indicator since 2001 includes:

- A commercial and non-commercial use survey was developed and sent to the Public Advisory Group (PAG) for review
- In 2001/02 the calculation of the diversity index was 0.98 for commercial use and 3.00 for non-commercial use
- In 2001/02, commercial and non-commercial use maps were produced for TFL30. By far there is more variable of non-commercial use. Popular non-commercial uses include camping, hiking, hunting, fishing, snowmobiling, berry picking, skiing and others. Commercial use includes trapping, guiding and forestry (although no one noted this on the survey).
- The 2002/03 calculation of the diversity index was 0.76 for commercial use and 1.27 for non-commercial use.
- From the 2002-03 survey, the main commercial uses are trapping and forestry and the main non-commercial uses are skiing, hunting, camping, and hiking.
- October 30, 2003 PAG meeting led to recommendations that the current survey methodology be re-visited
- February 2004- small PAG working group developed new methodology to be presented to PAG members during the June 2004 meeting.

2.29 SUPPLY OF TIMBER TO LOCAL PROCESSING FACILITIES

Indicator: Proportion of timber extracted from the DFA supplied to local processing facilities.

Management Objective: At least 95% (-5% variance) of the timber apportioned to Canfor will be supplied to local processing facilities.

This indicator provides information regarding the volume (m³) harvest from TFL 30 which goes to Canfor's timber processing facilities located within the boundaries of the Prince George timber supply area (TSA), compared to the total volume of wood harvested from the DFA.

Each truckload of wood is scaled at an approved Ministry of Forest scale site. When the truckload is weighed at the mill's scale, the timber mark is recorded into Canfor's Genus Systems-Logs Production Module (LOGSPROD) . Querying LOGSPROD , over the last year (June 2003 to March 2004) volumes indicate that 99.8% of the timber harvested was delivered to local Prince George TSA facilities. Of the aforementioned amount , 100% of the timber harvested was processed at Canfor's facilities within the Prince George Forest District. The remaining 0.2% of the volume was delivered to Quesnel.

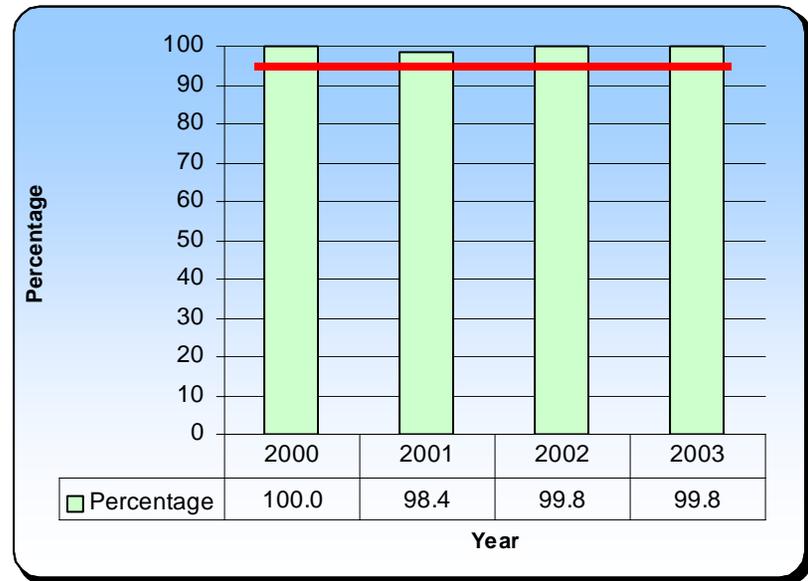


Figure 2. Percent of timber supplied to local facilities

2.30 LOCAL CONTRACT VALUE

Indicator: Percentage of contract value in dollars within the DFA serviced by north central British Columbia.

Management Objective: At least 90% (0% variance) of the contract value in dollars will be serviced within north central BC.

Forests not only provide a multitude of ecological benefits to the areas surrounding them, but they also provide many critical socio-economic benefits. In order to have sustainable socio-economic conditions for local communities associated with TFL 30, local forest related businesses should be able to benefit from the work that is required in the management of the DFA. Local (north central BC) contracts are considered to be those of which the contractor is located in the geographic area bounded by 100 Mile House in the south, Fort St. John in the north, Valemount in the east and Terrace in the west.

Querying the financial data stored within Canfor's accounting system allows for the current status and tracking of the local contract value within TFL 30. As shown below 95.2% of the annual dollars spent during 2002 within the DFA goes to north central BC contractors.

Table 18. Contract Value

Current Status of Indicator	Year	Target	Achieve By:
92.4%	2000	> 90 %	Annually
93.0%	2001	> 90 %	Annually
95.2%	2002	> 90 %	Annually
99.1%	2003	> 90 %	Annually

the current status is based on a calendar year Jan.1 to Dec. 31.

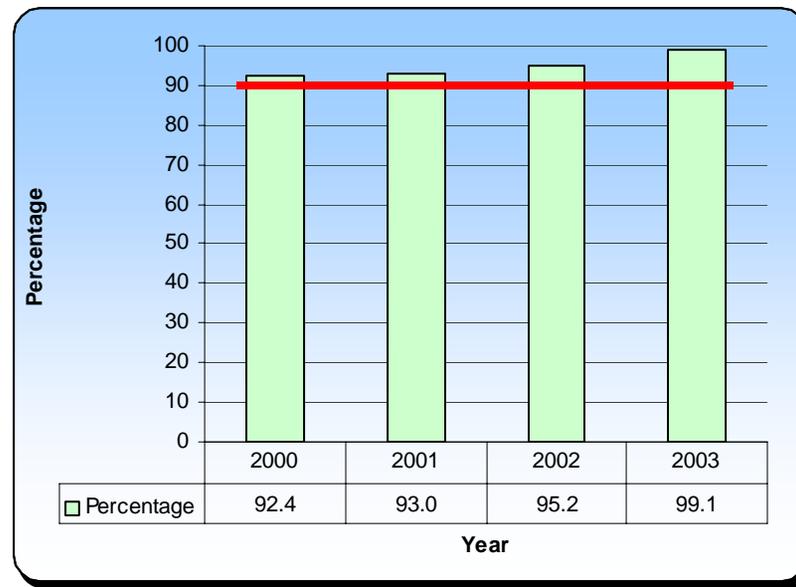


Figure 3. Percent of contract value serviced by northern B.C.

2.31 FOREST MANAGEMENT SATISFACTION SCORE

Indicator: Level of positive operating climate for small forestry-based businesses.
 Level of positive operating climate for small non-forestry-based businesses.
 Level of satisfaction for opportunities for market and non-market goods and services.

Management Objective: (small forestry based businesses): Determine the current level of satisfaction within one year (+3 months variance) and maintain or increase over time (based on an annual survey).



(small non-forestry based businesses) Determine the current level of satisfaction within one year (+ 3 months variance) and improve to a high level of satisfaction over time (based on an annual survey).

(market and non market) Determine the current level of satisfaction of opportunities within one year (+3 months variance) and maintain a high level of satisfaction over time (based on an annual survey).

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator management objective with the following: Increase the survey satisfaction 3 year rolling average% (sum of agree and strongly agree) by 10% (-5% variance) of small forestry, non-forestry based businesses and market and non-market businesses.

This indicator provides information relating to the level of satisfaction of companies that have business interactions with Canfor and/or the level of satisfaction that individuals have in dealing with specific interests regarding their uses/values on the DFA. The level of satisfaction was determined through the use of an annual survey, which was widely distributed to businesses that interact with Canfor and to individuals who have an expressed use/value on the DFA.

A total of 15 out of 81 (19%) responded to the survey with one response only supplying comments. The results of the surveys are shown in the table above. Respondents were asked to identify which category best defines them (i.e. forestry business, Non-forestry Business,...).

Although the results show the 0 market use interests were identified, it is speculated that the Non-forestry Business interest would include some respondents with market interest. In 2003/04 the proportion of "strongly agree and agree" was 61%. This is the same percentage as the 2003/03 survey.

2.32 CANFOR RESPONSE TO PUBLIC CONCERNS

Indicator: Percentage of Canfor responses to letters regarding public plans and general concerns with practices on the DFA.

Management Objective: 100% (-5% variance) written response within 30 days by Canfor to letters of concern annually.

Canfor solicits feedback for all public plans and also receives ongoing general feedback regarding its practices and management of the DFA. It is the intent of Canfor to respond to all written letters of concern. This indicator will be calculated by comparing the total amount of letters to which Canfor responds divided by the total number of letters Canfor receives.

Over the last year (April 1, 2003 to March 31, 2004), Canfor responded to 100% (1out of 1) of written public concerns on the DFA regarding management and practices within thirty days.

Written comments during a formalized public plan review period are responded to after the round table discussion with review agencies.

RESULTS OF THE FOREST MANAGEMENT SATISFACTION SURVEY – May 2004											
Which best identifies you or your company:											
<input type="checkbox"/> 9 Forestry Business <input type="checkbox"/> 4 Non-Forestry Business <input type="checkbox"/> 0 Market use <input type="checkbox"/> 1 Non-Market Use <input type="checkbox"/> Did not indicate											
Forest Satisfaction Item	Strongly Agree	Agree	Neutral	Disagree	Don't Know	Total # of Responses					
1. Opportunities exist for me to provide input to Canfor on forest management activities or concerns.	1	7%	4	29%	7	50%	2	14%	-	0%	14
2. My input is understood and considered by Canfor.	1	7%	6	43%	4	29%	3	21%	-	0%	14
3. Canfor responds quickly to my input.	2	14%	4	29%	7	50%	1	7%	-	0%	14
4. Canfor treats me fairly.	2	14%	8	58%	3	21%	1	7%	-	0%	14
5. I know who to contact at Canfor should I have a concern.	4	29%	9	64%	-	0%	1	7%	-	0%	14
6. Canfor is always courteous to me when I'm communicating with them.	4	29%	10	71%	-	0%	-	0%	-	0%	14
7. Canfor is communicating regularly with me.	3	21%	3	21%	5	37%	3	21%	-	0%	14
8. Canfor is communicating its environmental performance to me.	3	21%	5	36%	5	36%	1	7%	-	0%	14
9. Canfor is open to discussing business opportunities with me.	1	7%	7	50%	5	36%	1	7%	-	0%	14
10. I am happy with the present relationship with Canfor	3	21%	6	44%	3	21%	2	14%	-	0%	14
Total	24	17%	62	44%	39	28%	15	11%	0	0%	14

2.33 NUMBER OF PUBLIC ADVISORY MEETINGS

Indicator: Number of PAG meeting per year regarding the DFA.

Management Objective: Maintain a PAG that meets a minimum of two times (-one meeting variance) per year.

The public advisory group is made up of a diverse membership of representatives that have defined interests, values or uses on the DFA. This group has provided valuable input on the initial development of values, goals, indicators and objectives for this CSA-SFM certification process, and will continue to provide guidance, input and evaluation of this process. This indicator provides information regarding how often Canfor provides for the opportunity for the PAG to meet annually.

In preparation for CSA-SFM certification the public advisory group was formed in September 2000. Between September 2000 and April 2001, the Public Advisory Group met 13 times to develop the Values, Goal, Indicators and Objectives for CSA-SFM plan for TFL 30. Since April 2001, the PAG has met in October 2001, May 2002, April 2003 and October 2003. The next meeting is scheduled for the second week of June 2004.

Opportunities were provided for the PAG to participate in a field tour of TFL30 jointly with the Prince George LRMP members in June 2002. In addition, interested PAG members were invited to a ecosystem / species at risk workshop in November 2002.

Continual interaction with the PAG is considered of great benefit for the efficient progression of CSA certification and subsequent evaluation of the certification process through performance audits.

2.34 PUBLIC ADVISORY GROUP QUESTIONNAIRE

Indicator: Results of PAG questionnaire regarding the DFA.

Management Objective: Determine the level of satisfaction of the PAG members with the communication process annually (+ 2 months variance).

The public advisory group (PAG) is one of the key elements of public involvement in the CSA-SFM process. The PAG provides guidance, input and evaluation of the process and is instrumental in the process with regards to maintaining linkages with current local values and uses on the DFA. As such, it is important to have a positive working relationship with the PAG and Canfor should be able to respond to issues and concerns that may arise from the PAG.

A survey was provided to the PAG at the October 2003 meeting in order to determine their level of satisfaction. The results of the surveys along with PAG comments are included in Appendix 3. From the review of the results and comments, the PAG seems satisfied with the meetings, facilitator, and logistics. The average score obtained at the October 30, 2003 meeting was 4.4. Included in Appendix 3 is a trend graph showing this meeting in comparison to previous results obtained.

2.35 ABORIGINAL AND TREATY RIGHTS

Indicator: Level of legal compliance with duly established Aboriginal and treaty rights within the DFA.

Management Objective: 100% (0% variance) legal compliance with duly established Aboriginal and treaty rights.

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator management objective with the following: 100% (0% variance) recognition and respect of Aboriginal and treaty rights.

Cultural heritage of aboriginal people is a key social value derived from forest ecosystems across Canada. Once aboriginal and treaty rights are legally affirmed on the DFA, it is the responsibility of Canfor to abide by the terms. Duly established Aboriginal and treaty rights are those rights that are recognized and affirmed in the Canadian Constitution. When discussed in relation to renewable resources, these rights generally relate to hunting, fishing, trapping, and, in some cases, gathering (source: CSA Z808-96 p. 31 Section 2.6.1).

Two First Nation Bands have asserted aboriginal interests in TFL30, the McLeod Lake Band and the Lheidli T'enneh Band. The McLeod Lake Band signed a Treaty 8 settlement agreement with the Federal and Provincial



governments in 2000. None of the settlement lands are in TFL30. The Lheidli T'enneh First Nation is currently working on developing a treaty with the Federal and Provincial government that will clarify the nature and extent of aboriginal rights on the DFA.

Canfor has not been informed of any agreement describing treaty rights or aboriginal rights on TFL 30 because of treaty negotiations.

To date, no concerns have been raised regarding aboriginal rights on the defined forest area. Therefore, an assumption has been made that Canfor is 100% compliance with legally complying with all duly established Aboriginal and treaty rights on TFL30.

2.36 ABORIGINAL PARTICIPATION ON THE PUBLIC ADVISORY GROUP

Indicator: Annual percentage attendance by Aboriginal Group members at PAG meetings.

Management Objective: 90% (+/- 10% variance) attendance of Aboriginal Groups with an interest in the DFA at PAG meetings annually.

At the April 14, 2003 Public Advisory Meeting, the members approved to replace this indicator management objective with the following: Ensure that Aboriginal Groups involved and invited on the PAG are informed about meeting at least one month in advance and provide an opportunity to meet within one month after to debrief.

In order to maintain those social values, which have cultural and spiritual importance to First Nations, it is important to be able to incorporate input from representatives of local First Nations representatives. As such, the values of the local First Nations can more easily be incorporated into forest management planning, forest practices and management choices.

The two Aboriginal groups, McLeod Lake Indian Band and the Lheidli T'enneh First Nation, were involved in the PAG and were active members throughout the Development of the PAG process. Their attendance at the 13 PAG meetings (Sept.2000 to April 2001) to fill in the CSA matrix was 88%. Attendance dropped to 50% at the October 2002 PAG meeting and to 0% at

the April 2003 meeting. Several attempts were made to encourage the Bands to attend the fall 2003 PAG meeting but were not successful.

Canfor will continue to work at encouraging First Nations to be active members in the Public Advisory Group although success has been quite limited over the past few years.

2.37 SPECIAL AND UNIQUE NEEDS OF ABORIGINAL PEOPLES

Indicator: Documented opportunities and incorporation of special and unique mutually agreed upon needs of Aboriginal peoples in public plans for the DFA.

Management Objective: Identify special and unique mutually agreed upon needs within one year (+6 month variance) and create opportunities for Aboriginal peoples with an interest in the DFA to provide comment during preparation of public plans.

The incorporation of Aboriginal peoples needs in forest planning is a key aspect to sustainable forest management. As such, this indicator contributes to respecting the social, cultural, heritage and spiritual needs of people who traditionally and currently use the DFA for the maintenance of traditional aspects of their lifestyle. Working with Aboriginal peoples to identify, define and develop management strategies for these special and unique needs is an important component of being able to maintain elements on the landscape for the maintenance of traditional lifestyle values of Aboriginal peoples.

Canfor is involved in creating opportunities for interested parties (including Aboriginal Peoples) through the gathering of information from the interested parties and incorporating this information in the development of public plans. Canfor presently has working relationships with two of the local First Nations; the McLeod Lake Indian Band and the Lheidli T'enneh First Nation.

One of these First Nation groups (Lheidli T'enneh) remain members on the CSA-SFM certification Public Advisory Group. Current uses of the DFA by the Lheidli T'enneh people include, but are not limited to, berry picking and medicinal herb gathering, fishing, hunting, firewood gathering. One of the larger challenges remains in working on cultivating a long-term relationship, which will lead to a better understanding of each others needs and interests.

2.38 APPROVED TERMS OF REFERENCE FOR PUBLIC ADVISORY GROUP

Indicator: Approved Terms of Reference for the CSA Public Advisory Group for the DFA.

Management Objective: Maintain and review annually CSA PAG Terms of Reference to ensure consensus-based involvement process with credibility and integrity for the DFA (+2 month variance).

The Public Advisory Group is necessary to ensure that sustainable forest management occurs with "...decisions that are made as a result of informed, inclusive and fair consultation with local people who are directly affected by, or have an interest in, sustainable forest management. The PAG represents a diverse range of interest specific on the DFA. As such, each member on the PAG must be able to have effective and fair interaction and communication with one another, including Canfor, to ensure all values receive meaningful and fair consideration. The Terms of Reference document is intended to provide the necessary framework and protocol to ensure the effective input from PAG representatives.

The initial Terms of Reference document was developed by the PAG and approved for acceptance on October 30, 2000. The Terms of Reference document was reviewed and approved at the October 2001, May 2002, April 2003 and October 2003 PAG meetings.

Canfor will ensure that PAG members will be given adequate notice when the Terms of Reference document will be reviewed. Canfor will continue to maintain the Terms of Reference documents, such that any revisions resulting from the annual review of the Terms of Reference document will be made and distributed to the PAG members.

2.39 APPROVED PUBLIC PLANS

Indicator: Percentage of public plans that address identified public concerns/values for the DFA.

Management Objective: 100% (0% variance) of all public plans will address identified public concerns/values for the DFA.

Canfor's public plans consist of Management Plans, Forest Development Plans, Pest Management Plans and the Sustainable Forest Management Plan. All of these plans are subject to public review during which public can review and provide feedback on the plans. The Prince George LRMP is not currently a higher level plan but is considered in the development of public plans. Statutory decision-makers approve these public plans, and the approval is based, in part, as to how public feedback regarding the plans has been incorporated and the consistency with other plans (e.g. LRMP). It is the intent of Canfor to have 100% of all public plans approved by statutory decision makers and this indicator will report the percentage of public plans approved.

Currently, all public plans were made available for public review and feedback. The approval of public plans considers the feedback from interested parties. All public plans were submitted for public review and feedback, and the approval of public plans were recorded as follows:

TFL 30 Forest Development Plan – Approved on June 20, 2002 until April 2005.

Management Plan 9 for TFL30 – Approved on April, 2002 to April, 2007.

Canfor will continue to work towards maintaining a two-way communication process with interested parties by implementing it's "Creating opportunities for Interested Parties Document". Over the last year, 100% of the public plans submitted to Ministry Agencies for approval have addressed identified concerns in the LRMP and public review process.

2.40 OPPORTUNITIES FOR PUBLIC INPUT

Indicator: % public participation and number of public input opportunities provided within the DFA.

Management Objective: Increase % public participation in forest planning by maintaining at least one (0% variance) public involvement opportunity prior to drafting of public plans.

Public plans that are developed properly reflect societal issues and values, and consideration of those issues and values impact our practices contributing to sustainable forest management. The public has opportunity to provide input prior to the drafting of public plans, which leads to participation and continual improvement.

Canfor currently sends notification letters requesting input from all known interested parties during key phases in the Management Plan, Forest Development Plan and Pest Management Plan processes in addition to having advertisements published in the local newspaper. The Public input opportunity since 2002 is summarized in the table below.

Table 19. Public Input Opportunities

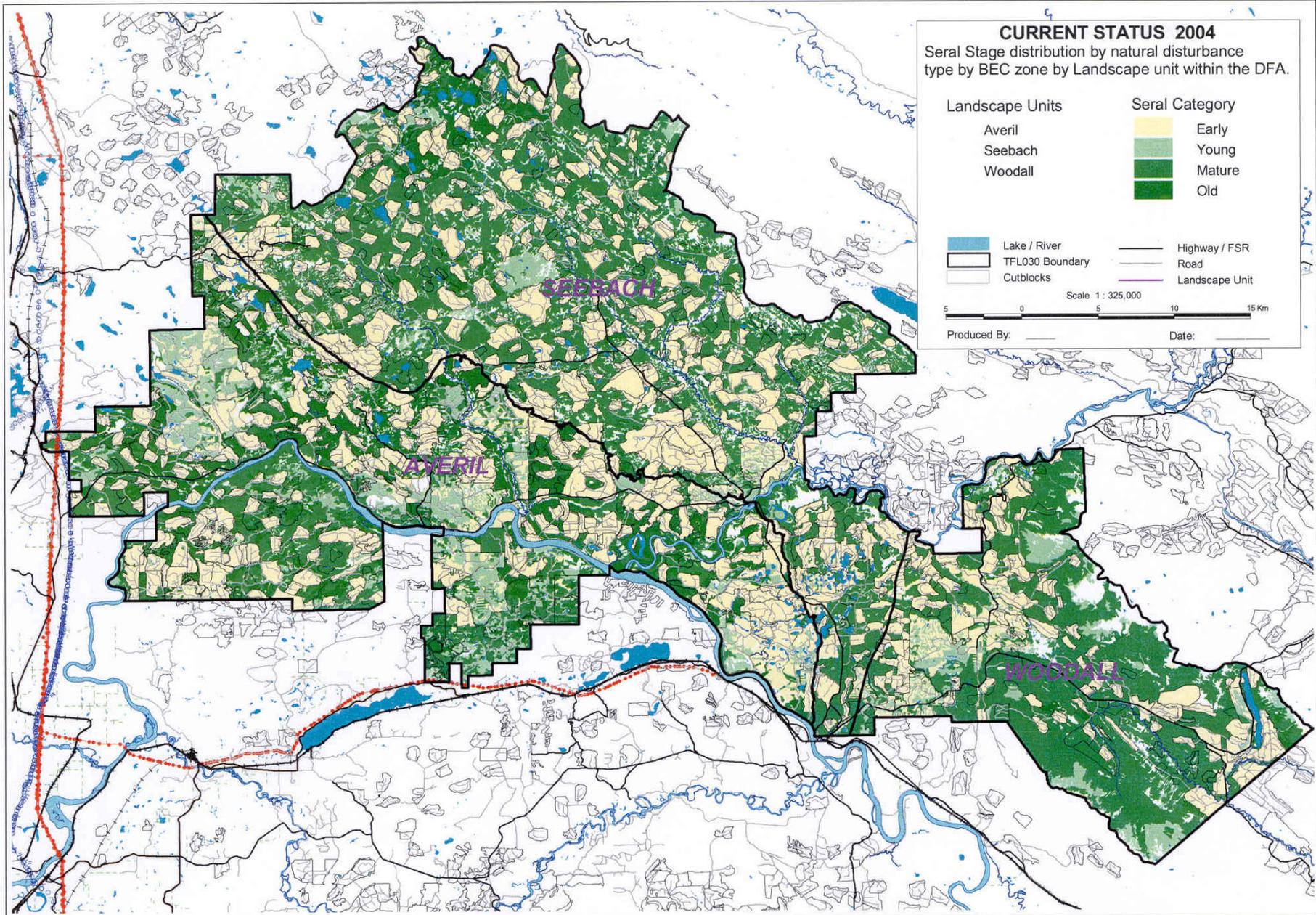
DFA Public Plan	Public Input Opportunity		
	Newspaper Ad	Notification Letter	Other
2002 Forest Development Plan	2 ads	31 letters	0
2002 Pest Management Plan*	4 ads	111 letters	1
Management Plan 9 **	0 ads	0 letters	0
Sustainable Management Plan			3
2003 FDP Amendment #28	1 ad	22 letters	
2003 PMP	2 ads	149 letters	3

* includes notification to treat

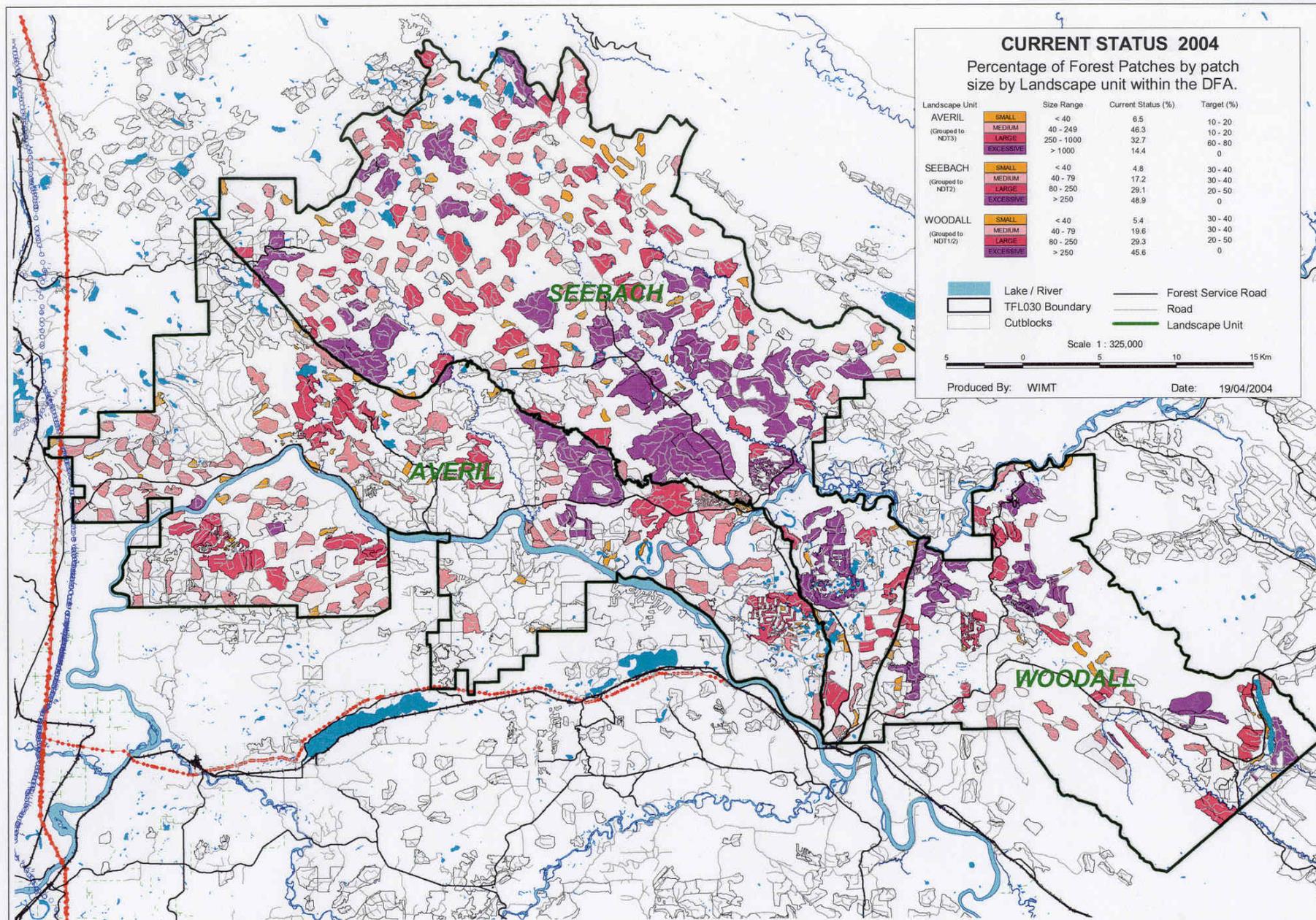
** MP9 – all public input occurred in 2001/02 therefore zero for this year as MP9 is a five year plan

APPENDIX 1 – MAPS

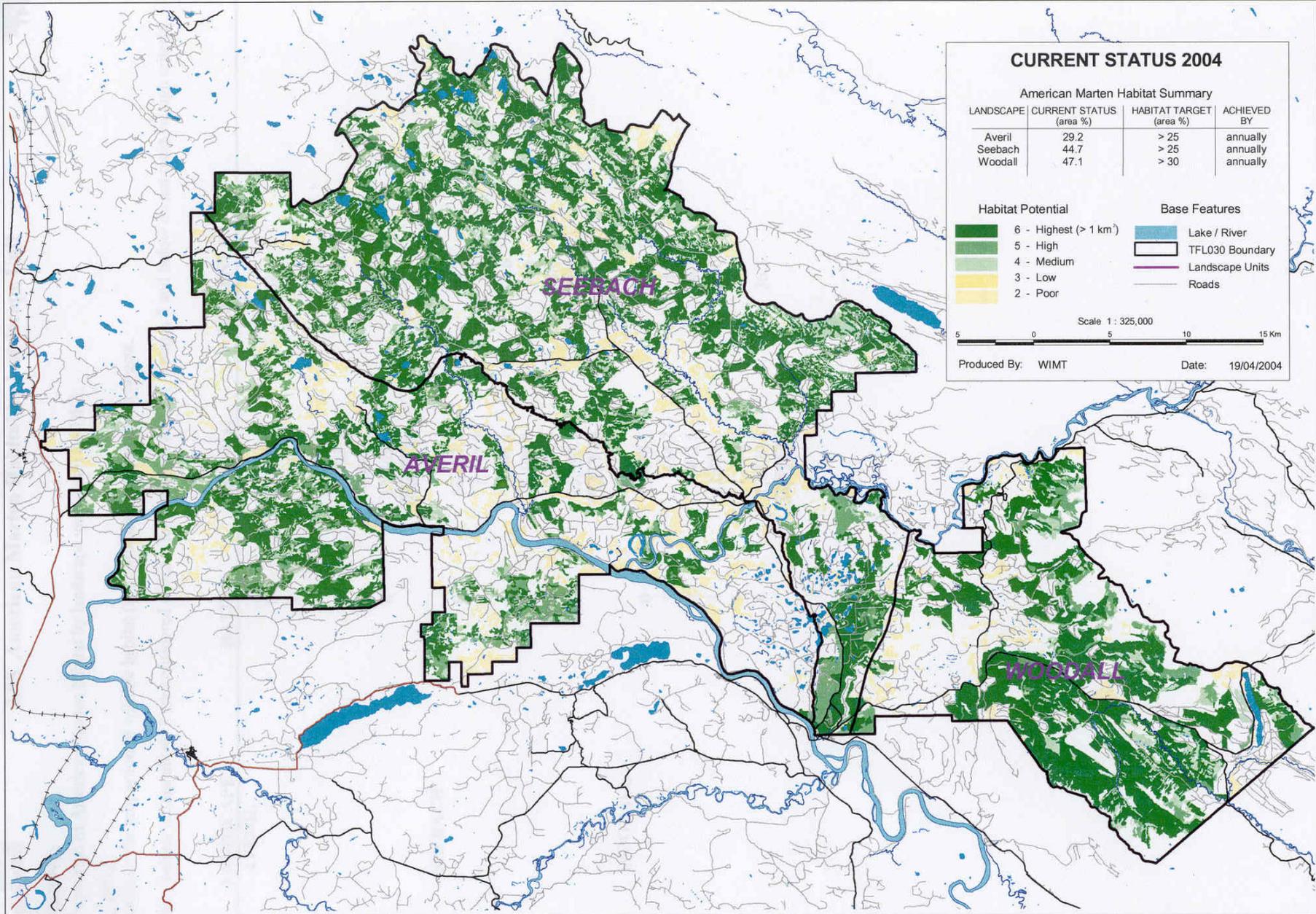
TFL030 Seral Stage Distribution 3.21



TFL030 Forest Patches 3.02

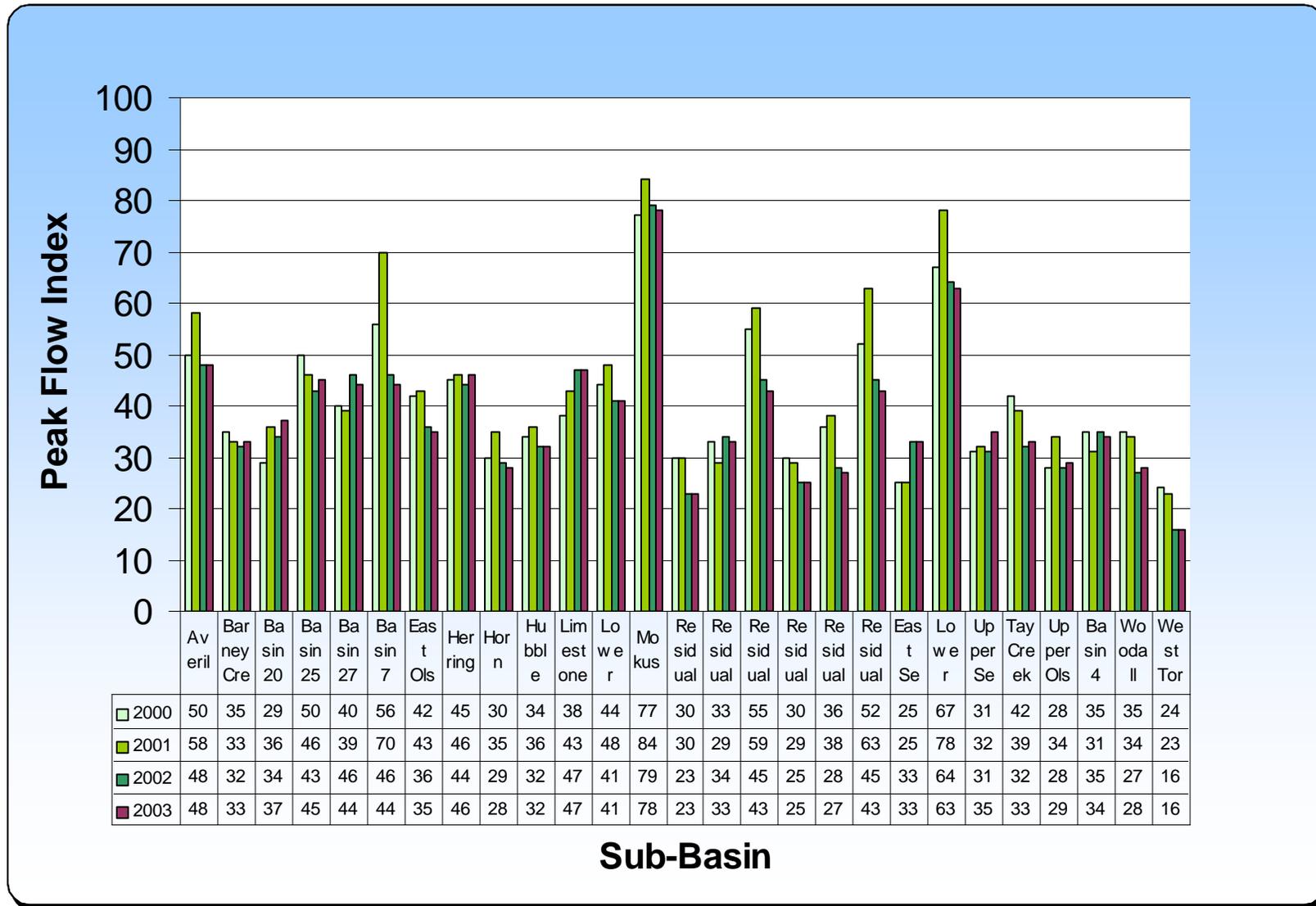


TFL030 American Marten Habitat 3.05



APPENDIX 2 – PFI 4-Year Trend Graph

Figure: Four Year Peak Flow Index Trends on TFL30.



APPENDIX 3 – PAG Questionnaire Results

CSA TFL30 – Public Advisory Group Questionnaire (sample size=15 Members or Alternatives)

Using the following scale of 1-5, please evaluate the CSA TFL30 Public Advisory Group Process. 1=very poor, 2=poor, 3=average, 4=good, 5=very good

MEETINGS

AVERAGE

RANGE

Meetings had:

1.	an agenda pre-published?	4.5	3-5
2.	most members involved?	3.9	3-5
3.	Canfor advisors prepared?	4.4	4-5
4.	followed the PAG Terms of Reference?	4.8	4-5
5.	actions updated?	4.5	4-5
6.	time allocated wisely?	4.0	3-5
7.	decision summarized?	3.9	3-5
8.	focus on consensus decision making?	4.2	2-5
9.	a positive atmosphere?	4.6	4-5
10.	Your overall satisfaction with the meetings?	4.4	4-5

Comments: please see below

FACILITATOR

The facilitator:

1.	strived for consensus decision-making?	4.2	2-5
2.	kept the meeting focused?	4.3	3-5
3.	kept the meeting moving?	4.1	3-5
4.	remained neutral on content issues?	4.7	3-5
5.	encouraged open communication?	4.6	3-5
6.	tolerated and smoothed conflict?	4.5	3-5
7.	obtained technical expertise (when needed)?	4.6	4-5
8.	captured documentation?	4.4	4-5
9.	actively listened?	4.5	3-5
10.	came prepared and organized?	4.4	4-5

Comments: please see below

Meeting Logistics

1.	Was the Civic Centre location convenient?	4.5	3-5
2.	Was the timing of the meeting convenient?	4.5	4-5
3.	Was the meeting room adequate?	4.5	3-5
4.	Was the food and beverage good?	4.5	4-5

Comments: please see below

Comments

Meetings

- Insufficient time
- Well done
- Good meeting-well paced

Facilitator

- Meeting conducted effectively
- Does a good job overall

General Comments

- Book a room with a view-windows
- Meeting was interesting
- Pimarily an information meeting
- What issues will PAG be discussing on annula basis
- Overall productive meeting
- Interesting
- The three people making presentations were informative and did a good job

Meeting Logistics

- Food excellent. Coffee lukewarm
- Book a room with a view-windows
- Perfect-music in background optional
- Music unavoidable (dance on lower level)

Your Suggestions

- Consensus seems to be based on vocal majority
- Forego the terms of reference
- Have Pierre present his findings and filed questions
- Discuss stream crossing studies in context with FPC Fish crossing stream guidebook
- Review compliance/ implementation of LRMP
- Review treatment of beetles vs. bio-diversity management
- OK as is
- Trapper/Guide representation

Figure: Public Advisory Group (PAG) questionnaire responses

