

# SUSTAINABLE FOREST MANAGEMENT PLAN

## 2002 Annual Report

### TREE FARM LICENCE 30

Canadian Forest Products Ltd.

Prince George Operations



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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 on 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 summarises 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 2001 or to March 31, 2002, of the 40 Indicators and Objectives of the SFMP. In this report, each Indicator is reiterated, and a brief status report 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, status of the Indicators have changed little since they were first reported in June's 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 has been made on many Objectives such as Rare Plant communities, Stream Crossing Quality Index, Commercial & Non Commercial Diversity Index and others. The remainder of this document and the detailed status of each indicator are provided below.

## 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.

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.

Forest management, through the harvest of stands, affects the distribution of seral stages. Forest stands are often regenerated and planned for harvest on a rotation age that is less than the age that they would have matured (and grow old) naturally. Therefore, over an entire rotation, forest management will likely reduce the availability of late seral stages (mature and old) beyond the limits of natural variability. To conserve landscape biodiversity it is important to maintain representation of late seral stages across landscapes and ecosystems within a managed forest.

This is a "state of the forest" indicator and portrays the percentage of the landscape that is represented by the older (late) age classes i.e. mature and old forests.

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 the DFA.



**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, 2002	Target %	Achieved By	
Averil	3	SBSwk1, mk1	Mature>100	16.5%	> 11	Annually	
			Old>140	31.1%	> 11	Annually	
	1	ICHvk2*	Mature>100	45.3%	> 17	Annually	
			Old>250	16.4%	Short-term > 12	Annually	
					Long-term > 13	2010	
	1	ESSFwk2*	Mature>120	61.9%	> 19	Annually	
Old>250			0%	> 19	2081		
Seebach	2	SBSvk	Mature > 100	57.9%	> 15	Annually	
			Old > 250	2.0%	> 9	2055	
	3	SBSwk1	Mature > 100	7.4%	> 11	Annually	
			Old > 140	64.0%	> 11	Annually	
	1	ICHvk2	Mature > 100	37.4%	> 17	Annually	
			Old > 250	15.8%	> 13	Annually	
	1	ESSFwk2, wc3	Mature > 120	67.8%	> 19	Annually	
			Old > 250	1.9%	> 19	2055	
	Woodall	2	SBSvk	Mature > 100	51.6%	> 15	Annually
				Old > 250	0.6%	Long-term > 9	2055
1		ICHvk2	Mature > 100	69.9%	> 17	Annually	
			Old > 250	2.1%	> 13	2055	
1		ESSFwk2, wc3	Mature > 120	76.9%	> 19	Annually	
			Old > 250	1.3%	> 19	2055	

In several cases, due to natural disturbances (fire, ...) and past harvesting, the current status of the 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 areas, harvesting will not normally occur until seral stage status is above the targets. Harvesting exceptions include forest protection such as beetles, windthrow savage and others.

## 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.

A forest patch is defined as a stand of similar-aged forest that differs in age from adjacent patches by more than 20 years. When used in the design of landscape patterns, the term refers to the size of either a natural disturbance opening that led to an even-aged forest, or an opening created by cut blocks (BC Ministry of Forests and Ministry of Environment, Lands, and Parks Forest Practices Code Biodiversity Guidebook p. 76). Since disturbances (e.g. fire and harvesting) continually create new early seral (young) patches it is most useful to monitor the distribution of sizes of new openings i.e. less than 20 years of age. In a managed forest, forest patches represent a legacy of the previous forest stand that can fulfill various functions, including the maintenance of ecosystem diversity and forest health

The forest patch indicator provides information regarding the representation of young forest patches in various sizes across ecosystems and landscapes. Since ecosystems (as grouped into natural disturbance types) have different natural patterns patch size distribution it is important to establish patch size objectives by NDT.

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 the DFA.

**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, 2002	Projected Status to Dec. 2008	Target	Achieved By
Averil (grouped into NDT 3)	Small	< 40	6.2%	8.2%	10-20%	2020
	Medium	40-249	48.4%	38.3%	10-20%	2080
	Large	250-1000	31.5%	53.5%	60-80%	2080
	Very Large	> 1000	13.8%	0%	0%	2010
Seebach (grouped into NDT 2)	Small	< 40	3.6%	8.1%	30-40%	2018
	Medium	40-79	15.4%	25.6%	30-40%	2060
	Large	80-250	30.6%	36.4%	20-50%	Annually
	Very Large	> 250	50.4%	29.9%	0%	2010
Woodall (grouped into NDT 1/2)	Small	< 40	8.0%	15.9%	30-40%	2080
	Medium	40-79	26.0%	23.9%	30-40%	2010
	Large	80-250	22.0%	28.9%	20-50%	2010
	Very Large	> 250	43.9%	31.6%	0%	2010

In most cases, due to past harvesting trends, the current status of the patch size category is outside of the target required. As the forest grows older, and new harvesting is carried-out, the targets will be maintained or achieved; however, this process will take several decades (in some cases). Current and future practice will be to prescribe further harvesting that will accelerate the trend toward the desired target for each category. This can be achieved within the Forest Development Plan by:

- Closely monitoring and addressing forest health problems before they create excessive patches (either alone or by linking existing cut blocks).
- Planning to connect medium and small patches to create larger patches where there is a surplus of smaller patches and deficit of larger patches.

## 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). The effects usually involve light intensity, temperature, wind, relative humidity and snow accumulation and melt (BC Ministry of Forests). The forest interior condition contributes to the maintenance of biodiversity by conserving conditions necessary to retain interior forest dwelling species on the landscape. To provide protection from these abiotic influences, the interior forest condition generally requires a late seral stage patch that is larger than 36 hectares. The characterization of forest interior condition will vary depending upon ecological factors and therefore is being differentiated according to the BEC variant.

Over an entire rotation, forest management can dramatically reduce availability interior forest condition beyond the limits of natural variability. As areas are harvested, edge environments are created between the cutblock and the adjacent unharvested forest patch.

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, 2002	Projected Status as of Dec. 31, 2008	Target	Achieved By
Averil	SBSmk 1	27.6%	23.4%	> 3.6%	Annually
	SBSwk1	23.1%	23.6%	> 3.6%	Annually
	ESSFwk2	0.0%	0.0%	> 6.3%	2074
	ICHvk2	15.4%	13.5%	> 4.3%	Annually
Seebach	SBSvk	0.9%	1.0%	> 3.0%	2090
	ICHvk2	5.4%	0.0%	> 4.3%	Annually
	SBSwk1	58.9%	44.0%	> 3.7%	Annually
	ESSF wk2 & wc3	1.0%	2.0%	> 6.3%	2100
Woodall	SBSvk	0.0%	0.3%	> 3.0%	2100
	ICHvk2	1.1%	2.1%	> 4.3%	2066
	ESSF wk2 & wc3	0.0%	1.1%	> 6.3%	2070

The current status of the forest interior condition exceeds the minimum levels required in about half of the ecosystems in Table 3. In these areas, current and future practice will 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 there is currently 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, and to plan for recruitment of the interior forest condition from mature stands. The “achieved by” column in Table 3 reflects the time for recruitment to satisfy the minimum forest interior condition. The availability of the forest interior condition will be reflected in the Forest Development Plan when harvesting is planned. In all cases, conservation of the forest interior condition will be threatened by damaging agents, particularly bark

beetle. Therefore, stringent monitoring and control of bark beetles is important to the success of this objective.

Since the DFA is considered as a low biodiversity emphasis option (draft Prince George landscape unit planning map) only 10-25% of the “old forest area” is required in forest interior conditions (Biodiversity Guidebook, 1995). Targets shows in the following table are based on approximately 33% of the old forest area requirement for each NDT.

## 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 include 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 the DFA, 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. 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, 2002	Target (% area after 1996)	Achieved by
Small Scale Reserves: ✓ Wildlife Tree Patches ✓ Riparian Reserve Zones	Averil SBS mk1	9.02 %	> 8	Annually
	Averil SBS wk1	9.23%	> 10	
	Averil ICH vk2	8.14%	> 7	
	Averil ESSF wk2	12.07%	> 8	
	Seebach SBS vk	10.95%	> 9	
	Seebach SBS wk1	17.62 %	> 8	
	Seebach ICH vk2	n/a%	> 11	
	Seebach ESSF wk2	2.79 %	> 6	
	Woodall SBS vk	11.48 %	> 10	
	Woodall ICH vk2	8.95 %	> 6	
	Woodall ESSF wk2	1.24%	> 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 (3406 ha)	2.16 %	> 2.0 %	Each 5-year re-inventory period proportional to the total productive forested area of the TFL.
	ICH (254 ha)	0.16 %	> 0.05 %	
	ESSF (7557 ha)	4.79 %	> 4.5 %	
	Total (157,811 ha)	7.11 %	> 6.55 %	

\*\*All areas refer to the productive forested portion of the TFL and BEC zones.

## 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.

In forest management, cut blocks are distributed in time and space and impact on the biological diversity at the landscape and stand level. Managed landscapes usually correspond to a variety of mosaics of seral stages (early, mid, and late). Depending upon the level of fragmentation and the amount of stands with forest interior condition, the amount and diversity of wildlife species inhabiting these landscapes will change from one area to another. Likewise depending on the attributes of stands left behind or modified by timber harvesting, habitat units may be favorable for some wildlife species and detrimental to others. Work completed by Proulx, (2000) reviewed habitat requirements for mammals, amphibians, reptiles, and fish within TFL 30. Comparing habitat requirement for many species Proulx noted that American Marten habitat requirements share the same old seral age class and habitat requirements as the majority of other old seral species. As such, the habitat requirements for other old seral species can be accommodated when managing for American Marten habitat. So this indicator tells us that we are managing for a variety of old seral wildlife species with the DFA.

The current status of wildlife habitat as measured by American Marten habitat is shown in Table 5 and spatially in Appendix 1. In deriving current status the size of 100 ha for home range. Current and future



practice will 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, 2002	Marten Habitat Target (area %)	Achieved By
Averil	36.0%	>25	annually
Seebach	51.9%	>25	annually
Woodall	53.3%	>30	annually

## 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.

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. Diversity indices provide important information about rarity and commonness of species in a community. The ability to quantify diversity in this way is an important tool for biologists trying to understand community structure. (Source: Magurran, A. E. 1988. Ecological Diversity and its Measurement. Princeton University Press, Princeton, NJ). Ecologists generally believe that resilient ecosystems also represent healthy ecosystems. Maintaining the natural levels of the plant index (levels) will show that we have a resilient and diverse landscape.

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. To a large extent, plant species provide the basic requirements and fundamental habitat for faunal species and also 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 the defined forest area (TFL 30).

Since this indicator is new and in the process of being developed, no current status is available. Progress to date includes the following:

- The TFL 30 landbase has been stratified into plant associations,
- A gap analysis has been completed to identify how many plots are required to monitor diversity in the shrub, herb, and moss layer by identified plant community type,
- Field sampling will use TRENDS protocol plots.

## 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 6.

Caribou habitat has been identified and defined by the BC Ministry of Water, Land and Air Protection (MoWLAP) in the Prince George District. Caribou habitat has been differentiated as "High Value Habitat", "Medium Value Habitat" and "Caribou connectivity corridors" MoWLAP.



Caribou are a species whose populations can be severely impacted by disturbance and predation within their habitat. As caribou naturally have a low productivity rate, research has found that disturbance within critical habitat can put severe downward pressure on productivity of caribou populations. Caribou corridors are designed and maintained to access various seasonal habitat requirements (i.e. wintering, rutting, calving habitat), while also reducing the predator advantage of limiting the species to a specific place at a particular point in time.

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 6.

**Table 6. 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.	Reserve 100% of the high value Caribou habitat (7171ha) from harvesting.	None	Annually
Medium Value Caribou Habitat	Previous harvesting within the caribou medium habitat has retained 0% basal area. All new harvesting is planned to meet the target identified in the next column.	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.	- 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 (RMAs) consist of a riparian management zone and where required by regulation (Forest Practices Code of British Columbia) a riparian reserve zone. Within the management zone constraints to forest management activities are applied. The width of these zones is determined by attributes of streams, wetlands, lakes and adjacent terrestrial ecosystems. No timber harvesting is permitted within the reserve zone. 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.

This indicator tells us that the riparian management area that exists after harvesting is consistent with the Silviculture Prescription.

Over the last harvesting year (April 1, 2001 to March 31, 2002), from a review of our Incident Tracking System and EMS final harvest inspection forms, 97.2% (35 out of 36) of all riparian management areas were consistent with the silviculture prescription after harvesting.



## 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.

As roads are constructed to access areas for timber harvesting, it is necessary to build structures (i.e. culverts, bridges) where roads cross streams. In many instances, these streams can be fish-bearing streams and it is the intention for all new fish-stream crossings to provide continued 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 in the fish bearing streams on TFL 30. 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, 2001 to March 31, 2002), from a review of our GENUS system and EMS stream crossing inspection forms, 100% (51 out of 51) of those stream-crossing checklists indicate that fish passage was maintained.

## 2.10 SPECIES-RELATED VERIFIERS

**Indicator:** Species-related verifiers 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).

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. Canfor, 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.).

In order to successfully implement species related verifiers, a process (see Appendix 2) was developed by Canfor and sent to the Public Advisory Members for comments. Comments were received and further meetings will be organized in June and July to finalize the process. Comments ranged from editorial points to embracing a broader grouping of vertebrate species (mainly birds and medium to large mammals).

## 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 7.

Though not often considered of economic importance, deciduous tree species are important to the ecological balance of forest ecosystems. Deciduous tree species will often occur in early successional stands and provide numerous functions including contribution of nutrients to forest soils and providing habitat. As the forest progresses through its



successional stages, the deciduous component will eventually decline until circumstances promote its reoccurrence, but will provide other important elements such as coarse woody debris and other habitat structures (i.e. standing wood debris). Throughout the successional stages of forest ecosystems, the ecological functions of deciduous tree species change spatially and temporally, but are important for maintaining the natural diversity of flora and fauna.

The proportion of deciduous trees on TFL 30 is determined by comparing the amount of forested area covered by deciduous in the vegetation resource inventory compared to those that are defined as area occupied by coniferous. This indicator provides an estimate of the proportion of deciduous tree species in the DFA.

Current status of this indicator (Table 7) 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 7. 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.

In maintaining the productivity of forest ecosystem, it is necessary to reduce the adverse impacts of catastrophic natural disturbance events (i.e. beetle infestation and forest fires) that may result from forest management and practices (i.e. fire suppression). 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 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.

Aerial overview mapping was conducted in the summer of 2001 on TFL 30 to assess beetle populations. Copies of the maps for the summer 2001 flights are available from the TFL 30 Planning Forester. A local contractor conducted ground surveys in late 2001. Site probes were completed on most sites. High-risk sites were line probed. Sanitation Harvest Index (SHI) was calculated (see the SFM Plan June 2001 for detailed calculation formula) for each site for areas that were line probed. Site probes that were clustered in contiguous stands of timber were taken as representation of the SHI of the stand. The range of SHI is generally interpreted as follows: 0-599=low priority, 600-999=moderate priority, and > 1000 = high priority.



The current area weighted average SHI for site probes is 282, grouped site probes is 246 and line probes is 546. The overall area weighted average SHI for TFL30 is 278. The site probes identified 9 sites as high priority (SHI greater than 1000). These high priority sites have been scheduled for harvesting as exemption patches or have been encompassed within a proposed cut block boundary dependant on risk and accessibility.

A map in Appendix 1 shows the Sanitation Harvest Index spatially across the TFL 30 landbase.

### 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 as a result of industrial activity on the defined forest area.

After reviewing the Canfor Incident Tracking System and the Ministry of Forests Industrial Fire Records from the period April 1, 2001 to March 31, 2002 there was 0 hectares of accidental industrial caused fires on TFL 30.

### 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 8.

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. Site index is used in timber supply planning to predict future stand volume. Site index is used in 1) silviculture to help make sound management decisions, 2) forest inventory to describe site quality and update inventory databases, 3) in wildlife habitat modeling to estimate the amount and size of tree attributes. Site index is very sensitive to changes in ecological site conditions including soil nutrients, soil moisture, and other variables

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 1999-2001 was collated by BEC subzone for the site index calculation (3-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 8) 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 8. 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	<b>21.8</b>	>20.8	A 5-year rolling average.
SBSvk, SBSwk1	> 1000m	20.6	>19.6	
ESSFwc3	> 1000m	12.1	>11.5	
ESSFwk2	> 1000m	<b>15.0</b>	>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) annually.

As defined by the BC Ministry of Forests, 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 is shown expressly or by necessary implication on a forest development plan, road permit or silviculture prescription as remaining operational 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.

When area is converted to permanent access, it is removed from the productive landbase and no longer some of the key elements that comprise sustainable forest management. As such, minimizing the loss of the total forest landbase contributes to the sustainable forest management of the forest ecosystem on the defined forest area.

Currently, approximately 2,800 hectares or 3.0 % of the productive forest landbase have been converted to permanent access structures. To date, there is no other development projects occurring on TFL 30 that have caused significant reductions to the productive forest landbase. 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 silviculture prescriptions 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).

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.

Sustainable forest management relies on management practices that do not degrade forest condition. Recognition and management of rare plant communities is important to ensure that broad scale management activities do not lead to loss of these specific communities. Rare plant communities are defined by the BC Conservation Data Centre and are tracked on the Provincial Natural Plant Community Tracking List.

In a few instances, specific physical environments exist which provide the only habitat conditions able to support rare plant associations. The physical environments, which can support these rare plant associations, can be dependent on climatic condition (e.g. light, temperature, humidity, moisture regime), soil conditions (e.g. nutrient availability, soil pH, soil





moisture, soil temperature), and hydrologic conditions (e.g. water availability). Since these rare plant associations are often dependent on the specific site conditions, these areas have to be protected from management alteration. As a result, Canfor has committed to defining and implement protective measures for these areas before June 30, 2002.

Rare plant communities on TFL 30 are shown on a map in Appendix 1. Presently there are 4 rare plant communities:

- 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 9. Rare Plant Community Areas on TFL 30.**

Rare Plant Community	BEC Subzone	BEC Subzone Area (ha)	Rare Plant Community Area (ha)	Percentage Protected *
BS	SBSvk	81946	1013	23.8%
DO	ICHvk2	10399	1181	54.9%
DT	SBSvk	81946	1188	74.6%
HC	ICHvk2	10399	160	21.4%

\* protected – these areas include biodiversity reserves, Caribou High value habitat, unstable terrain, Parks and Recreation Emphasis Areas.

Canfor is currently defining and documenting management strategies that will be implemented in Forest Development Plans and Pest Management Plans to protect the 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.

Any stream crossing will impact water quality. By assessing the quality of the stream crossing and improving these over time, water quality impacts should be lessened. The conservation of water and soil resources is a key criterion in the framework for sustainable forest management. The stream/road interface has a large impact on water quality. Correct installation and ongoing maintenance to minimize the potential for sediment delivery into a stream is important in minimizing the impacts on water quality

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.

Since, the stream crossing quality index is new and no data has been collected, no current status has been calculated.

The following items have been completed for this indicator:

- 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.



A long-term stream crossing assessment plan has been developed for implementation starting in July 2002.

## 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.

It is recognised that that mass wasting occurs through natural processes and is a normal part of the geological cycle; however, forest operations through harvesting and road construction can accelerate this process causing detrimental and long-term effects to soil productivity, water systems, and habitat. A terrain stability field assessment (TSFA) is an assessment that is carried out by a certified terrain stability specialist (usually a professional geo-scientist / engineer) on areas determined at risk from mass wasting. Areas at risk from mass wasting are determined from aerial overview mapping also carried out by a professional geo-scientist / engineer. The TSFA is a detailed ground assessment that identifies whether or not harvesting or road building can occur, relative risk from operations, and limitations and recommendations for forest management activities.

The TSFA is intended to use professional judgement to determine levels of risk followed by recommendations to reduce or eliminate the occurrence of mass wasting as a result of forest operations. Forest operations that remain consistent with these recommendations will have fewer, if any mass wasting events caused by harvesting or road development.

TSFA's 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, 2001 to March 31, 2002, from a review of silviculture prescriptions, road designs, terrain stability field assessments and EMS forms, 100% of silviculture prescriptions are consistent with the terrain stability field assessments and 100% of road designs are consistent with the terrain stability field assessments.

## 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.

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.



Current practices around soil conservation include the following:  
 Timing forest operations seasonally to minimize soils disturbance as per approved Silviculture Prescription or exemption.

Complete EMS prework form – complete soil conservation section  
 Complete EMS final inspection form – complete soil conservation section to ensure soil conservation is within SP or exemption guidelines. Conduct rehabilitation of temporary access structures as required to meet SP or exemption targets.

Minimize road construction within blocks and manage soil disturbance to meet limits defined within Silviculture Prescription or exemption, within net area to be reforested

Over the period April 1, 2001 to March 31, 2002, from a review of silviculture prescriptions and completed EMS forms, 100% of cutblocks are consistent with soil conservation targets in silviculture prescription.

## 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 11.

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.

In the conservation of water quality on the DFA, it is important to be able to maintain the watershed level conditions within natural ranges of variation to ensure that other uses of water are not adversely affected. The peak flow index provides a method to forecast and evaluate the

potential effects of future harvesting plans, and to ensure that these harvested areas do not contribute to the degradation of the water resource.

Current status of peak flow index into the 27 independent watersheds is shown in the following table.

**Table 10. Current Peak Flow Index on the DFA.**

Watershed name	PFI * as of March 31, 2002	Target	Achieved by
Averil	58	< 65	Annually
<b>Barney Creek</b>	<b>33</b>	<b>&lt; 37</b>	<b>Annually</b>
Basin 20	36	< 65	Annually
Basin 25	46	< 80	Annually
Basin 27	39	< 80	Annually
Basin 7	70	< 80	Annually
<b>East Olsson</b>	<b>43</b>	<b>&lt; 37</b>	<b>Annually</b>
Herring	46	< 65	Annually
<b>Horn</b>	<b>35</b>	<b>&lt; 37</b>	<b>Annually</b>
Hubble	36	< 80	Annually
Limestone	43	< 80	Annually
Lower Olsson	48	< 65	Annually
<b>Mokus</b>	<b>84</b>	<b>&lt; 90</b>	<b>TBD within one year</b>
Residual A	30	< 65	Annually
Residual B	29	< 37	TBD within one year
Residual C	59	< 65	Annually
Residual D	29	< 37	Annually
Residual E	38	< 65	Annually
<b>Residual F</b>	<b>63</b>	<b>&lt; 65</b>	<b>Annually</b>
East Seebach	25	< 80	Annually
<b>Lower Seebach</b>	<b>78</b>	<b>&lt; 65</b>	<b>TBD within one year</b>
Upper Seebach	32	< 80	Annually
Tay Creek	39	< 80	Annually
Upper Olsson	34	< 80	Annually
Basin 4	31	< 65	Annually
<b>Woodall</b>	<b>34</b>	<b>&lt; 37</b>	<b>Annually</b>
West Torpy	23	< 37	Annually

\* PFI numbers were derived from the Management Plan 9 Analysis.



Seven watersheds (as identified by bolding) have current status very close or above the target threshold. In these sensitive watersheds limited harvesting will occur until the PFI is below the target level. The watershed assessment has been used to develop watershed management objectives that are accounted for in the timber supply analysis in Management Plan 9. P. Beaudry, a local hydrologist identified the target threshold limits in the previous table.

### 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 10.

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. As a result, it is logical to differentiate seral stage by natural disturbance type by Biogeoclimatic Ecosystem Classification (BEC) zone group by landscape unit. This is a “state of the forest” indicator and portrays the percentage of the landscape that is distributed throughout a variety of age classes. As forests age their structure evolves and affects the manner in which they interact in the global cycle of carbon, water, nitrogen, and minerals.

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. Table 12 identifies the current status of seral stage distribution as of March 31, 2002 associated with each landscape and ecosystem on TFL 30. A Seral Stage Distribution Map in Appendix 1 displays the current status spatially. The current seral stage distribution is heavily skewed to the old/ mature and young ages.

**Table 11. 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	37 %	34-44	12 decades
			Mid 40 – 100 yrs	15 %	34-44	12 decades
			Mature > 100 yrs	17 %	> 11	Annually
			Old > 140 yrs	31 %	> 11	Annually
	1	*ICHvk2	Early < 40 yrs	23 %	30-40	12 decades
			Mid 40 – 100 yrs	15 %	30-40	12 decades
			Mature > 100 yrs	45 %	> 17	12 decades
			Old > 250 yrs	16 %	> 13	2010
	1	*ESSFwk2, wc3	Early < 40 yrs	27 %	26-36	12 decades
			Mid 40 – 120 yrs	11 %	26-36	12 decades
			Mature > 120	62 %	> 19	12 decades
			Old > 250 yrs	0 %	> 19	2081
Seebach	2	SBSvk	Early < 40 yrs	37 %	33-43	12 decades
			Mid 40 – 100 yrs	3 %	33-43	12 decades
			Mature > 100 yrs	58 %	> 15	Annually
			Old > 250 yrs	2 %	> 9	2055
	3	SBSwk1	Early < 40 yrs	24 %	34-44	12 decades
			Mid 40 – 100 yrs	5 %	34-44	12 decades
			Mature > 100 yrs	7 %	> 11	Annually
			Old > 140 yrs	64 %	> 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	17 %	26-36	12 decades
			Mid 40 – 120 yrs	13 %	26-36	12 decades
			Mature > 120 yrs	68 %	> 19	Annually
			Old > 250 yrs	2 %	> 19	2055
Woodall	2	SBSvk	Early < 40 yrs	38 %	33-43	12 decades
			Mid 40 – 80 yrs	9 %	33-43	12 decades
			Mature > 100 yrs	52 %	> 15	Annually
			Old > 250 yrs	1 %	> 9	2055
	1	ICHvk2	Early < 40 yrs	20 %	30-40	12 decades
			Mid 40 – 100 yrs	8 %	30-40	12 decades
			Mature > 100 yrs	70 %	> 17	Annually
			Old > 250 yrs	2 %	> 13	2055
	1	ESSFwk	Early < 40 yrs	5 %	26-36	12 decades



	2, wc3	Mid 40 – 120 yrs	16 %	26-36	12 decades
		Mature > 120 yrs	77 %	> 19	Annually
		Old > 250 yrs	1 %	> 19	2055

\* New ecosystems resulting from TEM

## 2.22 VOLUME OF TIMBER HARVESTED

**Indicator:** Annual volume of timber harvested (m<sup>3</sup>/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.

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.

In the determination of allowable annual cut (AAC) there are various considerations that are examined which include: the long term sustainable harvest of the timber resource, community stability, wildlife use, recreational use, the productivity of the defined forest area, etc. The AAC is determined every five years by the Chief Forester of the Province of British Columbia using a number forecasts to assess the various resource values to be managed. The Chief Forester, on behalf of the crown then makes an independent determination of the rate of harvest that is considered sustainable. This harvest level must then be met within thresholds established by the crown (as depicted in the objective). By following the AAC determination the rate of harvest is consistent with what is considered to be sustainable ecologically, socially and economically, by an independent third party.

As stated above the Chief Forester makes a determination of the rate of harvest. The licensee then by law must achieve the AAC within specified thresholds as indicated in the objective. Each truckload of wood gets scaled at an approved Ministry of Forests (MOF) scale site. The MOF uses this information to apply a stumpage rate to the wood, and monitors the volume of wood harvested and compares to the AAC thresholds.

The current status of volume cut in 2001 is shown in the following table. The actual volume cut for any single year has varied from 50% (2001) of the AAC to 107% (1997, 1999) of the AAC between 1995 and 2001.

**Table 12. Current Allowable Annual Cut on the DFA.**

Year	Actual Recorded Cut (m <sup>3</sup> )	Allowable Annual Cut (m <sup>3</sup> )	% Recorded Cut of AAC	5 Year Cut Control %
1995	333,299	385,688	86.4	100.7
1996	389,131	371,438	104.8	
1997	351,013	328,688	107.0	
1998	330,091	328,688	100.4	
1999	350,583	327,567	107.0	
2000	285,016	328,688	86.7	
<b>2001</b>	<b>165,183</b>	<b>328,688</b>	<b>50.2</b>	

## 2.23 WASTE RESIDUE

**Indicator:** Proportion of avoidable sawlog waste within the DFA.

**Management Objective:** No more than 4 m<sup>3</sup>/ha (+0.5 m<sup>3</sup>/ha variance) of the timber harvested seasonally will be attributable to avoidable sawlog waste from MOF waste billings.

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.

The sustainable use of a resource is best achieved if the resource is used as efficiently as possible. Minimizing waste on the harvest site contributes to the overall maximization of the timber resource. As less wood is wasted at each point of the product lifecycle, the less of the resource is required to meet the same needs. As a result, efficiency in harvesting can provide an initial contribution of more forest resources to contribute to the global ecological cycles.

Currently, Canfor, as part of our cutting authorities, must conduct waste and residue surveys following harvest. These survey are then compiled and forwarded to the Ministry of Forests who may bill the company for avoidable waste. Summer 2001 and Winter 2002 current status of avoidable sawlog waste is shown below:

**Table 13. 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
<b>Summer 2001</b>	<b>2.9</b>
<b>Winter 2002</b>	<b>2.63</b>

**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.

From 1987 to present, 100% of harvested areas on the DFA 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.

In doing so, the regenerated forest should have similar characteristics to the surrounding forest ecosystem, which is beneficial in terms of resistance to natural disturbances (fire, disease, pests, etc.), climatic stresses (temperature and moisture extremes) and site conditions (soil characteristics and nutrient availability). By selecting species, which are ecologically suitable for regenerating harvested areas, there is a good probability that these areas will remain part of the productive landbase and contribute to the maintenance of productive forest ecosystems.

Maintaining a productive forest landbase ensures that forest ecosystems will contribute to global ecological cycles.

Over 99% of the areas harvested on the DFA from 1987 to 1998 are planted with ecological suitable tree species and have met the regeneration delay period as outlined in the silviculture prescription. It is too early to report current status on regeneration success in areas harvested after 1999, however all these areas have been planted with ecologically suitable species as described in the Silviculture Prescription.

## 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 15 (Sustainable Forest Management Plan - June 27, 2001).

The mean annual increment ( $\text{m}^3/\text{ha}/\text{year}$ ) is the average annual (year) volume growth ( $\text{m}^3$ ) 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. The point at which MAI peaks (in the mid-seral stage) is considered to be the best time, economically, to harvest the tree since it has reached its maximum productivity. The maintenance of forest productivity has far reaching implications for the sustainability of the forest ecosystem in term of ecological benefits, but there are also important social and economic benefits resulting from the maintenance of forest productivity. In order to sustain forest dependant communities and businesses, the maintenance of a productive and sustainable forest resource is imperative.

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 remeasured and analyzed over time to monitor changes in status. There was no remeasurements of PSPs in 2001 so the current status remains unchanged from what was reported in the Sustainable Forest Management Plan - June 27, 2001.

Future actions include conducting a gap analysis to determine if additional PSPs are required, developing sampling protocol, remeasuring PSPs and recompiling MAI's.



## 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. In the analysis, the sensitivities of the analyses are tested to evaluate the effects of uncertainty in inventory information and management practices. Timber Supply Reviews are to be conducted every five years during which the assessment of the long term sustainable harvest level can be reviewed in the context of current socio-economic condition, ecological consideration and also with updated inventory and forest management information. 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<sup>3</sup>.

**Table 14. Long Term Sustainable Harvest Levels Forecasting Results.**

Scenario Planning Option	Long-term Sustainable Harvest Level (m <sup>3</sup> /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.

As sustainable forest management pertains to the interaction of social, ecological and economical factors, forest managers must not only be cognizant of the range of different uses on the DFA, but also how these uses/values change throughout time. Since forest management activities can have both positive and negative effects on other uses, it is



important to be able to recognize the wide range of uses/values for consideration in sustainable forest management planning. The diversity use index will enable the examination of the range of different uses on the DFA, the intensity of these uses, and how these uses change throughout time (since this information will be collected annually through a public survey).

A commercial and non-commercial use survey was developed and sent to the Public Advisory Group (PAG) for review. Various comments were received from the PAG and the survey updated and sent out to 60 individuals that worked or use the TFL 30 landbase in 2001. A total of 24 (40%) responded to the survey. The results of the surveys are shown graphically in Appendix 1. The calculation of diversity index is as follows:

- Commercial use = 0.98
- Non Commercial use = 3.00

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).

## 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 (m<sup>3</sup>) 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 enters the mill, the timber mark is recorded into Canfor's Forest Information Resource System (FIRS). Querying FIRS, over the last year (June 2001 to March 2002) showed that 98% of the timber harvested went to local Prince George TSA facilities. Of the amount that stayed within the Prince George TSA, 100% of the timber harvested was processed at Canfor's facilities within the Prince George Forest District.

## 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. Furthermore, for small forest-based companies to contribute to, and invest in the local economy, there must be assurances that there will be a consistent flow of work. In the same way that large licensees depend on a secure flow of resources to justify investment in an area, small business depend on a sustained flow of opportunities to develop and invest in the local community. 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 almost 93% of the annual dollars spent within the DFA goes to north central BC contractors.

Current Status of Indicator	Target	Achieve By:
93.0% *	> 90 %	Annually

\* the current status is based on January 1, 2001 to December 31, 2001

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

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).

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).

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 draft survey was developed and sent to the PAG for review. Various comments were received from the PAG and the survey updated and sent out to 60 individuals that worked or use the TFL 30 landbase in 2001. A total of 28 (47%) responded to the survey. The results of the surveys are shown below.

**RESULTS OF THE FOREST MANAGEMENT SATISFACTION SURVEY – APRIL 2002**

Which best identifies you or your company:

13 Forestry Business   8 Non-Forestry Business   2 Market use   5 Non-Market Use

Forest Satisfaction Item	Strongly Agree		Agree		Neutral		Disagree		Don't Know		Total # of Responses
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	
1. Opportunities exist for me to provide input to Canfor on forest management activities or concerns.	7	25%	15	54%	5	18%	0	0%	1	4%	28
2. My input is understood and considered by Canfor.	5	18%	11	39%	5	21%	3	11%	3	11%	28
3. Canfor responds quickly to my input.	3	11%	9	32%	9	32%	4	14%	3	11%	28
4. Canfor treats me fairly.	6	21%	16	57%	1	4%	3	11%	2	7%	28
5. I know who to contact at Canfor should I have a concern.	8	29%	10	36%	4	14%	4	14%	2	7%	28
6. Canfor is always courteous to me when I'm communicating with them.	12	43%	13	46%	1	4%	1	4%	1	4%	28
7. Canfor is communicating regularly with me.	7	25%	13	46%	5	18%	2	7%	1	4%	28
8. Canfor is communicating its environmental performance to me.	6	22%	6	21%	8	29%	5	18%	3	11%	28
9. Canfor is open to discussing business opportunities with me.	3	11%	9	32%	5	18%	4	14%	7	25%	28
10. I am happy with the present relationship with Canfor	6	21%	14	50%	4	14%	4	14%	0	0%	28
<b>Total</b>	<b>63</b>	<b>23%</b>	<b>116</b>	<b>41%</b>	<b>48</b>	<b>17%</b>	<b>30</b>	<b>11%</b>	<b>23</b>	<b>8%</b>	<b>280</b>



## 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, 2001 to March 31, 2002), Canfor responded to 100% (9 out of 9) of written public concerns on the DFA regarding management and practices within 30 days. Often a meeting was set up with the person making the written comment to discuss their concern with the appropriate staff.

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

## 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 and May 2002. The next meeting is scheduled for October 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. As a result, Canfor continue to build a positive working relationship with the PAG by committing to keep the PAG well informed of the process by holding at least two PAG meetings per year.

## 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.

An annual survey was sent to the PAG in August 2001 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 are very satisfied while the meetings, facilitator, and logistics.

### 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.

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).

The Lheidli T'enneh First Nation are working on developing a treaty with the Federal and Provincial government that will clarify the nature and extent of aboriginal rights on the DFA. Today, Canfor has not been informed of any agreement describing treaty rights or aboriginal rights on TFL 30 as a result of treaty negotiations. Therefore, 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.

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.

Two Aboriginal groups, McLeod Lake Indian Band and the Lheidli T'enneh First Nation, are currently involved in the PAG and have been active members through the PAG process. Their attendance at the 13 PAG meeting (Sept. 2000 to April 2001) to fill in the CSA matrix was 88%. Attendance dropped to 50% at the October 2002 PAG meeting. Both Aboriginal groups have maintained 100% active membership status on the PAG as described in the PAG's terms of reference.

In order to maintain the level of participation of First Nations on the PAG, Canfor will continue to keep local First Nations well informed of meeting dates, and meeting information, particularly as it applies to local First Nations.



## 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:** I 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.

Both of these First Nation groups are 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. More than 20 aboriginal traditional use sites exist within the DFA. Canfor has

provided many opportunities for Aboriginal people to provide input into our public plans. However, response to date has been low. Canfor over the last few months has modified its creating opportunity document to be more sensitive to Aboriginal needs. The biggest change is working more intentionally 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 Pubic 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."<sup>1</sup> 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 PAG meeting.



In addition, the Terms of Reference document is on the May 2002 PAG agenda for review.

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, 2000 until June 20, 2002

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. We advertise in a local newspaper to request input from all interested parties during key phases in the Management Plan, Forest Development Plan and Pest Management Plan processes.



Canfor has provided many opportunities for the public to provide input into our public plans as shown in the following table. Very low response has been received using newspaper and notification letters, however involvement on the PAG process has yielded a higher response.

DFA Public Plan	Public Input Opportunity		
	Newspaper Ad	Notification Letter	Other
2002 Forest Development Plan	2 ads	119 letters	1 Open House
2002 Pest Management Plan*	3 ads	128 letters	0
Management Plan 9**	6 ads	45 letters	0
Sustainable Management Plan			1 PAG meeting

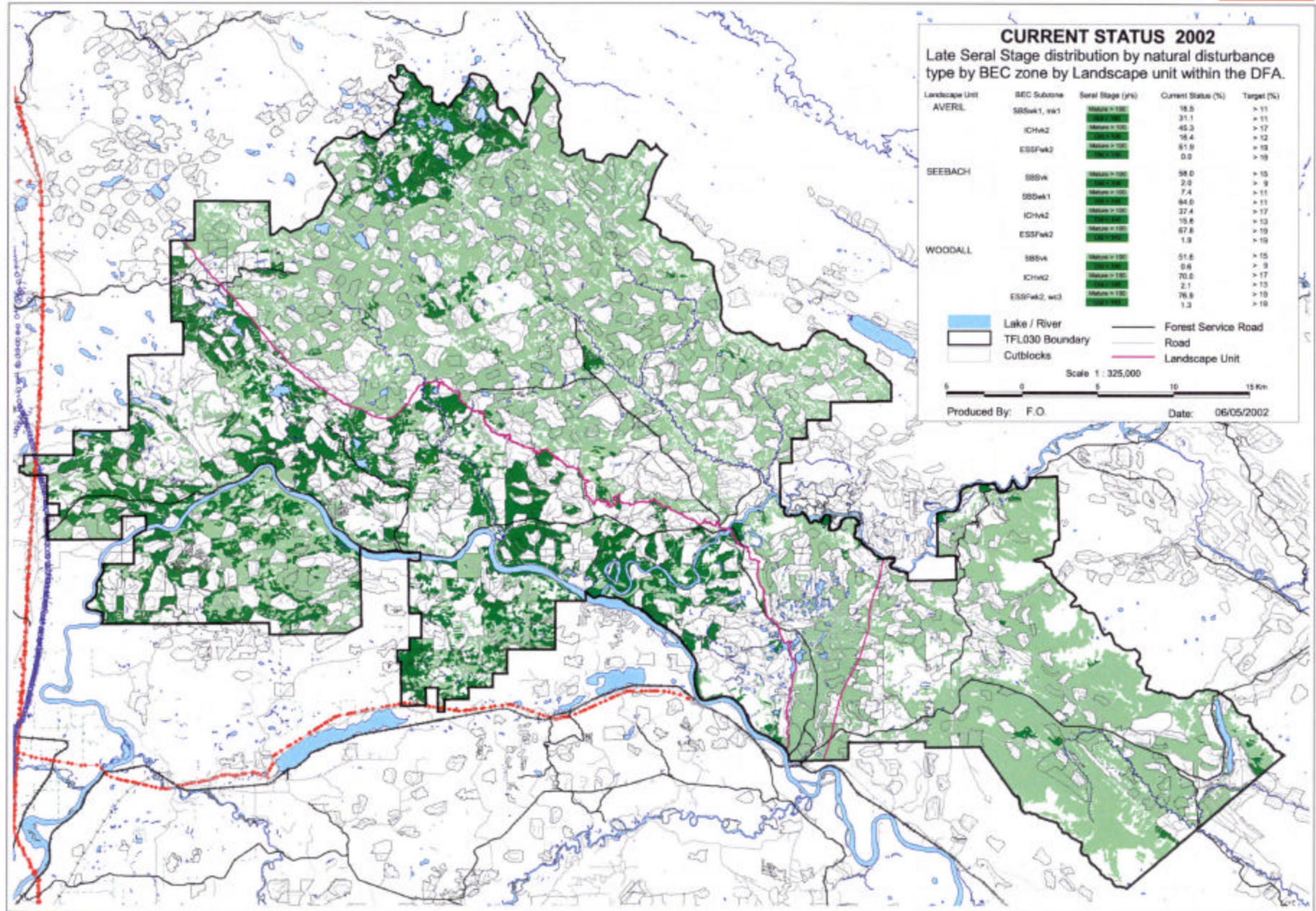
\* includes notification to treat

\*\* to date two processes have been completed to solicit public input: i) Management Plan 8 performance and ii) recreational features inventory

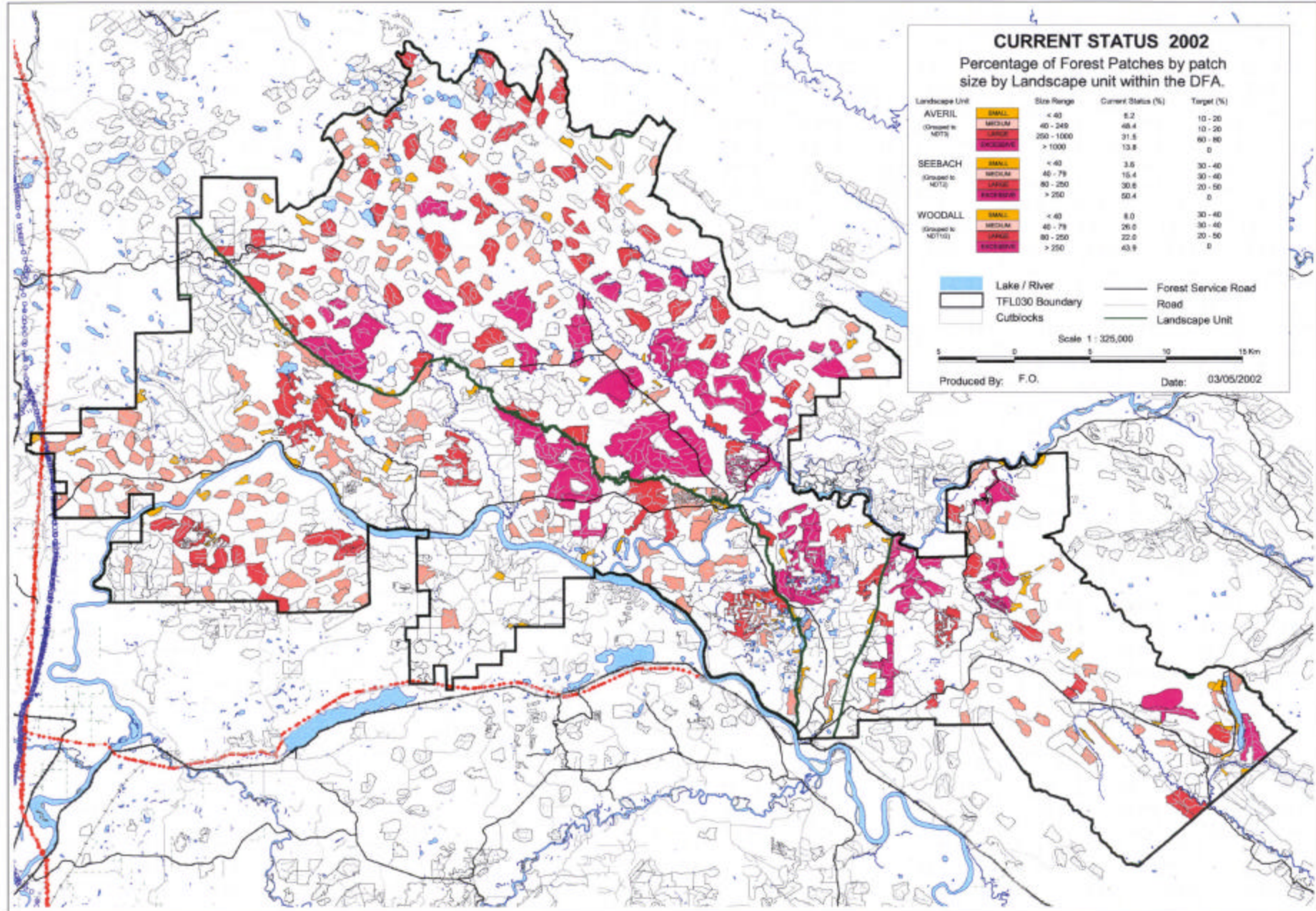
# APPENDIX 1 - MAPS



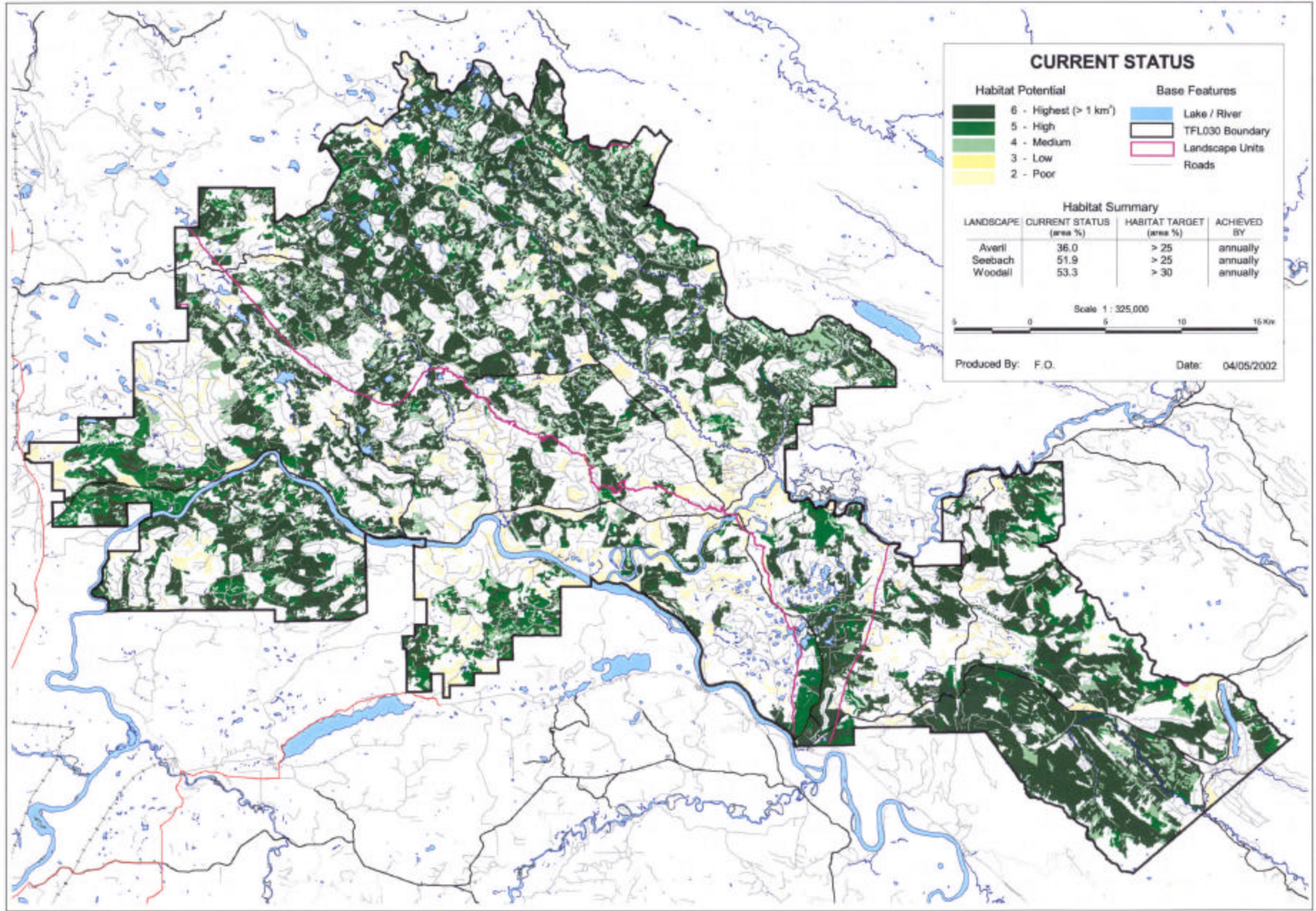
# TFL030 Late Seral Stage Distribution 3.01



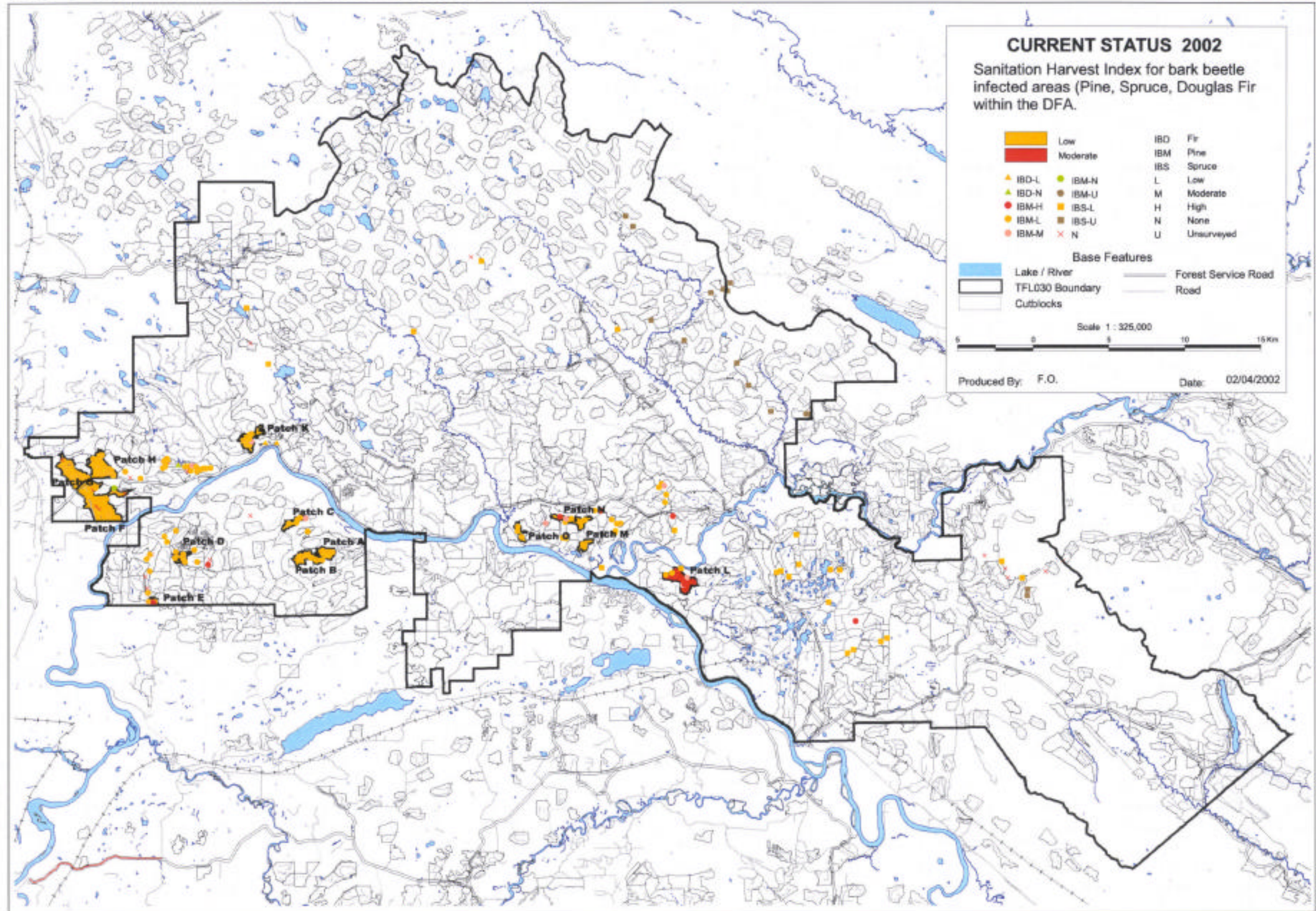
# TFL030 Forest Patches 3.02



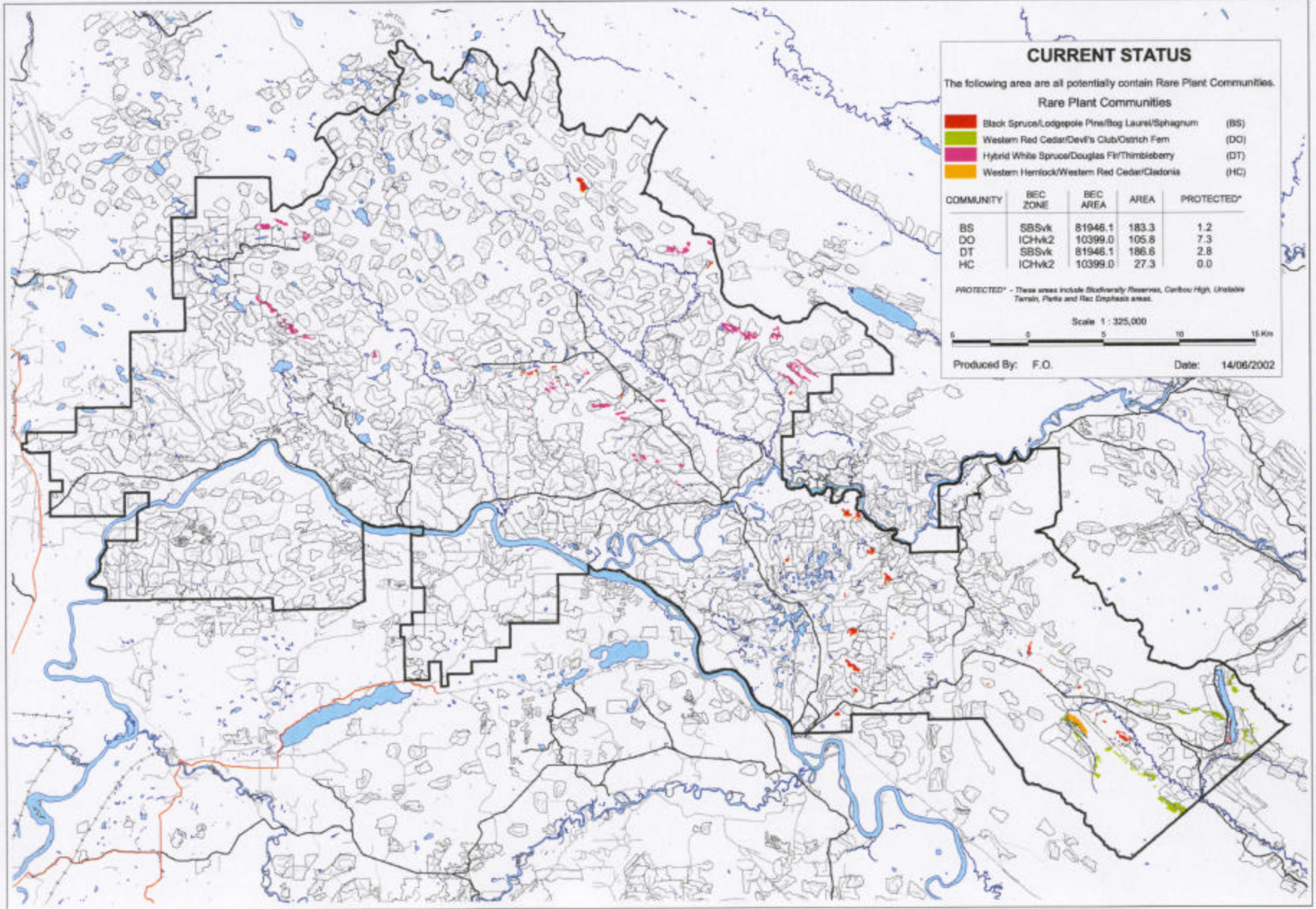
# TFL030 American Marten Habitat 3.05



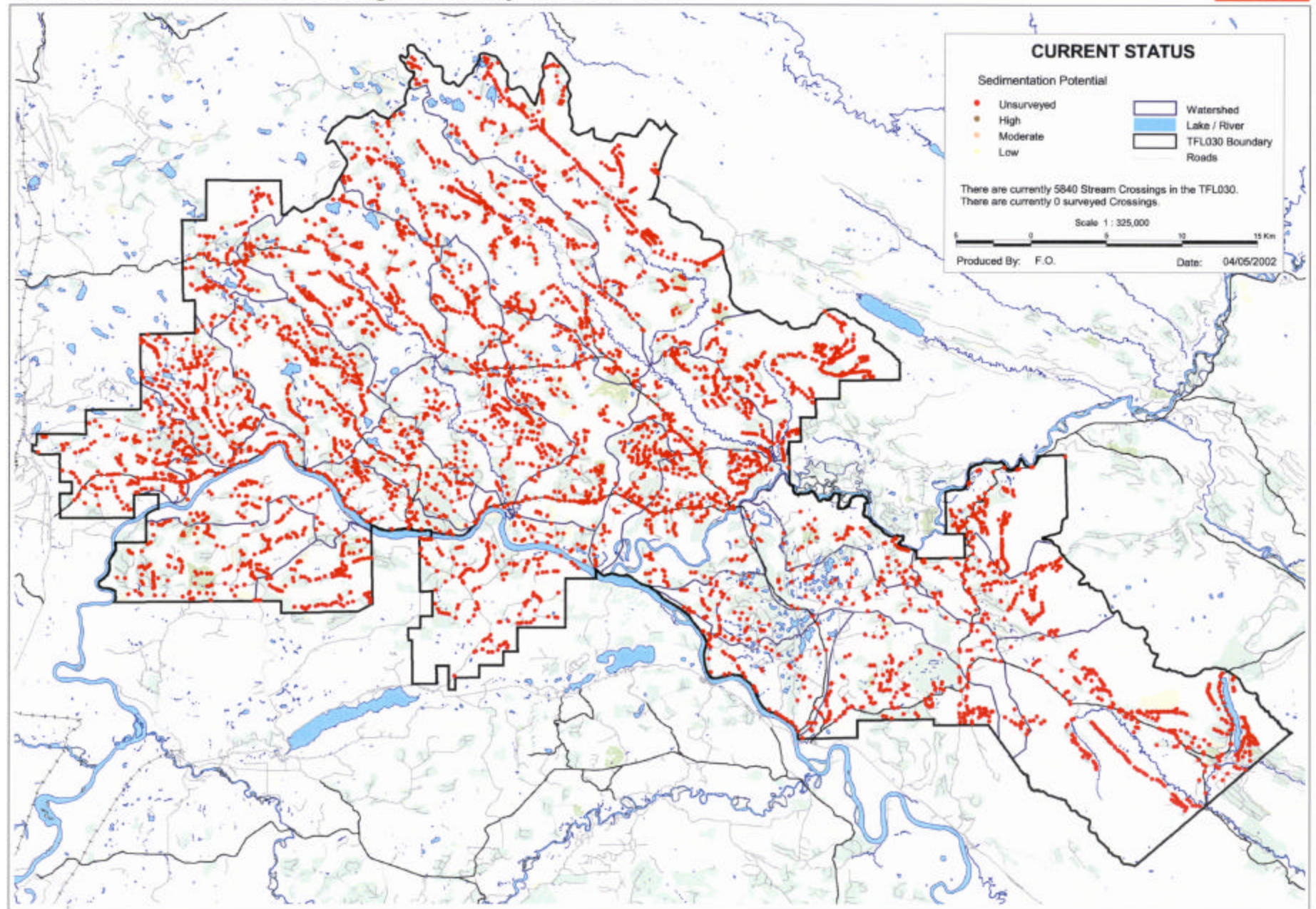
# TFL030 Sanitation Harvest Index 3.12

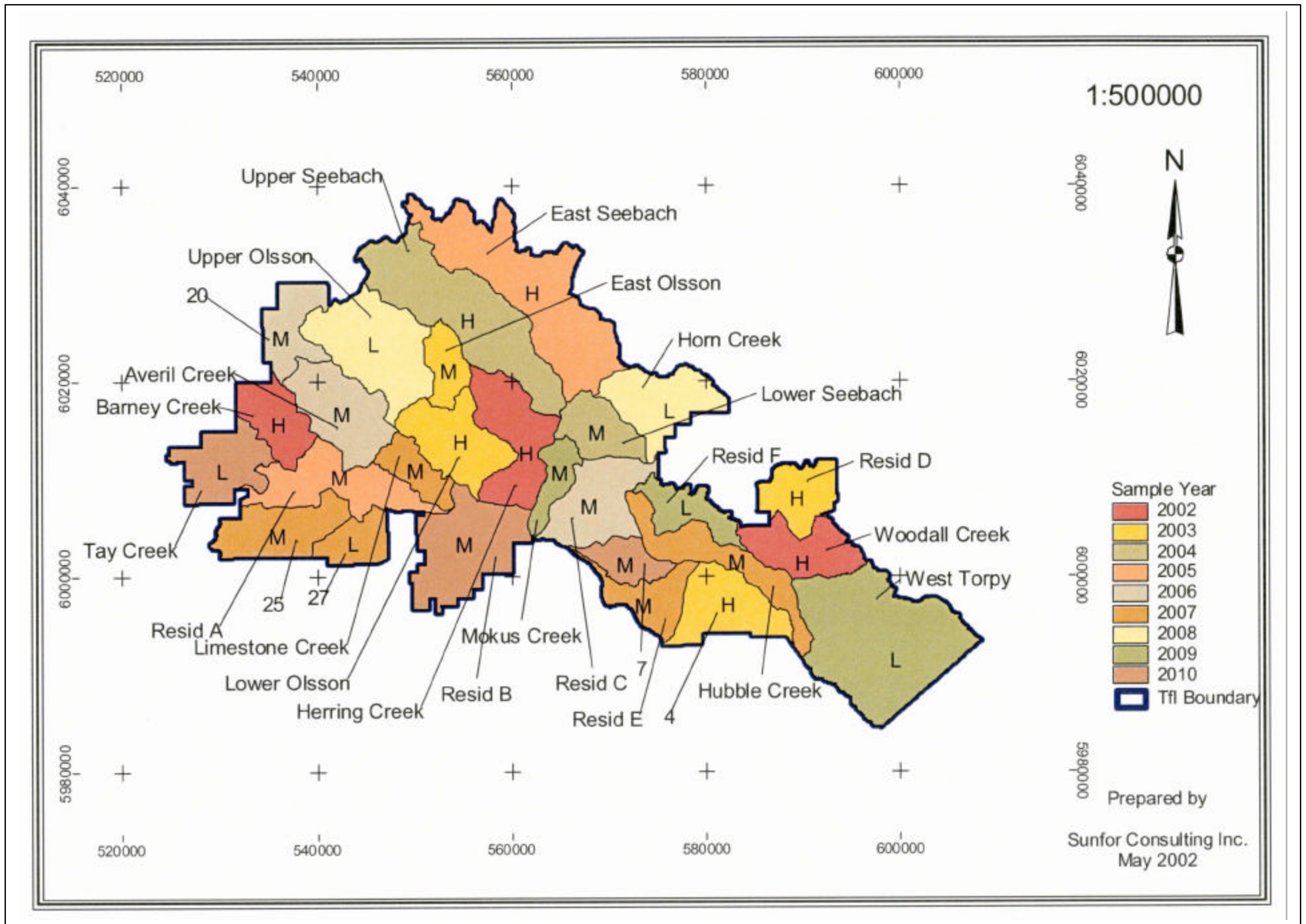


# TFL030 Rare Plant Communities 3.16



# TFL030 Stream Crossings Quality Index 3.17





# **APPENDIX 2 - Species- Related Verfier Draft Process**





## Canfor's Approach to Wildlife & Species Verification Techniques In Tree Farm Licence #30

In forest management programs, cut blocks are distributed in time and space, and impact on biological diversity at landscape and stand levels. Managed landscapes usually correspond to various mosaics of early-, mid- and late-seral stages. Depending on the level of fragmentation and the amount of stands with forest interior conditions, the amount and diversity of wildlife species inhabiting these landscapes will change from one region to another. Likewise, depending on the attributes of stands left behind or modified by timber harvesting, habitat units may be favorable for some species and detrimental to others.

For the majority of wildlife species, and particularly for species without a consumptive value, usable management information of any kind is often limited. In the absence of information, wildlife conservation may be achieved through the maintenance of habitat diversity. Even if we do not have extensive data sets about each and every species inhabiting a landscape, using basic habitat guidelines may be considered a valuable start to protect biological diversity. If we know where animals live, and understand their minimum habitat requirements, successful habitat management programs may be developed.

In Canfor's Tree Farm Licence (TFL) # 30 area, there are 192 bird species (Proulx 2000a), 46 mammal species (Proulx 2000b), and 4 amphibian and 1 reptile species (Proulx 2000c). Furthermore, there are 3 fish species with special status (Proulx 2000c).

The following summarizes Canfor's intended approach to conservation measures to ensure the maintenance of habitats for these species and a species verification technique to assess the value of our conservation programs.

1. Review the guidelines developed for the maintenance of biodiversity within managed landscapes. This includes Biodiversity Guidelines, Riparian Guidelines and the Identified Wildlife Management Strategy.
2. Review the LRMP wildlife species that should receive special consideration and document measures that may be employed in forest management plans.
3. Review wildlife species habitat requirements and classify their habitat needs into groups. Groups would be i) water and nonforested habitats, ii) early seral forest, iii) mid seral forests, iv) mature seral forests, and v) old seral forests.
4. Identify candidate key wildlife species within each of the habitat groups. It is inconceivable and too costly to monitor each of the species separately, therefore key wildlife species will be used to represent species grouped by habitat group.
5. Review the LRMP wildlife species versus the identified key wildlife species.

6. Final selection of key species to monitor based on a set of decision criteria. The decision criteria would include: i) cost, ii) species sensitive to change, and iii) others suggested by PAG.
7. Development of a monitoring program for the identified key species and refinement over time (adaptive management).

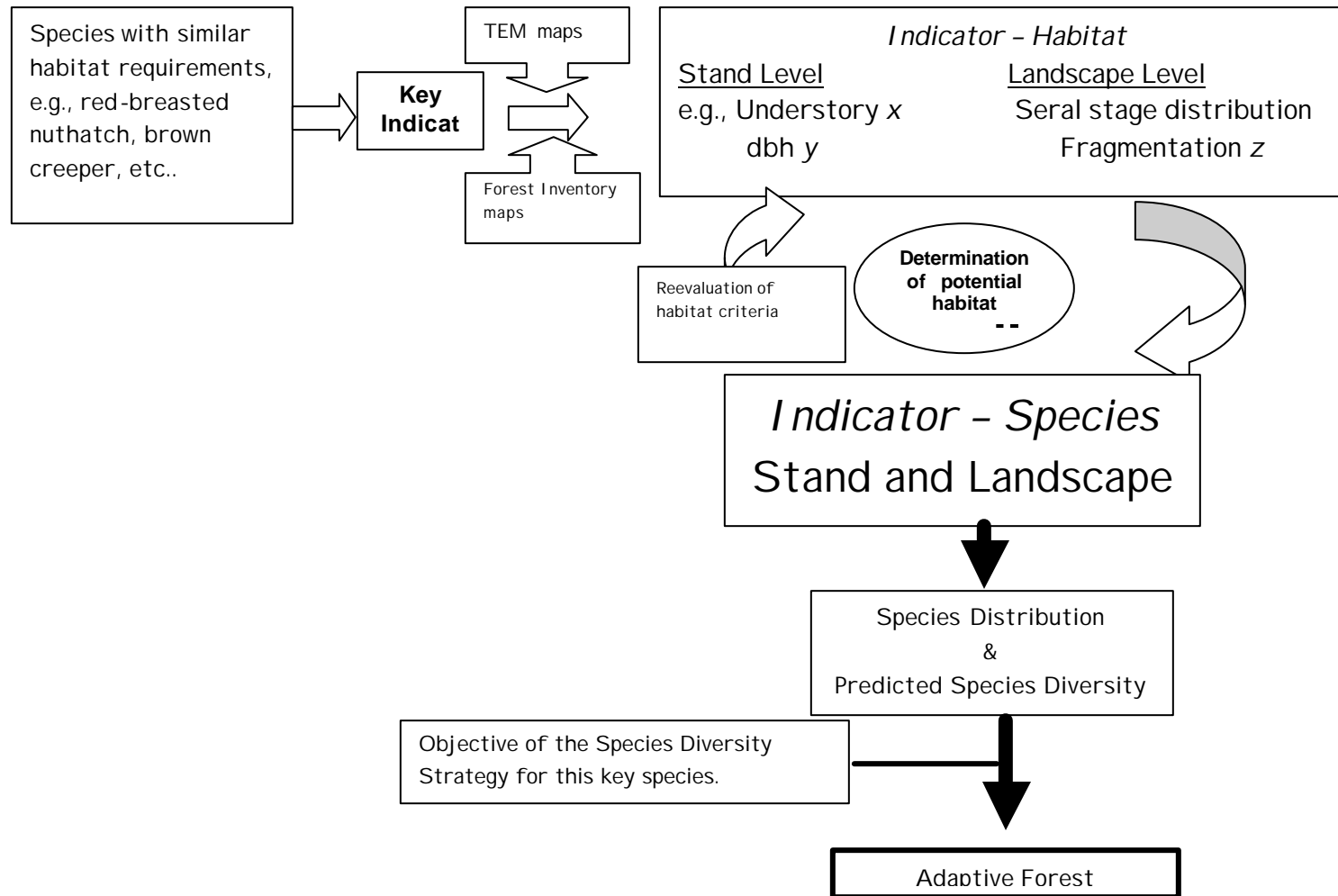


Figure 1. Key species verification within an adaptive forest management framework

# **APPENDIX 3 – PAG Questionnaire Results**

## CSA TFL30 – Public Advisory Group Questionnaire (sample size=33)

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

<b>MEETINGS</b>	<b>ALL</b>	<b>RANGE</b>	<b>MEMBER/ ALTERNATE</b>	<b>RANGE</b>
<b>Meetings had:</b>				
1. an agenda pre-published?	4.1	2-5	4.4	2-5
2. most members involved?	3.7	2-5	4.0	2-5
3. Canfor advisors prepared?	4.1	3-5	4.3	3-5
4. followed the PAG Terms of Reference?	4.2	2-5	4.4	3-5
5. actions updated?	4.0	3-5	4.1	3-5
6. time allocated wisely?	4.0	2-5	4.4	3-5
7. decision summarized?	4.2	3-5	4.3	2-5
8. focus on consensus decision making?	4.0	2-5	3.9	2-5
9. a positive atmosphere?	4.3	3-5	4.4	2-5
10. Your overall satisfaction with the meetings?	4.1	3-5	4.5	3-5

Comments: See next page

### Facilitator

**The facilitator:**

1. strived for consensus decision-making?	4.1	3-5	4.3	3-5
2. kept the meeting focused?	3.7	2-5	4.1	3-5
3. kept the meeting moving?	3.9	2-5	4.6	4-5
4. remained neutral on content issues?	4.5	3-5	4.4	3-5
5. encouraged open communication?	4.4	3-5	4.6	3-5
6. tolerated and smoothed conflict?	3.9	3-5	4.3	3-5
7. obtained technical expertise (when needed)?	4.1	1-5	4.6	3-5
8. captured documentation?	3.9	2-5	4.1	3-5
9. actively listened?	4.2	3-5	4.3	3-5
10. came prepared and organized?	4.1	2-5	4.6	4-5

Comments: See next page

## Meeting Logistics

1.	Was the Civic Centre location convenient?	4.5	2-5	4.6	3-5
2.	Was the timing of the meeting convenient?	4.5	3-5	4.3	3-5
3.	Was the meeting room adequate?	4.4	2-5	4.3	3-5
4.	Was the food and beverage good?	4.6	3-5	4.6	3-5

Comments: See next page

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## Comments

### Meetings

- Good progress
- Dinners made the meeting longer
- Individual should review their role as per terms of reference
- Canfor needs a single spokesperson
- Friendly, productive, interesting, well organized
- Limited for complicated subjects
- Canfor generally well prepared and highly responsive

### Facilitator

- Great job
- Use of experts prior to the discussion of difficult topics was excellent
- Tended to focus on complaints
- Agenda sometimes sidetracked
- Overall good job
- Spent too much time telling individual that their viewpoint will be discussed later

### General Comments

- If interest, have a field tour
- Mechanics of meeting were excellent
- Happy to be part of process and happy to assist
- Need for people to understand their role as per the terms of reference
- Canfor is to be congratulated on a good overall effort
- Generally well done
- Some issues remained to be addressed
- Looking forward to first annual report
- Hope this is good for the future of Prince George

### Meeting Logistics

- Great meeting location (4)
- Food was good (4)
- Meeting room cramped (2)
- Disliked meeting over a meal

### Your Suggestions

- Spend more time providing information to the group
- When needed have technical expert do presentation to simplify information (2)
- Ensure everyone has copy and understands their role in the terms of references (2)
- More involvement of the whole group
- Improve methods of documenting and carrying actions
- Visuals - there may be a better way to project materials
- When needed invite others (i.e. forestry consulting business during discussion of "Multiple benefits to Society")
- Canfor should better anticipate questions and come prepared
- Explore alternative corporate structure within Canfor to supervise SFM implementation
- Larger meeting room
- Good information presentation by experts
- Supply more resource information (maps)
- Shorter meetings
- Too many Canfor employees at meeting
- Start process with a field trip