2008 Local Level Indicators of Sustainable Forest Management for FML 01

(October 1st, 2007 to September 30th, 2008)







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INTRODUCTION

The *2008 Local Level Indicators of Sustainable Forest Management* is the third report of the second 5-year reporting period for the Tembec Forest Management Licence 01 (FML 01).

This 2008 report presents the results for Tembec 2008 Fiscal Year (October 1st, 2007 to September 30th, 2008). This report implements the recommendations resulting from a 5-year review of the indicator suite as described in the following section "Development of Local Level Indicators for Sustainable Forest Management – Review of the Indicator Suite"

The report format was also revised in 2006 by removing the "Highlights" section and incorporating additional tables, graphs, maps, and photographs throughout the report to assist in explaining and depicting the monitoring results.

DEVELOPMENT OF SUSTAINABLE FOREST MANAGEMENT INDICATORS IN CANADA

The importance of sustainable forest management was recognized at the 1992 United Nations Conference on Environment and Development (UNCED) with the adoption of a *Statement of Forest Principles*. The Canadian commitment to sustainable forest management is well enshrined in *The National Forest Strategy (1998 – 2003) Sustainable Forests: A Canadian Commitment*, endorsed in May 1998 by governments and others concerned with Canada's forests. This commitment has been further strengthened through a number of initiatives at the provincial, territorial and local levels.

The development of criteria and indicators for monitoring sustainable forest management is an important step in implementing Canada's commitments made at UNCED. Consequently, in 1994 the Canadian Council of Forest Ministers (CCFM) launched a process to define criteria and indicators for monitoring the sustainable management of Canadian forests. *Defining Sustainable Forest Management, A Canadian Approach to Criteria and Indicators* (CCFM, 1995) established the framework.

The Canadian framework reflects an approach to forest management that is based on:

The need to manage forests as ecosystems in order to maintain their natural processes;

- The recognition that forests simultaneously provide a wide range of environmental, economic and social benefits to Canadians;

- The view that an informed, aware and participatory public is important in promoting sustainable forest management; and

- The need for forest management to evolve to reflect the best available knowledge and information. (CCFM, 1995)

Since the C&I framework was first developed in 1995, the data available has been enhanced, and our knowledge of the environment, social and economic aspects of sustainable forestry has improved. With input from interested groups from across the country, the CCFM has revised the framework based on the best available scientific knowledge in a Canadian context.

Although it has fewer indicators than the original framework, the revised version uses indicators more effectively and continues to characterize the essential components of sustainable sorest management in Canada. By identifying values of importance to Canadians, the revised framework will facilitate the ongoing domestic and international dialogue on sustainable forest management. *Defining Sustainable Forest Management in Canada, Criteria and Indicators 2003* (CCFM, 2003).

The criteria and indicators represent a comprehensive framework. It is recognized that no single criterion or indicator alone is an indication of sustainability; rather, the individual criteria and indicators must be considered in the context of other criteria and indicators. Further, indicators should be viewed as providing information on trends or changes in the status of forests and related values over time.

THE CANADIAN COUNCIL OF FOREST MINISTERS FRAMEWORK

The 2003 CCFM framework was developed around six broad criteria that reflect the ecological, economic and social components of sustainable development. Each criterion is then subdivided into elements (values), which reflect the key components to be considered within the criterion. Nested within each element are indicators, which can be used to assess the long-term sustainability of the element. Graphically, the CCFM framework is:

Criteria

Elements

Indicators

Targets

The criteria and elements from the national framework have been modified, based on workshops conducted with local first Nation participants. Relevant Indicators have been moved from Criteria 6 into a newly defined Criteria 7 Aboriginal Benefits. Additional Elements were also developed for Criteria 7 through the workshop process. Below are the criteria and elements for the framework:

Criterion 1 Biological Diversity

- Value 1.1 Ecosystem Diversity
- Value 1.2 Species Diversity
- Value 1.3 Genetic Diversity

Criterion 2 Ecosystem Condition & Productivity

- Value 2.1 Stability, Resilience and Rates of Biological Production

Criterion 3 Soil and Water

- Value 3.1 Quantity and Quality of Soil and Water

Criterion 4 Role In Global Ecological Cycles

- Value 4.1 Carbon Cycle

Criterion 5 Economic And Social Benefits

- Value 5.1 Economic Benefit
- Value 5.2 Distribution of Benefits
- Value 5.3 Sustainability of Benefits

Criterion 6 Society's Responsibility

- Value 6. 1 Forest Community Well-Being and Resilience
- Value 6.2 Fair and Effective Decision-Making
- Value 6.3 Informed Decision-Making

Criteria 7 Aboriginal Benefits

- Value 7.1 Aboriginal and Treaty Rights
- Value 7.2 Aboriginal Traditional Land Use and Forest-based Ecological Knowledge
- Value 7.3 Development of Relationships Between Tembec and First Nations Communities
- Value 7.4 Employment and Business Opportunities for First Nations
- Value 7.5 Involvement of First Nations in Forest Stewardship Planning

Measurable targets for each indicator were not developed at the national scale by the CCFM. However, they were developed for the FML through an exhaustive public consultation process facilitated by the MBMF. Tembec is seeking Forest Stewardship Council (FSC) certification of FML 01. As part of FSC certification, Tembec must meet a number of criteria under the FSC National Boreal Standards. Some of the indicators in this Local Level Indicator (LLI) report reflect these FSC requirements.

The combination of all criteria, elements, indicators and targets provides for the assessment and long-term maintenance of a sustainable forest. The CCFM developed the criteria into a national framework, which has been modified to better reflect indicators of sustainability at a regional or local setting.

DEFINITION OF LOCAL LEVEL INDICATOR COMPONENTS

The Local Level Indicators were developed, with some refinements, using the CCFM framework outlined on the previous page. The local level framework is:

Criteria
Values
Goals
Indicators
Targets

The following defines components of the local level framework.

Criteria

The criteria, identified in the Montreal Process, are essential components of sustainable management of forests. Criteria 1 to 4 deal with the elements necessary to maintain the sustainability of the forest , Criteria 5 and 6 deal with society's role in forest management and Criteria 7 was established, at the request of the First Nation participants in the local level process, to define Aboriginal Benefits.

Values

Each criterion is subdivided into values to better define the component of the criterion to be monitored. The values closely follow the elements determined by the CCFM but have been revised to suite a local application.

Goals

The goals follow the guidance of the CCFM document, but have been adapted to reflect the values people place on the forest and the local factors influencing the forest of the FML. Goals have a three-digit number representing criterion, value and goal.

Indicators

The indicators are assessment tools for monitoring the goals. Indicators provide a description of the current state of the forest and its use. Over time, the monitoring will provide patterns of change within that indicator. Indicators have a four-digit number, building on the goal number by adding one more digits for each indicator.

Targets

Targets are measurable assessments of the indicators. Most targets have been developed so they can be stated in measurable terms, but some indicators lead to targets that are more descriptive. Where applicable, monitored results will be tracked over time to measure the direction of change for that indicator. Targets have a five-digit number, building on the indicator number by adding one more digits for each target.

DEVELOPMENT OF LOCAL LEVEL INDICATORS FOR SUSTAINABLE FOREST MANAGEMENT

In setting objectives for Phase II (1997 – 2002) for the Canadian Model Forest program, the Canadian Forest Service identified certain requirements for each Model Forest. One requirement was the development of criteria and indicators to be applied at a regional or local scale. The agency responsible for forest management should ideally lead and adopt the development of local area indicators. The Province of Manitoba, through the establishment of the FML, assigns forest management responsibility to Tembec. For these reasons, the Manitoba Model Forest (MBMF) requested Pine Falls Paper Company, now Tembec, to take a lead role in developing local level indicators for the MBMF with the intent that Tembec accept responsibility for monitoring the related targets on the FML.

The following steps were taken in the development of local level indicators for the MBMF and their subsequent incorporation into Tembec's Environmental Management System (EMS).

1. Before the process to develop indicators could begin, people's values for the FML had to be identified. This was accomplished through two workshop settings. The first was an open workshop sponsored by the MBMF on April 21, 1998, in Winnipeg. Guest speakers explained the criteria and indicator process to an audience of approximately 50 people. A facilitator then led the group in identifying and recording the values they individually held for each of the six criteria. The MBMF then produced a report that grouped all of the identified values into their respective elements. The second process involved a value exercise conducted with Tembec's Sustainable Forest Management Advisory Committee (SFMAC) on June 24, 1998. The SFMAC decided that they did not want to be constrained by the CCFM framework; therefore, a facilitator led a group of 11 committee members through an exercise, using breakout groups, to answer the question "*What is it about the forest that is important?*" The results of this value exercise were provided back to the SFMAC in the form of a report with the values grouped into areas of interest.
2. A subcommittee of the MBMF was struck to take the results of the value exercises and translate them into goals and indicators using the CCFM framework. The subcommittee decided to retain the CCFM structure unchanged to the element level. From that point, they reviewed the CCFM indicators to determine if they were applicable, if they required revisions to make them applicable at a local level, or if new indicators needed to be developed. The local level indicators were compiled in the criteria/element format developed by the CCFM to provide a consistent format to assist people in reviewing the indicators.
3. The suite of indicators was then presented to Tembec for the development of measurable targets, which would be used to monitor and measure success in achieving sustainable forest management. Early on in the development of targets, Tembec realized that the current state of information, inventories, monitoring protocols and information management systems would not allow for the immediate monitoring of all targets. The phasing in of the monitoring as the technical ability becomes available is identified in the Local Level Indicator Tables.
4. The MBMF then sponsored three invitational workshops to review the indicators and targets developed to date. The six criteria were broken up into three groups of two, specifically Criteria 1 & 2, 3 & 4 and 5 & 6.

Workshop participants were identified for each of the three workshops, attempting to provide a cross-section of expertise from local, provincial, national, scientific, regulatory, social, and operational standpoints. Workshop participants were provided with a copy of the draft indicators and targets as well as the workshop goals to review prior to holding the workshops. There was a respective total of 20, 17 and 26 participants, exclusive of the eight to 11 facilitators, scribes and Tembec support staff, at the three workshops held over four days from February 22 to March 3, 1999. The objective of the workshops was to form small breakout groups that would review specific elements and their related indicators and targets. Each breakout group was facilitated through a documented discussion asking the following questions:

- Does the proposed indicator address the goal?
- Is the indicator appropriate?
- Are there other potential indicators? If so, what are they?
- Does it provide meaningful information about the goal that it is supposed to measure?
- Does it measure something that forest management decisions have influence on?
- Is it measurable, practical and cost effective?
- Is it quantifiable? (Non–quantifiable indicators are acceptable where quantification is either not possible or practical.)
- Does the proposed target relate to the indicator?
- Is the target appropriate?
- Are there other potential targets?
- Is the proposed methodology (where indicated) for target selection appropriate?

Tembec used the results of these workshops to revise the draft indicators and targets and to develop a list of partnerships, monitoring requirements, management strategies, protocols, gaps and issues that were identified throughout the workshops.

5. Following the revision of the draft indicators and targets, MBMF hosted another open workshop in Winnipeg on May 5, 1999. There were a total of 48 participants and 14 facilitators, scribes and Tembec support staff, many of whom were involved in some or all of the previous four workshops. This workshop used the same breakout format as the invitational workshop but in a condensed time frame. Concurrent sessions working on Criteria 1 & 2, 3 & 4 and 5 & 6 were conducted in the morning and then repeated in the afternoon. This format allowed participants to attend sessions covering four of the six criteria or concentrate on only two criteria if they chose the same topic area in both the morning and afternoon sessions. Workshop participants were asked to review the indicators and targets within each of the subdivided criteria and were asked to answer the same group of questions that were used for the invitational workshops.

   Tembec used the results of this final workshop to perform a final revision of the indicators and targets, before submitting the completed suite of local level indicators to MBMF, and to update the Research Priorities, Information Gaps and Issues tables.

Review of the Indicator Suite

The Manitoba Model Forest held series of workshops from January to March 2006 to initiate a five year review of the indicator suite. The review and revision process consisted of two steps.

The first step involved revision of the criteria and indicators framework itself. In 2003, the CCFM revised the national-level C&I framework. To remain consistent with the revised C&I framework, Tembec took the existing MBMF local level indicators and placed them into the new C&I framework. None of the local level indicators and targets were revised or deleted during this process, but simply slotted into the new national C&I framework.

In the second step, the MBMF then hosted a series of 4 workshops to seek input on the

revision of the local level indicators. Two workshops focused on the identification of First Nation values and development of indicators, one workshop focused on revision of the socio-economic indicators and a final workshop focused on revision of the biophysical indicators.

In both First Nation workshops, three general questions were presented that helped with the identification of First Nation values. The questions were:

- What are the things that are important to First Nations when you think about the forest and your involvement in forest management?
- How would you know that Tembec is doing a good job in accommodating your values?
- What are the indicators you would use to judge Tembec's performance?

In addition to the three questions, four categories were presented for discussion, around which values and indicators could be identified and developed. They were:

- Employment and business opportunities
- Involvement of First Nation communities in forest management planning
- Incorporation of traditional knowledge into forest management
- Developing relationships between First Nations and Tembec

Prior to conducting the socio-economic and biophysical workshops, Tembec reviewed the existing local level indicators and selected a suite of indicators for review and discussion at the workshops. These particular indicators were chosen for review and discussion based on the following considerations:

- A process to measure the existing target is not available or has not been developed
- The relevance of the existing indicator and/or target is questionable
- A review of local level indicators used elsewhere in Canada (e.g., from other forest companies or Model Forests) suggests a better indicator or target

In addition to reviewing the current suite of indicators and targets based on the above considerations, participants were also asked if there are gaps that exist in the current suite of indicators and if there are new indicators/targets that should be developed.

Tembec used the suggestions brought forward from the workshops with respect to addition, deletion and revision of indicators in revising the local level indicator suite. One of the suggestions from the First Nation workshops was to develop a separate First Nation Criteria. Criteria 7, Aboriginal Benefit was created by moving relevant indicators from the existing Criteria and creating new indicators based on the advice received. The local level indicator tables reported on, in this document, use the revised format resulting from the review process.

CRITERION 1 BIOLOGICAL DIVERSITY

VALUE 1.1 ECOSYSTEM DIVERSITY

Goal 1.1.1 Maintain overall forest composition for representation of different forest types and ages.

Indicator 1.1.1.1 Composition of the forest of FML 01 in terms of forest types, and seral (age) stages (seral stages to be defined by forest type).

Target 1.1.1.1.1 Report on the strata (forest type) composition for FML 01 based on current inventory.

(Summarized every 5 year, initial 2006 next 2011)

Seral stages, from the Manitoba Conservation Wood Supply Report for FML 01, June 2006, were defined based on a combination of available information including Mean Annual Increment (MAI) and general species silvics (i.e. growth characteristics of the tree species).

Seral stages outlined in Table 1 were based on the following: The regeneration stage includes the time for stand establishment until the stand is recognizable as its strata type. Development represents the time a stand takes to reach its peak density, full crown closure and achieved maximum volume growth. Maturity represents the time stands begin to reach full volume potential and become harvestable. Old represents age where stands begin to lose volume and break up with death occurring near the end of the stage.

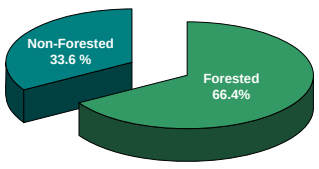
Jack Pine (JP) is a fast growing, relatively short-lived species. Spruce species are longer-lived species with a modest growth rate. Lowland black spruce (LBS) is a slow growing species with a longer lifespan, while upland black spruce (UBS) is shorter lived and begins to decline earlier. Tamarack / spruce (TLS) and Spruce / tamarack (STL) stands, often on wet sites, are slow to establish but mature quickly. Aspen stands regenerate quickly and are a fast growing, short-lived species. Ash also regenerates quickly but have a longer lifespan. Hardwood / softwood mixed stands (NSPF) are dominated by aspen and develop relatively quickly. Softwood/ hardwood mixes (MSPF) are influenced by shorter-lived species such as Jack Pine and Balsam Fir but may have longer lived spruce components.

Table 1 Seral Stage Definition by Strata.

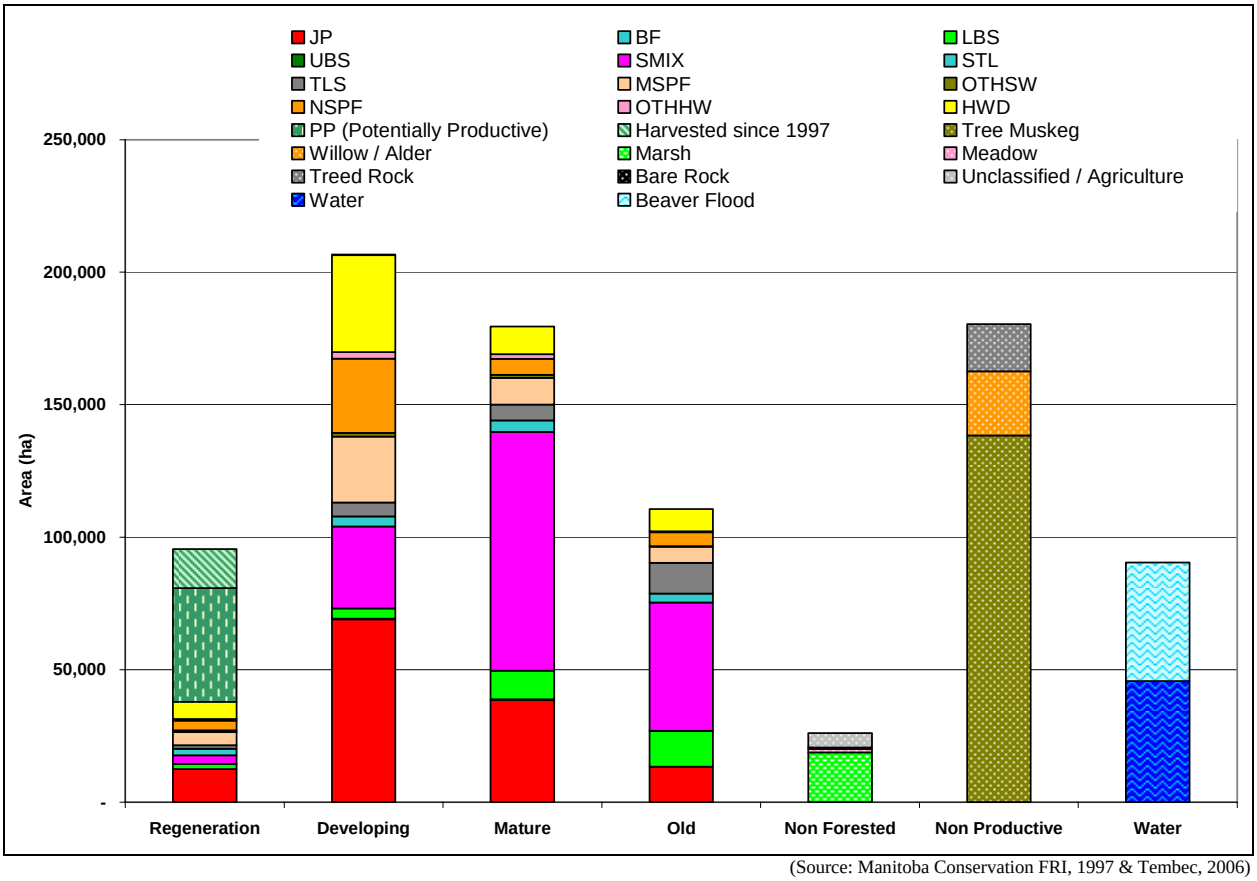
		Seral Stage			
Strata	**Strata Definition**	**Regeneration**	**Developing**	**Mature**	**Old**
JP	80-100% JP	0-15	16-50	51-75	76-130
BF	80-100% BS	0-15	16-40	41-60	61-140
LBS	Lowland, 80-100% BS	0-20	21-55	56-100	101-180
UBS	Upland, 80-100% BS	0-20	21-55	56-90	91-180
SMIX	80-100% Softwood (SPF)	0-15	16-55	56-80	81-150
STL	80-100% BS+TL, BS Leading	0-20	21-50	51-90	91-180
TLS	80-100%TL + BS, TL Leading	0-20	21-50	51-90	91-180
MSPF	50-70% Softwood (SPF)	0-15	16-55	56-75	76-140
OTHSW	50-100% Other Softwood	0-15	16-55	56-75	76-150
NSPF	50-70% Hardwood	0-10	11- 55	56-80	81-140
OTHHW	50-100% Other Hardwood	0-10	11- 55	56-80	81-180
HWD	80-100% Hardwood	0-10	11- 50	51-75	76-140

(Source: Interim 2006-2008 Forest Stewardship Plan, Tembec, 2006)

Figure 1 and Table 2 shows the current forest composition for FML 01, summarized by seral stage and strata classification. It is derived from the most current Forest Resource Inventory (FRI) for the area, produced in 1997 and updated to 2006. Approximately 2/3 of the FML is classified as productive forest, with the remaining 1/3 area made up of primarily wetlands, and water.



(Source: 1997 Manitoba Conservation FRI, 1997)



(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)

Figure 1 Seral Stage by Strata (Forest Type) for 2006. (Baseline Data)

Table 2 Seral Stage by Strata (Forest Type) Detailed Breakdown for 2006. (Baseline Data)

	Strata	Regeneration	Developing	Mature	Old	Non Forested	Non Productive	Water	Grand Total
Productive	Harvested since 1997	14,737							14,737
	PP (Potentially Productive)	42,936	192						43,128
	JP	12,499	68,962	38,534	13,343				133,338
	BF	5	277	317	26				626
	LBS	1,914	3,866	10,805	13,493				30,078
	UBS	12	19	16	92				139
	SMIX	3,254	30,863	90,033	48,385				172,535
	STL	2,481	3,853	4,408	3,398				14,140
	TLS	1,321	5,261	5,901	11,604				24,087
	MSPF	4,979	24,844	10,118	6,066				46,006
	OTHSW	662	1,438	1,118	141				3,359
	NSPF	3,662	27,985	6,077	5,291				43,015
	OTHHW	573	2,488	1,672	384				5,118
	HWD	6,476	36,622	10,533	8,424				62,055
Non Productive	Tree Muskeg						138,385		138,385
	Willow / Alder						24,176		24,176
	Marsh					18,794			18,794
	Meadow					1,304			1,304
	Treed Rock						17,882		17,882
	Bare Rock					577			577
	Unclassified / Agriculture					5,468			5,468
	Water							45,662	45,662
	Beaver Flood							44,840	44,840
Productive Total		**95,511**	**206,670**	**179,533**	**110,648**	**-**	**-**	**-**	**592,361**
Non Productive Total		**-**	**-**	**-**	**-**	**26,143**	**180,443**	**90,502**	**297,088**
Grand Total		**95,511**	**206,670**	**179,533**	**110,648**	**26,143**	**180,443**	**90,502**	**889,449**

(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)

Note: PP (Potentially Productive) are areas to young to have a forest species composition interpreted, and thus can not have a strata assigned. These areas are typically found in recent forest fire areas.

Target 1.1.1.1.2 Maintain strata type composition resulting from harvest.

This target will be measured in 2012 when assessments of FTG surveys are completed for the defined strata.

Target 1.1.1.1.3 Maintain percent of old forest area outlined in Table 3, based on the age categories, defined in Table 1, by 2030.

(Summarized every 5 year, initial 2006 next 2011)

In order to set old growth forest targets, a Pre-Industrial Condition (PIC) analysis was completed, which took into account the natural fire return intervals and forest silvics for the area. This type of analysis gives an indication of what the forest of FML 01 looked like prior to European settlement and commercial tree harvesting. Table 3 outlines the defined old forest targets. Due to the current landbase seral stage structure some forests will take up to 25 years to be achieved. To achieve this, Tembec will allow the current landbase to accumulate area in older forest seral stage over time. Currently 19% of the forest is old, as outlined in Table 3 and depicted in Figure 2.

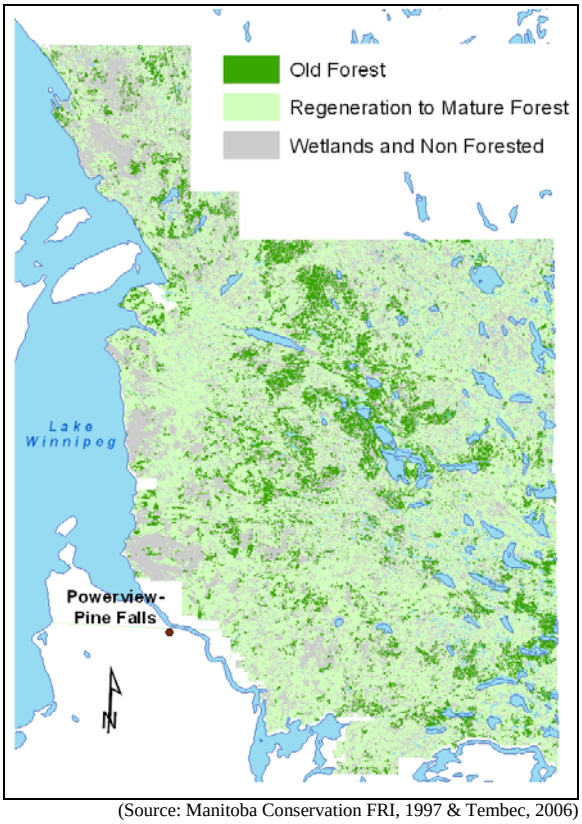
19% of FML-01 is Old Forest

Table 3 Percent Old Forest.

Strata Group	Old Forest Target	2006		
		Total Area	Total Old Forest Area	Old Forest Percent
JP	15%	148,075	13,343	9%
SMIX, UBS, BF, OTHSW	22%	176,659	48,645	28%
LBS, STL	22%	44,218	16,891	38%
MSPF *	22%	46,006	6,066	13%
ALL OTHER SPECIES	N/A	48,246	384	1%
TLS, NSPF, HWD	Strata not available for harvest. Target not established	129,157	25,319	20%
Total		592,361	110,648	19%

* 22% of current MSPF area as classified in the 1997 Forest Resource Inventory.

(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)



(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)

Note: Areas shown in the regeneration to mature seral stages reflect forest stands that were either burned in wildfires or harvested.

Figure 2 Old Forest on FML 01.

Helicopter view of the FML, which shows forest stands at various seral stages.

Goal 1.1.2 Maintain the integrity of non-forested ecosystems as a result of forest management activities.

Indicator 1.1.2.1 Areas of non-forested landscape managed primarily for soil and water conservation.

Target 1.1.2.1.1 Identify and protect all sensitive sites requiring soil and water protection through joint planning, pre-harvest surveys and other available sources of information.

Sensitive sites require soil and water protection included wetland features such as alder and willow swails, grass and sledge meadows or other peatland terrain. Sensitive sites are identified in Annual Operating Plans for these types of area if operations will occur during non frozen periods and the potential exists for operators to cross the area with their equipment, thus causing soil disturbance or rutting. All contactors prior to starting their operations are given maps of these areas and are briefed on how to treat these sites.

Table 4, shows the sensitive sites requiring soil and water protection identified through pre-harvest survey, spatial database, and community joint planning for the 2007/2008 Annual Plan and assessment results.

Table 4 Sensitive Sites Requires Soil and Water Protection

Soil & Water Protection Sites	
# of Sites Identified in 2007/2008 AORP	3
# of Sites Harvested Near during 2008 Fiscal Period	0
# of Sites Audited	0
% of Compliance	N/A

(Source: Tembec, 2008)

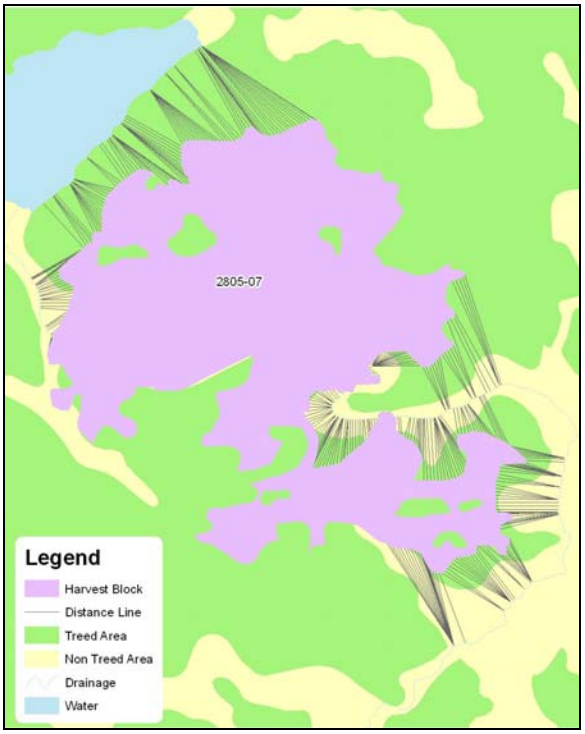
Indicator 1.1.2.2 Width of riparian reserves along permanent water bodies.

Target 1.1.2.2.1 Maintain an overall average 65-meters forested distance of from all harvest blocks (FML 01) and at least an average 20-meter per harvest block.

Riparian areas are dynamic interfaces between terrestrial and aquatic ecosystems. They perform many important ecological functions from maintaining water quality and aquatic habitat to providing high quality terrestrial habitat for wildlife and plant species. Forests surrounding or adjoining permanent water bodies are managed using riparian reserves that typically exclude all forestry activity (harvest, road building except for approved crossings).

Aerial view of Riparian Reserve maintained after harvest.

As part of Tembec's management strategy and FSC criteria a minimum average treed riparian reserve width of 20 metres per harvest block is maintained from permanent water bodies. Partial harvesting within the reserves may be permitted subject to Manitoba Conservation review and approval.



(Source: Manitoba Conservation FRI , 1997 & Tembec, 2008)

Figure 3 Example of how the Average Harvest Block Distance Measurement to Water is determined using GIS.

The overall average forested area within these riparian reserves for the FML shall be equivalent or great than 65 metres. The average width of the riparian reserved along permanent water bodies is determined by having our GIS create closest distance lines from the harvest block to the closest part of the water feature. This analysis is only completed on harvest blocks that are complete and located close to water features. These lines are created every 10 meters along the selected harvest block and cannot cross over each other as depicted in Figure 3.

The lines created for each harvest block are then used to determine the average distance to the water, which are reported in Table 5 for each harvest block. These closest distance lines used to determine the average distance to the waters edge were split at the treed/ non treed edge to determine the average treed distance and non treed distance. The overall average riparian reserve for 2007/08 was 312 meters, with the average treed width of 191 meters.

Average Riparian Reserve left after Harvest is over 300 meters, and on average almost 200 meters is treed.

Table 5 Average Distance to Watercourse from Harvest Blocks.

Harvest Block	Average Distance (m) to Water	Average Distance (m) Treed	Average Distance (m) NonTreed
101-12	371.3	234.8	136.5
101-13	401.0	251.4	149.7
2804-40	124.1	68.8	55.2
2804-41	211.4	42.4	169.0
2805-07	146.9	90.6	56.3
BN-05	264.0	224.0	40.0
OHW-15 57	262.0	60.8	201.2
OHW-15 59	425.7	39.7	385.9
RNY-01 03	563.1	502.2	60.9
RNY-02 24	296.6	277.2	19.5
RNY-02 25	369.5	317.4	52.1
Average	**312.3**	**191.7**	**120.6**

(Source: Manitoba Conservation FRI, 1997 & Tembec, 2008)

Goal 1.1.3 Maintain a natural landscape pattern when managing for access development, harvesting and forest renewal activities.

Indicator 1.1.3.1 Number and size of forest patches based on Intact Forest Analysis in HCVF report.

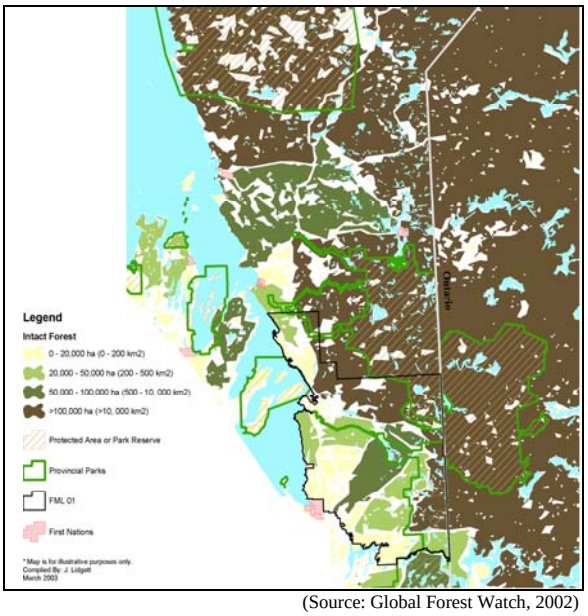
Target 1.1.3.1.1 Report on Number and size of forest patches for each 5 year period.

(Summarized every 5 year, initial 2006 next 2011)

This indicator assesses the condition of the forest with respect species composition and structure relative to the original forest (e.g., prior to widespread European contact). One method of assessing the condition of the forest is to determine the extent of "intact" forest. This was done using the definition of intact forest developed by Global Forest Watch (GFW). GFW has defined intact forest as those forest-dominated landscapes that contain no visible

large-scale anthropogenic disturbances in the last 50 years. For the Boreal Forest, they have set a minimum limit of 50,000 ha and a minimum width of 10 km to be considered intact. The analysis conducted initially by GFW, shown in Figure 4 was limited due to the accuracy and type of data that was available to them.

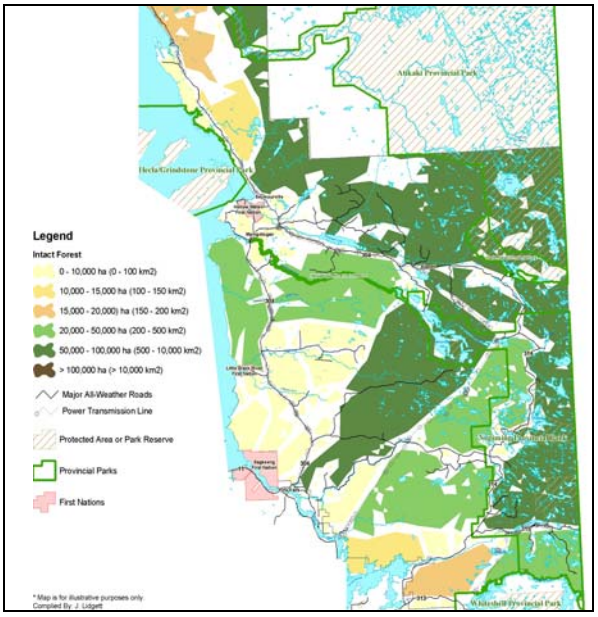
When the GWF intact forest analysis results are view for the FML 01 only, the intact forest sizes are reduced, because the surrounding areas are no longer included, as shown in Figure 5. Despite this, there is still a significant proportion of FML 01 that is considered "intact" forest.



(Source: Global Forest Watch, 2002)

Figure 4 Global Forest Watch Intact Analysis for FML 01 and surrounding region.

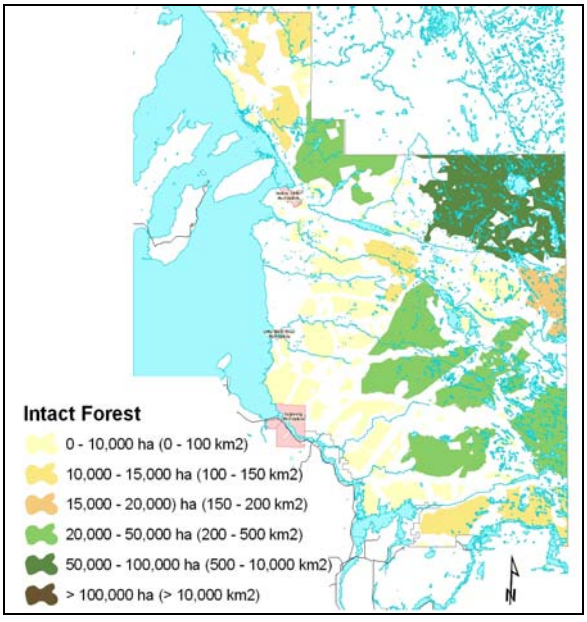
In order to develop a more accurate assessment of the amount and distribution of intact forest on FML 01, Tembec-Pine Falls staff utilized the same assessment approach and included more detailed data on recent harvest history (since 1986, the first year where digital data exists for harvest areas), all active roads (class 1, 2 and 3), and mining claims. Decommissioned forestry roads (roads that have been replanted) were excluded. However, other decommissioned Class 2 and major Class 4 roads that will be used in the next 40-50 years were included in the analysis. It should be noted however, that there has been harvesting history for more than 75 years in the southern part of FML 01 that is not fully captured in this analysis because of a lack of digital data. This assessment was initially complete as part of the High Conservation Value Forest Assessment (Kotak and Lidgett 2004), that was undertaken as a requirement of FSC certification. Figure 6 shows the updated Intact Forest Analysis results, as of 2006, for FML 01.



(Source: Global Forest Watch, 2002)

Figure 5 Global Forest Watch Intact Analysis for FML 01 only.

The depiction of "intact" forest for FML 01, based on Tembec's updated road, harvest and infrastructure data should not be viewed in isolation of the region surrounding it, as shown in Figure 4. Figure 6 shows the distribution of intact forests for the FML 01 only.



(Source: Global Forest Watch 2002 & Tembec, 2006)

Figure 6 Tembec 2006 Update of Intact Forest Analysis.

Indicator 1.1.3.2 Percentage of FML 01 in Contiguous Core Forest Habitats.

Target 1.1.3.2.1 Based on Spatial Woodsupply Analysis, maintain 20% of the forest in large contiguous core forest habitats.

This target will be assessed when the criteria for large contiguous core forest habitats are defined as part of the 2010 – 2029 Forest Stewardship Plan, which is currently being developed.

Indicator 1.1.3.3 Density of roads.

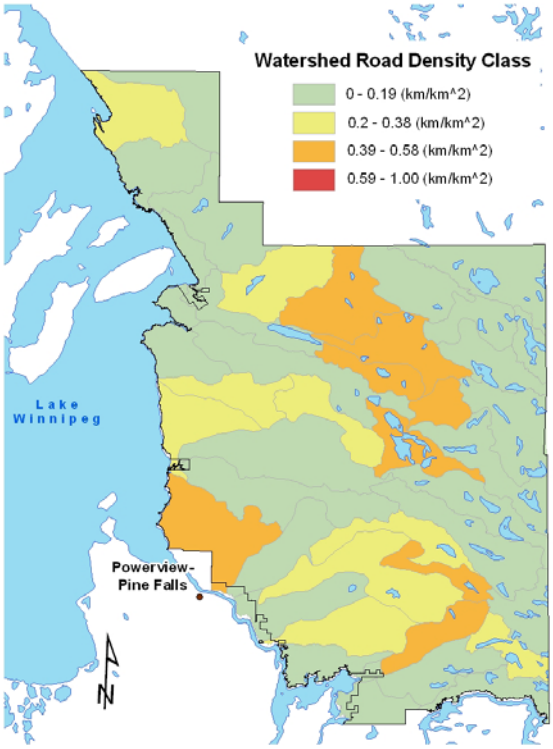
Target 1.1.3.3.1 Calculated density of active Tembec roads not to exceed 0.58 km/km^2 within a watershed.

Density of roads is one of the indicators used to assess landscape patterns. Road density influences road planning and construction, and potentially directs decommissioning activities. Watersheds, ranging from tens to hundreds of square kilometers, were chosen as the basis on which to assess road density because they are a predominant delineating feature used to scientifically assess impacts.

Happy Lake Bridge Site 3 Years After Removal.

Watersheds developed by The Prairie Farm Rehabilitation Administration (PFRA) and modified by Tembec (Figure 7) was used to access road density, starting in 2006, rather than the watersheds developed by DFO used in previous reports. By using smaller watersheds, Tembec is taking a more precautionary (conservative) approach to planning on a watershed scale.

The road density target of 0.58 kilometers of road per square kilometer was established by reviewing North America studies on road density and constraints. The target of 0.58 was adopted from the Fundy Model Forest suite of local level indicators. It is representative of mid- to lower ranges of road density figures found in the review. The Fundy Model Forest assessment examined impacts of roads on forest fragmentation, biodiversity, and aquatic macro invertebrates.



(Source: PFRA, 2004 & Tembec, 2008)

Figure 7 Road Density per Watershed.

Only active and short-term decommissioned roads, of all classes under the responsibility of Tembec (all weather, harvest block and winter) were used in calculating the total length of road. If the maximum density of 0.58 km/km^2 is reached, Tembec has the option of decommissioning some of the existing roads before constructing new roads within that watershed. Table 6 reports on the current road densities of all Tembec active and short term decommissioned roads by the watersheds depicted in Figure 7.

There were no watersheds in FML 01, which exceeded the target road density of 0.58 km/km^2.

There were no watersheds in FML 01, which exceeded the target road density of 0.58 km/km^2.

The target of 0.58 km/km^2 has been divided into four classes to graphically display the current condition of the FML (Figure 7). Most of the watersheds in the FML have low road densities and are at the lower end of the road density classification.

Table 6 Road Density per Watershed for FML 01.

Watershed	Area of Watershed (km2)	Class 1 Roads (km)	Class 2 Roads (km)	Class 3A Roads (km)	Class 3B Roads (km)	Class 4 Roads (km)	Class 4 Major Roads (km)	Total Length of Road (km)	Density of Roads per Watershed (km/km2)	Remaining Length of Road (km)	Total Length of Road Allowed (km)
Lower Beaver Creek	**293.3**		32.97	18.49	21.92	71.88		**145.3**	**0.50**	**24.9**	170.1
Manigotagan - Quesnel Lakes	**173.8**		19.59		17.58	47.39		**84.6**	**0.49**	**16.3**	100.8
Gold Creek	**123.9**		8.29		11.22	35.12		**54.6**	**0.44**	**17.2**	71.8
Peterson Creek	**152.1**		18.84		7.3	29.49	9.23	**64.9**	**0.43**	**23.3**	88.2
Lake Winnipeg Shoreline - Traverse Bay	**341.2**	6.25	4.06	3.99	1.47	128.32		**144.1**	**0.42**	**53.8**	197.9
Ross River	**102.6**		4.79		4.35	33.34		**42.5**	**0.41**	**17.1**	59.5
Cat Creek	**105.4**	14.33	16.46		2.26	3.14	6.22	**42.4**	**0.40**	**18.7**	61.1
Mid Wanipigow River	**232.1**		23.57		9.88	58.14		**91.6**	**0.39**	**43.0**	134.6
Upper Maskwa River	**370.5**	10.96	19.94	31	16	59.28	5.24	**142.4**	**0.38**	**72.4**	214.9
Upper Sandy River	**178.8**		22.02		23.22	17.67		**62.9**	**0.35**	**40.8**	103.7
English Brook	**279.2**	2.28	23.48	14.52	30.58	22.24		**93.1**	**0.33**	**68.8**	161.9
Moose Creek	**177.5**	8.37	1.46	3.67	27.8	10.24		**51.5**	**0.29**	**51.4**	103.0
Upper Bird River	**120.0**		16.88			13.19	4.2	**34.3**	**0.29**	**35.3**	69.6
Lake Winnipeg Shoreline - Loon Straits	**256.2**	22.54	3.34		5.41	41.38		**72.7**	**0.28**	**75.9**	148.6
Coca Cola Creek	**247.5**			2.65		13.18	42.04	**57.9**	**0.23**	**85.7**	143.5
Lower Sandy River	**167.0**		20.3			15.58		**35.9**	**0.21**	**61.0**	96.9
Lake Winnipeg Shoreline - Black River	**195.5**		2.63	0.84		38.04		**41.5**	**0.21**	**71.9**	113.4
O'Hanley River	**335.0**		16.82	20.52	5.15	19.22		**61.7**	**0.18**	**132.6**	194.3
Lower Black River	**431.5**		49.55	4.46	3.35	20.1		**77.5**	**0.18**	**172.8**	250.3
Pine Creek	**203.3**	9.08	7.65	3.28	2.71	13.48		**36.2**	**0.18**	**81.7**	117.9
Lower Maskwa River	**215.1**			1.65		10.87	25.59	**38.1**	**0.18**	**86.6**	124.8
Lake Winnipeg Shoreline - Observation Point	**206.0**			2.25	9.57	24.22		**36.0**	**0.17**	**83.4**	119.5
Lake Winnipeg Shoreline - Black Island	**291.5**	33.78		1.12		9.45	2.2	**46.6**	**0.16**	**122.5**	169.1
Garner Lake	**271.6**		6.29	1.99	1.09	32.84		**42.2**	**0.16**	**115.3**	157.5
Lower Manigotagan River	**342.0**		14.34	3.43	5.42	24.96		**48.2**	**0.14**	**150.2**	198.4
Lac Du Bonnet	**129.9**					4.2	13.98	**18.2**	**0.14**	**57.2**	75.4
McGregor - Elbow - Tulabi Lakes	**147.0**		0.55		7.64	7.5	4.58	**20.3**	**0.14**	**65.0**	85.2
Lower Wanipigow River	**174.5**	7.52	4.63	4.29	4.56	2.86		**23.9**	**0.14**	**77.3**	101.2
Point Du Bois - Ryerson Lake	**128.6**		6.08			8.54	0.01	**14.6**	**0.11**	**60.0**	74.6
Upper Manigotagan River	**258.8**		4.28	1.19		22.34		**27.8**	**0.11**	**122.3**	150.1
Moose River	**225.2**		9.06		6.24	7.61		**22.9**	**0.10**	**107.7**	130.6
Lower Bird River	**221.0**		6.24		1.31	9.83	2.89	**20.3**	**0.09**	**107.9**	128.2
Lee River	**127.3**					9.69		**9.7**	**0.08**	**64.2**	73.9
Rice River	**316.1**	3.98				11.19		**15.2**	**0.05**	**168.1**	183.3
Upper Black River	**308.9**		8.2		0.41			**8.6**	**0.03**	**170.6**	179.2
Lower Bloodvein River	**193.4**					3.3		**3.3**	**0.02**	**108.9**	112.2
Broadleaf River	**149.0**							**-**	**-**	**86.4**	86.4
Lower Gammon River	**326.4**							**-**	**-**	**189.3**	189.3
Obukowin Lake	**82.4**							**-**	**-**	**47.8**	47.8
Upper Beaver Creek	**231.8**							**-**	**-**	**134.4**	134.4
Upper Wanipigow River	**174.1**							**-**	**-**	**101.0**	101.0
Total	**9,006.8**	**119.1**	**372.3**	**119.3**	**226.4**	**879.8**	**116.2**	**1,833.2**	**0.20**	**3,390.7**	**5,223.9**

(Source: PFRA, 2004 & Tembec, 2008)

Indicator 1.1.3.4 Abundance and composition of residual structure for maintaining diversity at the stand level.

Target 1.1.3.4.1 Maintain an average of 3-5% of the harvest block area in various configurations of clumps & single trees, with emphasis on the maintenance of clumps.

Recently, much research and many on-the-ground forestry practices in Canada have been devoted to leaving more standing trees in harvest areas as a method to improve site and landscape diversity. This target designed to leave stand structure and diversity within harvest areas (i.e., deliberately leaving single trees and clumps or islands of trees in individual harvest areas).

Example of residual structure retained within the harvest area.

An operating procedure to leave 3% to 5% of the volume on site after harvest was implemented at the end 2002 with harvesting contractors. A protocol for measuring the residual area was developed and fully implemented in 2003/2004.

There are two methods of assessing how much stand structure remains after harvest. The first method records the number and size of smaller interior island residual patches of trees by reviewing aerial photos taken after harvest. The second method uses the Geographical Information System (GIS) to examine the residual islands and corridors' remaining after completing harvesting within an operating area (which is defined as a group of individual harvest blocks within a larger area).

Average Harvest Residual Structure maintained was 13.1% for Oct 2006 to Sept 2007

Reporting on harvest depletions is always one year behind the remainder of monitoring activities due to the timing of aerial photography. The interior island residual structure for all harvest areas between October 1st 2006 to September 30th 2007 is reported in Table 7. This table shows that the average residual structure maintained was 8.4 %, which is significantly larger than the target range of 3% to 5%

Table 7 Harvest Area In-Block Island Stand Structure by Operating Area.

Operating Area	Number of Harvest Blocks	Total Harvest Area (ha)	Average Harvest Area (ha)	Number of Residual Patch >0.5 (ha)	Residual Patch Area >0.5 (ha)	Number of Residual Patch <0.5 (ha)	Residual Patch Area <0.5 (ha)	Total Residual Structure (%)
Beaver Creek	7	140.2	20.0	11	6.45	71	13.2	13.4%
Bernic Lake	1	2.3	2.3	0	0	0	0.0	0.0%
Hollow Water	7	89.5	12.8	9	8.25	21	2.8	11.3%
Horseshoe Lake	2	8.0	4.0	0	0	7	0.3	3.1%
Maskwa Lake	3	52.7	17.6	4	4.29	17	2.2	11.4%
O'Hanley West	28	396.3	14.2	48	27.05	23	5.5	7.7%
Owl Lake	11	461.5	42.0	29	18.75	85	12.6	6.5%
Rainy Lake	4	30.9	7.7	1	3.12	17	1.6	13.9%
Total	63	1181.3	120.4	102	67.91	241	38.1	8.4%

(Source: Manitoba Conservation FRI, 1997 & Tembec, 2008)

Irregular sized clumps create wildlife movement corridors.

The second method requires operating areas to be completed. No new Operating Areas were completed in 2007/08. The Rainy Lake, Happy Lake, Garner-Gem, Shoe Lake, and Rabbit River Operating Areas were initially reported in previous Local Level Indicator Reports and are summarized again in this years report. Figure 8 depicts residual islands remaining within the harvest areas as well as residual structure remaining in the operating area. The residual islands shown on Figure 8 only include the areas captured on the GIS. A more complete accounting of all residual area is provided in Table 8 and Table 9.

Table 8 shows that the average residual maintained for the Operating Areas is approximately 60%, of which roughly 40% is productive forest. Table 9 outlines the in-block residual structure for the harvest areas within the completed Operating Areas. This table showed that the average residual structure maintained is 8.5%, which is much higher than the target range of 3% to 5%.

Table 8 Operating Level Residual Structure Remaining after Harvest.

Operating Area	Total Block (ha)	Productive					Total Residual Productive (ha)	Total Productive Residual (%)	Total Non Productive Residual (ha)	Total Residual (ha)	Total Residual (%)
		Residual Softwood (ha)	Residual Mixedwood (ha)	Residual Hardwood (ha)	Residual Immature (ha)	Residual Mature (ha)					
Garner Gem	5,067	1,871	559	8	771	1,667	2,438	48.1%	686	3,124	61.7%
Happy Lake	7,724	1,894	910	93	590	2,307	2,897	37.5%	1,636	4,532	58.7%
Rainy Lake	1,481	475	89	17	110	472	582	39.3%	306	888	59.9%
Shoe Lake*	1,562	524	11	10	291	254	544	34.8%	120	664	42.5%
Rabbit River	647	192	16	8	50	166	216	33.3%	179	394	61.0%
Total	**14,273**	**4,240**	**1,559**	**118**	**1,471**	**4,446**	**5,917**	**41.5%**	**2,628**	**8,545**	**59.9%**

* Includes 1990's and 2000's Harvest Areas

(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)

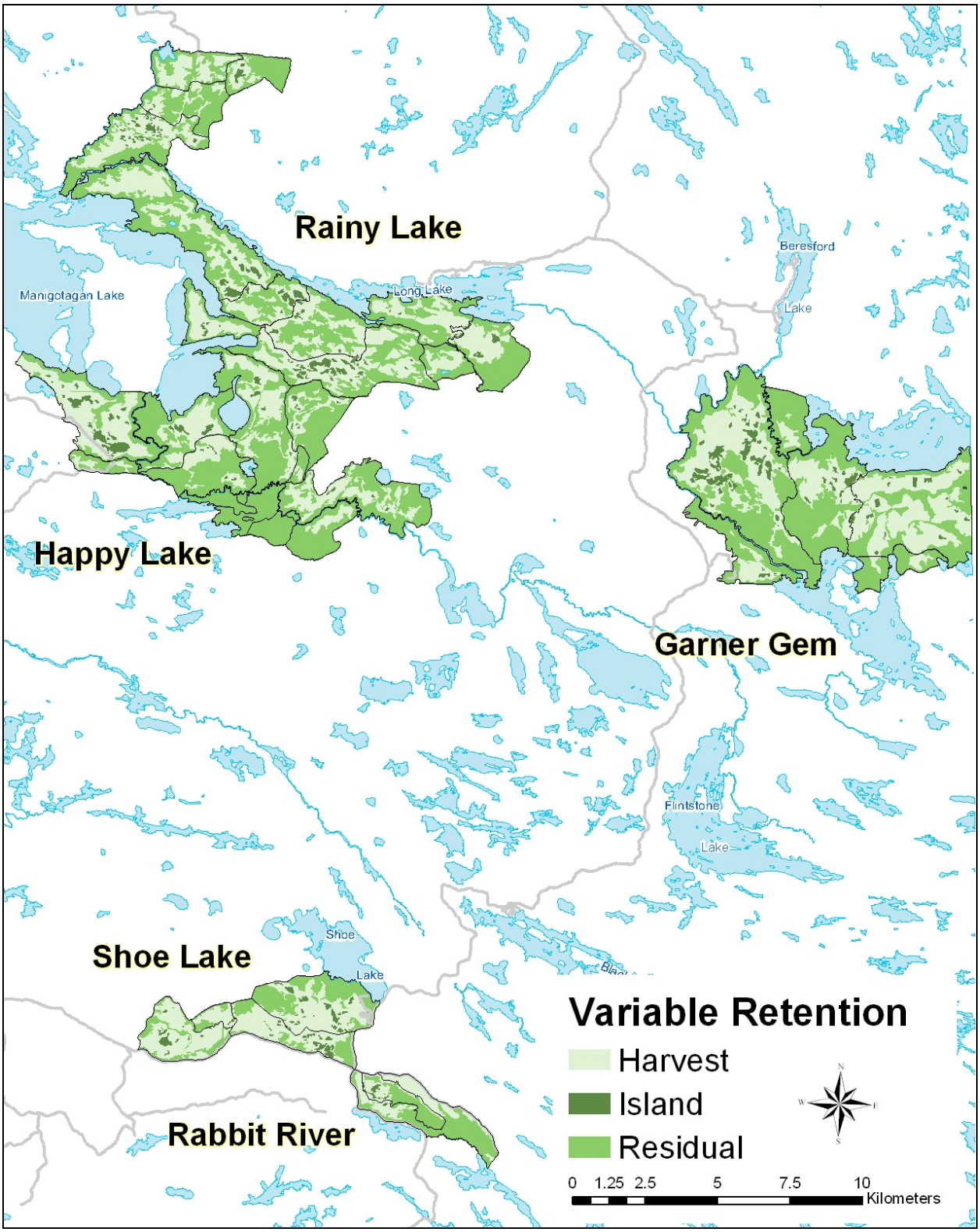
Table 9 In-Block Harvest Area Island Stand Structure for Completed Operating Areas.

Operating Area	Total Harvest Area Ha	Number of Residual Patch >0.5Ha	Residual Patch Area >0.5Ha	Number of Residual Patch <0.5Ha*	Residual Patch Area <0.5Ha*	Total Residual Structure (%)
Garner Gem	2,153	66	208	Not Determined	Not Determined	8.8%
Happy Lake	3,455	93	265	Not Determined	Not Determined	7.1%
Rainy Lake	571	30	46	780	45	14.7%
Shoe Lake**	898	36	88	358	58	14.8%
Rabbit River	252	17	13	34	3	6.3%
Total	**7,077**	**159**	**606**	**780**	**45**	**8.5%**

* Only Available for Areas Harvested Since 2003

** Includes 1990's and 2000's Harvest Areas

(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)



(Source: Manitoba Conservation FRI, 1997 & Tembec, 2006)

Figure 8 Operating Level Residual Structure Retained after Harvest.

Goal 1.1.4 Maintain a Network of Protected and Conservation Lands.

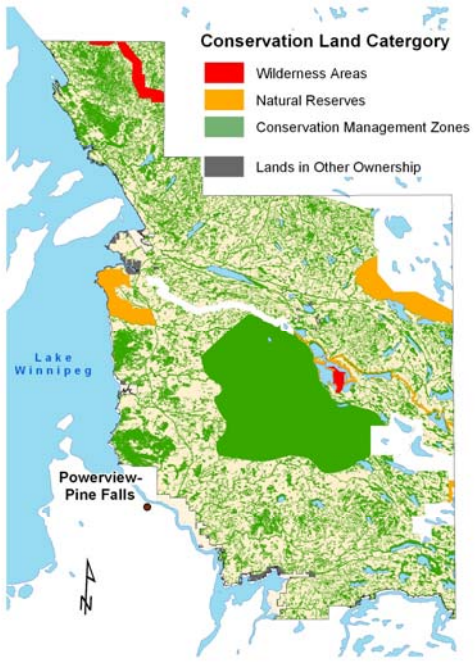
Indicator 1.1.4.1 Protected Area and Conservation Land status of FML 01.

Target 1.1.4.1.1 Percent of FML in Protected Area and Conservation Land Status.

Various levels of Conservation / Protection kinds occur within the FML. In 2004 Forest Products Association of Canada (FPAC) designed a Conservation Land Framework to demonstrate the magnitude of the "conservation lands network". This framework incorporated the International Union for the Conservation of Nature (IUCN) Classification of protected areas. The IUCN classification system reflects that different strategies are adopted to achieve overall forest conservation and sustainable forest management. It focused on the difference in emphasis between recreational, conservation and other resource development activities.

14.0% is closed to Forest Operations

Table 10 describes the Conservation Lands Framework and the Conservation Land Network within the FML, which is depicted in Figure 9. Currently 14.0% of the FML is closed to forest management activities. This is comprised of 10.4% that is part of the Protected Areas Network (Wilderness Areas), and thus closed to all resource development. A further 3.6% (Natural Reserves) is closed to forest management activities, through Tembec Voluntary Protection Areas, Tembec's support for Potential Protected Areas, and South Atakiki Provincial Park, which is currently closed to forestry but open to mining activities. Another 39.6% (Conservation Management Zones) is designated for wildlife or other specific conservation management strategies such as the Owl Lake Woodland Caribou Management Zone, and Riparian Zones. In total, 53.8% on the FML is part the Conservation Lands Web.



(Source: Manitoba Conservation & Tembec, 2008)

Figure 9 Conservation Lands Network on FML.

	Catergory	IUCN Category	Description	Components	Area (ha)	% of FML
FML	Crown Lands		Provincial Crown Land	- Crown Land	884,872	99.5%
	Non Crown Lands		Non Provincial Crown Lands and not open for forest management.	- Private Land - Proposed Treaty Land Entitlement	4,577	0.5%
	Total Forest Management Licence FML-01 Area				**889,449**	
Conservation Lands Category	Wilderness Areas	Ia – Strict Nature Reserve and Ib – Wilderness Protection	Areas permanently closed to all resource management (forestry, mining, hydro development) and recreational development.	- Protected Areas Network	**92,335**	**10.4%**
	Natural Reserves	II – National Parks	Areas permanently closed to forest management and may have recreational development.	- South Atikaki Provincial Park - Tembec Voluntary Protection - Protected Areas Under Review with Tembec Support	**31,611**	**3.6%**
	Conservation Management Zones	IV – Species and Habitat Management	Areas designated for wildlife management or where management measure indirectly benefit conservation. Resource and recreational development is limited, or subject to specific management strategies.	- Riparian Zones (200 meter of Special Rivers, 100 meter on Lakes, and 50 meter on Streams) - Wildlife Management Zones (Owl Lake Woodland Caribou Winter Management Zone) - Wetland, Water Bodies, and other non forested ecosystems, which provide contribute towards conservation and wildlife habitat. - Provinical Highway Buffers - Special Recreational & Cottage Zones	**353,483**	**39.7%**
	Total Conservation Land in FML-01 Area				**477,429**	**53.7%**

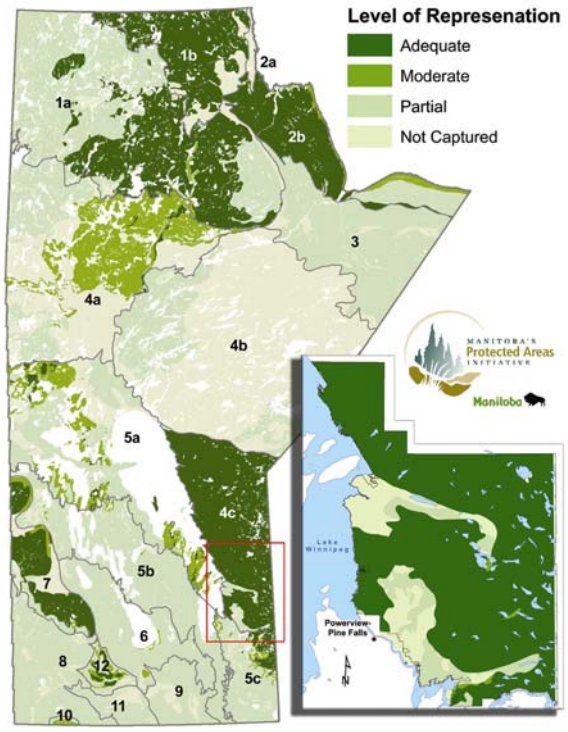
Table 10 Conservation Lands.

(Source: Manitoba Conservation & Tembec, 2008)

Target 1.1.4.1.2 Level of Representation of Enduring Features in the Protect Area Network on the FML.

The Protected Area Network is a key component of maintaining natural landscape patterns and biodiversity. Enduring features, which are combinations of soils and surficial geology, are used to represent the biodiversity within Manitoba's 18 natural ecoregions (areas that are differentiated from one another by their geographic, climatic and vegetative features). These enduring features are used to assess the level of representation, which gives an indication of where the job of establishing protected areas is complete and where more work needs to be done.

77% of the FML is Adequately Protected



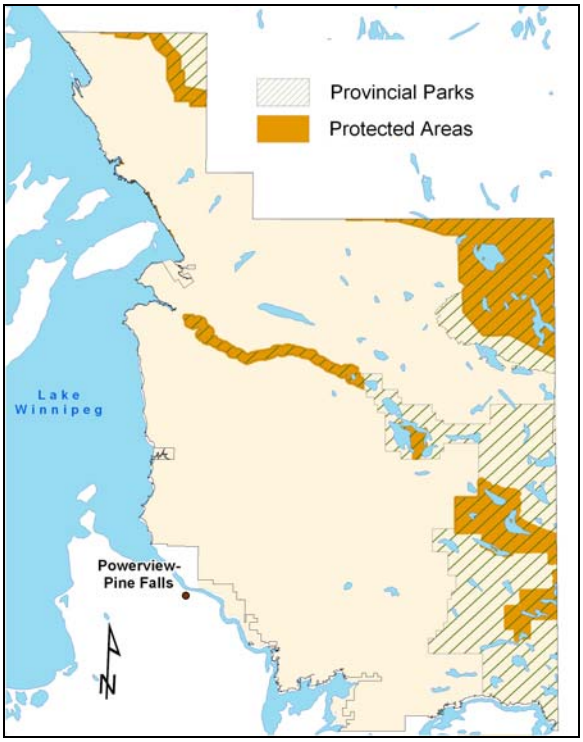
(Source: Manitoba Conservation, 2007)

Figure 10 Level of Representation of Enduring Features by Natural Region.

As defined and evaluated by Manitoba Conservation, FML 01, which is primarily part of natural region (ecoregion) 4C is one of the most adequately represented areas in Manitoba as show in Figure 10, with only a few enduring features which are not adequately represented. Currently, 77% (680,499 hectares) of the FML is adequately protected. This high level of representation is part due to the protected areas within the FML, shown in Figure 11. Currently, 10.4% of the FML is permanently closed to all resource management and recreational development, (Table 10 –Wilderness Areas) as part of the Manitoba Protected Areas Network. This includes the Nopiming Provincial Park Backcountry Expansion, which was announced in August 2007, and which add another 186 hectares to the Protected Areas Network within FML-01

10.4 % of the FML is in Protected Areas

Tembec has worked with Manitoba Conservation and Manitoba Wildlands to identify potential Protected Areas for inclusion in the provincial protected area initiative, and continue to support Manitoba's work towards completion of the protected area initiative in the FML.



(Source: Manitoba Conservation, 2007)

Figure 11 Protected Area Network on the FML.

VALUE 1.2 SPECIES DIVERSITY

Goal 1.2.1 Protect special, threatened and endangered (STE) species.

Indicator 1.2.1.1 Percent of proposed harvest blocks subject to pre-harvest assessment.

Target 1.2.1.1.1 100% of all blocks proposed in each annual plan subject to pre-harvest assessment.

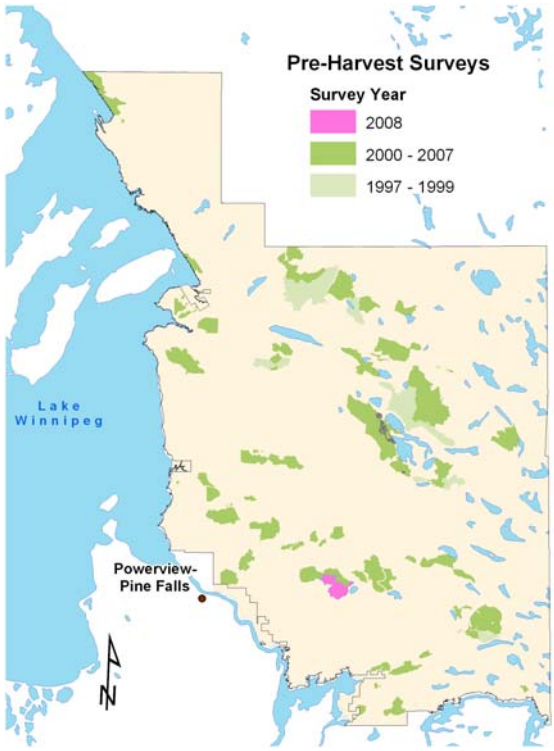
In 1997, the Pine Falls Operations began conducting field surveys before harvesting operations commenced. The surveys are called Pre-Harvest Assessment (PHA) surveys, and are used to collect field information on the trees (species, height, age, and volume), ground vegetation, soil and site conditions, wildlife evidences, forest health, and other forest area values. These surveys continued for three years until the Manitoba Forest Practice Guideline Committee began work on a PHA Survey Guideline in 2000. Survey procedures have been revised and refined over the past years to reflect the committee's work. In January 2003, the Provincial PHA Survey Guideline was approved by Manitoba Conservation and fully implemented for the FML, which require PHA to be completed for all blocks prior to harvest, except for fuelwood (firewood) and areas where harvest levels are less than 300 cubic metres. Figure 12 shows all the blocks surveys since 1997.

Tembec and Manitoba Conservation Eastern Region have refined the Annual Operating and Renewal Plan (AORP) format to incorporate the site-specific information generated from the pre-harvest surveys.

100% of 2007/08 AORP Blocks received a PHA

Tembec's Annual Plan period which ran from January to December was revised and approved by Manitoba Conservation to a June to May planning period commencing in 2007/08 This period better coincides with operating seasons and provides Manitoba Conservation with an extended review and approval period.

Table 11 shows how many of the 2007/08 Operating and Renewal Plan blocks had surveys. There were there were 206 potentially active harvest blocks, of which 195 (95%) received a PHA. The remaining 11 unsurveyed blocks were Spruce Budworm salvage areas or fuelwood areas designated for less than 300 cubic metres, and thus did not require a PHA.



(Source: Tembec, 2008)

Figure 12 1997–2008 Pre-Harvest Survey Blocks.

Table 11 AORP Block PHA Survey Summary.

	AORP 2008	
Block PHA Survey Description	**# Blocks**	**Pecent**
PHA Surveyed *Pre 2000 Procedures (1997-1999)*	*6*	*3%*
PHA Surveyed *MC Guidelines (2000 - Present)*	*189*	*92%*
Total Blocks PHA Surveyed	**195**	**95%**
No PHA Survey Requred *(Fuelwood /Salvage Area)*	11	5%
No PHA Surveyed Completed	0	0%
Total Blocks	**206**	**100%**

(Source: Tembec, 2008)

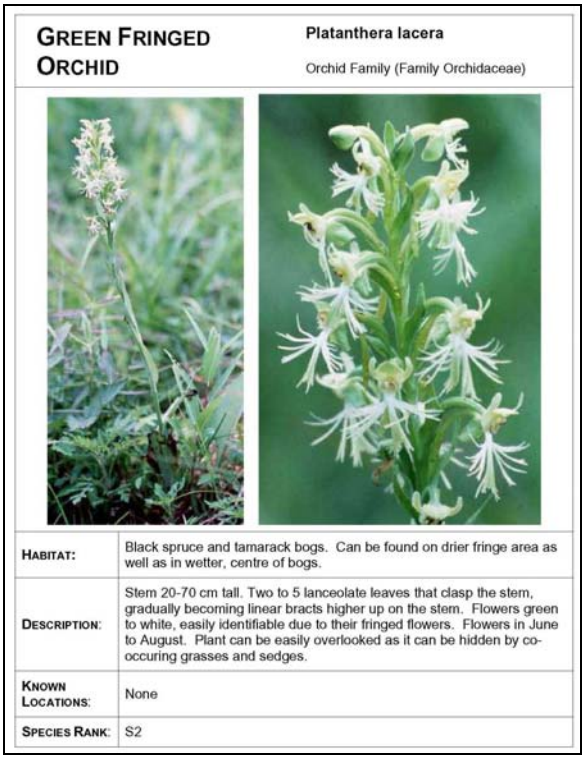
Indicator 1.2.1.2 Proportion of pre-harvest assessment crews trained in the recognition / identification of Special, Concern, Threatened, & Endangered (STE) species and habitats.

Target 1.2.1.2.1 100% of pre-harvest assessment (PHA) crews trained in the recognition and identification of STE species.

Pre-Harvest Assessment crews are trained each year on how to identify numerous STE (plants, frogs, and animals) species. STE species are those found on Schedule I of the Species at Risk Act as well as the Manitoba Endangered Species Act. In addition to STE species, PHA crews also receive training on how to identify and record the location of provincially rare species, including frogs and orchids. To assist with this identification and training Tembec has developed a Rare Species Field Guide, which describes the species, its habitat, and known locations, along with photos that can be used to assist in identification. Figure 13 shows an example of STE identification sheet found in the Tembec Rare Species Field Guide which all PHA crew use during surveys.

100% of the PHA crew was trained in STE identification

All of the pre-harvest assessment crew members were trained in the identification of STE plant and animals species.



(Source: Tembec Rare Species Field Guide, 2005)

Figure 13 Sample STE Species Identification Sheet.

Indicator 1.2.1.3 Proportion of identified STE for which appropriate management action have been taken.

Target 1.2.1.3.1 Protect 100% of sites where STE species are identified in annual plan.

There were no STE species sensitive sites (Table 12) identified through pre-harvest survey, spatial database, and community joint planning for the 2007/08 Annual Plan, thus no audits were conducted.

Table 12 STE Species Sensitive Sites Requiring Protection.

STE Sites	
# of Sites Identified in 2007/08 AORP	0
# of Sites Harvested Near during 2008 Fiscal Period	0
# of Sites Audited	0
% of Compliance	N/A

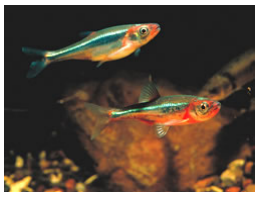
(Source: Tembec, 2008)

Target 1.2.1.3.2 Number of STE Species identified and the status of their management strategies.

Schedule I of the Species at Risk Act, is the official list for species at risk in Canada. There are 5 STE species found on Schedule I that are known to occur on FML 01 (Table 13).

Table 13 lists the Endangered, Threatened and Special Concern species, as listed on Schedule I of the Species at Risk Act that are known to occur on FML 01.

Table 13 Endangered, Threatened and Special Concern Species on FML 01.

Risk Category/Species		Threats	Status of Management Strategies
Endangered			
Piping Plover (*Charadrius melodus circumcinctus*)		Predation, habitat loss, human disturbance	Federal Recovery Strategy in place. Forestry best management practices for FML 01 in place.
Threatened			
Woodland Caribou western boreal population (*Rangifer tarandus caribou*)		Habitat loss, predation	Federal Recovery Strategy in development. Forestry strategy for FML 01 in place.
Carmine Shiner (*Notropis percobromus*)		Regulation of stream flow leading to habitat degradation. Relative rarity of the species in MB	Federal Recovery Strategy completed in 2008. Forestry best management practices for FML 01 in place.
Special Concern			
Monarch butterfly (*Danaus plexippus*)		Habitat loss in wintering grounds (in Mexico) due to deforestation, and summer habitat loss (in North America) due to herbicide use in agricultural areas.	Federal Management Strategy to be developed. Forestry best management practices for FML 01 in place.
Northern Leopard Frog western boreal/prairie population (*Rana pipiens*)		Widespread contraction in range of the species in western Canada. Causes unknown but may include wetland drainage, introduction of predatory fish, pesticides, fungal disease, habitat fragmentation	Federal Management Strategy to be developed. Distribution of northern leopard frogs in FML 01 largely unknown. A Manitoba Model Forest project began assessing population status in 2008.

(Source: Schedule I, Species at Rick Act, 2008)

Piping Plover

This endangered species is largely found along shorelines of small prairie lakes as well as along beaches of larger lakes such as Lake Winnipeg. Threats to this species include disturbance to nesting habitat on beaches due to human encroachment, ATV use and family pets, as well as predation and periodic loss of egg clutches due to high water. With respect to FML 01, the piping plover is found primarily along beaches of Lake Winnipeg. A 100m buffer strip from the shoreline of Lake Winnipeg protects their nesting habitat, and a management practices to minimize road construction near the lakeshore and quickly decommission roads flowing reforestation activities reduces the potential of human disturbance.

Woodland Caribou

This is the only STE species with a local management strategy developed to date that is written for a specific caribou range found on FML 01. The Owl Lake Management Strategy, developed in 1994, was updated and published in 2005 along with a companion document on determining caribou home range and habitat use. Both documents are available for download at www.manitobamodelforest.net. The Eastern Manitoba Woodland Caribou Advisory Committee is currently developing a management strategy for the Atiko/Bloodvein herds, two other caribou ranges located on FML 01, scheduled for completion in 2009.

An important component of Owl Lake caribou strategy is the maintenance of habitat for the Owl Lake caribou herd. The Eastern Manitoba Woodland Caribou Advisory Committee (EMWCAC) advises Manitoba Conservation on caribou management issues. Caribou movement and habitat use is being determined through the use of Global Positioning System (GPS) collars placed on caribou. The collars record the animals' location over time and allow for determination of their ranges and habitat use. Other important aspects of the management strategy include minimizing the potential for increased predation on caribou, minimizing transfer of the fatal brain worm from deer to caribou, controlling vehicle access, and planning for future caribou habitat needs.

Target 1.2.3.1.1 measures habitat values based on a management strategy that uses a Habitat Suitability Index (HSI) to define high-value habitat areas for caribou. The Eastern Manitoba Woodland Caribou Advisory Committee revised the Woodland Caribou Habitat Suitability Indices (HSI) model, in 2005, to run on the new 1997 forest resource inventory developed for FML 01. HSI values were also modified, based on GPS habitat use data analysis as well as through an expert workshop. The verified model resulted in a new baseline value of 44,500 high habitat units within the Owl Lake Management Zone. The management strategy schedules forest management activities to cycle habitat over time, while maintaining other areas of high habitat value. The number of high habitat value units has essentially remained unchanged since 1995, as only small experimental harvests have taken place. However, an operational harvest trial, based on the management strategy, commenced in the summer of 2004 and is scheduled for completion in 2010.

Carmine Shiner

Although there is no indication that populations of this species are in decline, the species has a very limited distribution in Manitoba, including the southeastern portion of FML 01. The species requires cool, relatively clear running water. Regulation of flow (through creation of hydroelectric projects), shoreline development and general landscape changes are thought to be

a threat to this species. Fisheries and Oceans Canada (DFO) completed the development of a recovery strategy in 2008. There are several forestry procedures in place to minimize effects on carmine shiners. Firstly, prior to the installation of any stream crossings, a pre-crossing assessment is conducted to determine stream channel characteristics and assess the existing fish populations present. To date, carmine shiners have not been observed through this process. Secondly, the use of best management practices including the use of clear-span bridges, arched culverts, use of erosion control technologies such as erosion control blankets and re-vegetation of stream banks minimizes stream impacts.

Monarch Butterfly

This species is widespread in the agricultural region of southern Manitoba. The southern part of FML 01 is generally the northern extent of its distribution in eastern Manitoba. Lack of agricultural fields north of the Winnipeg River account for its relative absence from most of FML 01. Forest harvesting north of the Winnipeg River is not expected to have an impact on the Monarch butterfly. While widespread use of pesticides in agricultural regions (summer habitat) is thought to be partially responsible for declines in butterfly populations in North America, the small amount of pesticides used for vegetation control in forested areas on FML 01 does not likely contribute to the status of this species.

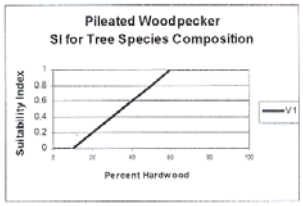
Northern Leopard Frog

This species of frog suffered significant global declines in the 1970s and 1980s, and particularly in western Canada. The reason(s) for this decline is not known, but may be related to loss of habitat (e.g., wetland drainage), habitat fragmentation, pesticide use and introduction of fish species (i.e., increased predation). Populations in Manitoba faired much better than in other western Canadian provinces and populations have generally re-occupied their former range, but at lower population densities. Little is know about the population status and distribution of the northern leopard frog on FML 01. This species has never been abundant on the east side of Lake Winnipeg. The Manitoba Model Forest initiated a frog population survey in 2008 to assess the distribution and population size of this and other frog species.

Goal 1.2 2 Maintain an adequate range of habitats at the stand and landscape levels across FML 01 to sustain species diversity.

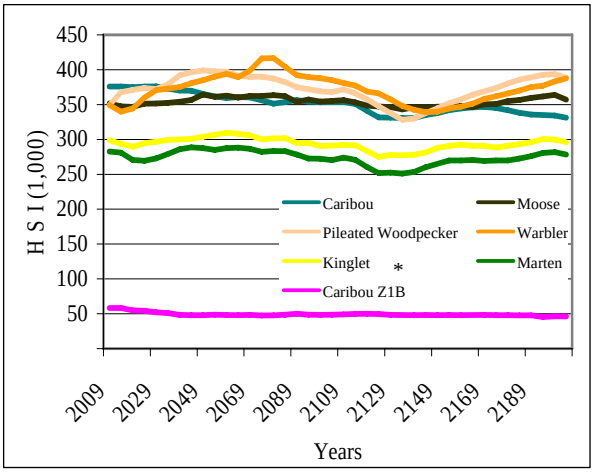
Indicator 1.2.2.1 Area of habitat expressed as number of habitat units for selected representative species and species guilds.

Target 1.2.2.1.1 Maintain Habitat Units for each selected species (Woodland Caribou, Moose, Pine Marten, Magnolia Warbler, Pileated Woodpecker, and Ruby Crown Kinglet) within a minimum of 90% of the 1997 Forest Inventory Baseline as a result of forest management activities.



Habitat represents one of the fundamental requirements for species to survive. Through research, the habitat requirements of many species are now known. Models such as Habitat Suitability Index (HSIs) Models have been created to assess the quality and quantity of habitat available for each species based on knowing the types of forests found in an area. For FML 01, HSI models have been developed for a range of wildlife species that have different habitat requirements. Wood supply modeling, which projects forest management operations and timber supply over a 200 year time span, is then coupled with the HSI models to predict the long-term impacts on wildlife habitat. In this way, forest management planning can help insure a sustainable supply of not only timber to mills, but also the long-term supply of habitat for different wildlife species. With the exception of the Owl Lake Woodland Caribou Herd, the long-term habitat supply target for the other indicator species is to maintain habitat within a minimum of 90% of the original 1997 baseline (for which the habitat supply models were developed).

The species outlined in Table 14 have been selected from the suite of HSI models developed by the Manitoba Forestry/Wildlife Management Project under the direction of Manitoba Conservation. These models were developed to run on Manitoba Forest Resource Inventory (FRI) data as it existed at the time of the model development in the early 1990's. Tembec contracted a Wildlife Biologist, involved in the initial development of the HSI models, to revise the model formulations to run on the Woodstock™ platform using the strata selected by Manitoba Conservation in the development of the base case Wood Supply Analysis. Figure 14 shows the maintenance of a minimum of 90% of the baseline habitat supply forecasted over a 200 year period.

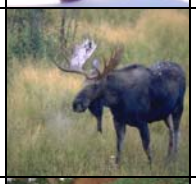


* Owl Lake Woodland Caribou Management Zone.

(Source: FML1 Forecasting Report, 2007)

Figure 14 Forecasted Wildlife Habitat Suitability for Indicator Species.

Table 14 Habitat Suitability Index (H.S.I.) Indicator Species.

Indicator Species	Description	
Woodland Caribou		As Woodland Caribou is listed as Threatened under the Species at Risk Act and the Manitoba Endangered Species Act, this species was chosen in order to assess habitat supply variations over the 200 year term of the wood supply analysis. The "Landscape Management Strategy for the Owl Lake Boreal Woodland Caribou Herd" requires that at least 2/3 of the high quality caribou habitat in the Owl Lake winter range must be maintained in large, contiguous blocks of forest over time. The Woodland Caribou HSI model has been revised and verified to run on the 1997 FRI for FML 01. Woodland Caribou is also thought to have a very specialized habitat niche that is not represented by other species.
Moose		Moose was chosen as indicator species because it is the most important subsistence food source for local First Nation communities. It is also an important big game species to the licensed hunter. Moose is seen as a generalist, requiring a range of age classes and forest types for various components of its life cycle.
Pine Marten		Marten was chosen as an indicator species because it is one of the most important furbearers sought by the trapping industry. Marten was chosen to represent species requiring late successional coniferous and mixedwood forest communities.
Pileated Woodpecker		The Pileated Woodpecker was chosen as it selects large deciduous trees with heavy canopy cover for nesting and relies heavily on down and woody debris. The creation of nest holes provides homes for a variety of other wildlife species; therefore, the management of pileated nesting habitat directly affects the nesting habitat of many other species. Moose habitats overlap with Pileated woodpeckers since both occupy hardwood forests and will feed in cutovers.
Magnolia Warbler		This species was chosen as a habitat generalist. It can exploit both young and old coniferous and deciduous forests. It is sensitive to the amount of edge present and to the amount of shrub cover available; however, even treed rock (i.e., sparsely treed rocky areas) has some value for this species.
Ruby Crowned Kinglet		The Ruby Crowned Kinglet was chosen as it is a songbird migrant that selects for late successional coniferous forest with edge.

(Source: Tembec, 2006)

Goal 1.2.3 Maintain the Woodland Caribou.

Indicator 1.2.3.1 Number of habitat units for the winter range of Owl Lake Woodland Caribou Herd.

Target 1.2.3.1.1 Maintain 67% of the baseline 44,500 (high) HU (where high >/= 0.8 HU) in Zone 1 as specified in the Landscape Management Strategy for the Owl Lake Boreal Woodland Caribou Herd (Manitoba Model Forest, 2005).

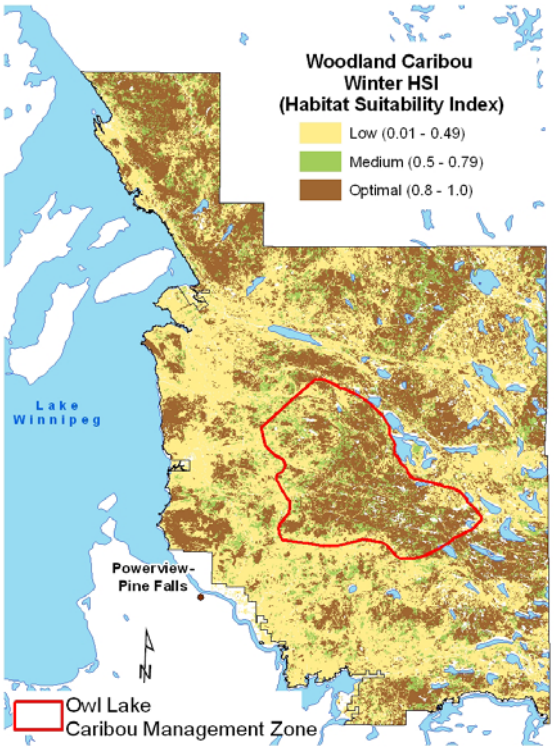
The Manitoba Model Forest, through the Eastern Manitoba Woodland Caribou Advisory Committee (EMWCAC), revised the Woodland Caribou Habitat Suitability Indices (HSI) model to run on the new 1997 forest resource inventory developed for FML 01. HSI values were also modified, based on GPS collar habitat use data analysis as well as through an expert workshop. The verified model resulted in a new baseline value of 44,500 high habitat units within the Owl Lake Management Zone. An experimental harvest within the management zone commenced in the summer of 2004 and is anticipated to continue through to 2010.

Table 15 Status of High Habitat Units within the Owl Lake Management Zone.

Year	Description	High Habitat Units	Percent High Habitat
1997	Baseline prior to Experimental Harvest	44,500	100.0%
2004	1st year of Experimental Harvest	44,279	99.5%
2005	2nd year of Experimental Harvest	44,086	99.1%
2006	3rd year of Experimental Harvest	43,796	98.4%
2007	4th year of Experimental Harvest	43,768	98.4%

(Source: MC, FRI, 1997, EMWCAC, 1997, Tembec 2008)

Tembec has provided continuing support to the Eastern Manitoba Woodland Caribou Advisory Committee with active participation of the Divisional Forester, Operations Planning Forester and a scientist under contract through committee meetings and field activities as well as the participation of operations staff and contractors in the implementation of the experimental harvest trial. The committee is currently active in the monitoring of FML herds, the implementation and monitoring of an experimental harvest trial within the Owl Lake herd range and the development of regional and other herd specific management strategies.



(Source: Manitoba Conservation FRI, 1997 & EMWCAC, 1997)

Figure 15 Woodland Caribou Winter Habitat Suitability Index.

Caribou movement is tracked with the help of GPS collars.

Indicator 1.2.3.2 Estimated size of Caribou Herds.

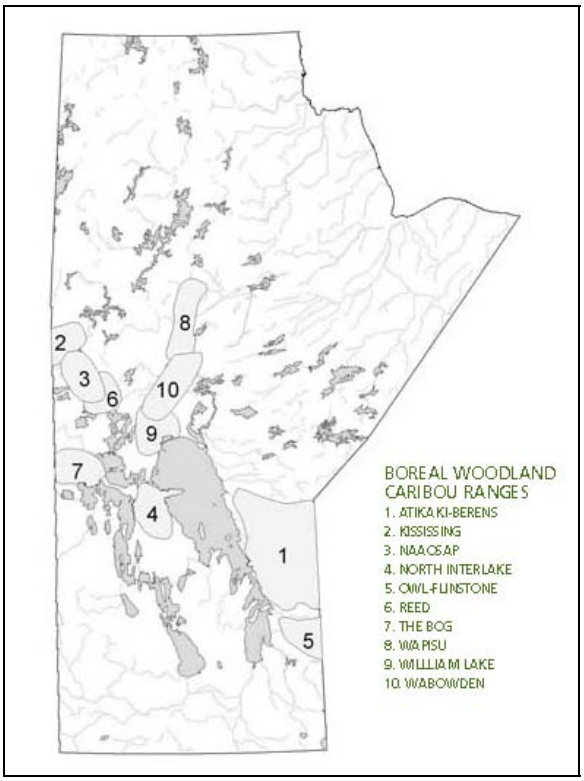
Target 1.2.3.2.1 Report on the number of Woodland Caribou in each herd.

There are three Woodland Caribou herds whose ranges are wholly or partly within FML 01 as shown in Figure 16. The Owl Lake herd has been subject on-going assessment and research since the 1970's while the Atiko and Bloodvein herds, within the Atikaki-Berens range, have not been studied as intensely. Figure 16 outlines the current and historic population estimates and Current Population Estimates as published in Manitoba's Conservation and Recovery Strategy for Boreal Woodland Caribou (2005). GPS and very high frequency (VHF) radio collars are used to assess the caribou herds movements and habitat use and assist in conducting aerial population estimates.

Table 16 Caribou Herd Population Estimates.

Caribou Herd	Historic Population Estimates	Current Population Estimates
Owl Lake	50 - 75	71-85
Atikaki-Berens	Unknown	300-500

(Source: Manitoba Conservation, 2005)



(Source: Manitoba Conservation, 2005)

Figure 16 Boreal Woodland Caribou Ranges in Manitoba

VALUE 1.3 GENETIC DIVERSITY

Goal 1.3.1 Renewal of harvested areas such that regeneration and on-going stand dynamics and growth results in new forest stands with stand composition and genetic diversity within the range of natural variability.

Indicator 1.3.1.1 Source for seed and/or seedlings utilized in forest renewal establishment for FML 01.

Target 1.3.1.1.1 100% of seed and/or seedling stock established on FML 01 planted within the same provincial seed zone.

The three main reforestation species are black spruce, white spruce and jack pine. Jack pine typically is left to regenerate naturally from seed, where as white spruce is usually planted. Black spruce is either planted or left to regenerate naturally depending on the site it is growing on. Other species such as balsam fir, eastern larch & aspen will also regenerate back naturally but are not specifically managed for.

In order to maintain the genetic diversity of the regenerating forest, Tembec adheres to the following reforestation practices; 1) natural regeneration is encouraged and is the preferred treatment, 2) only native species are planted, and 3) all seed used for reforestation projects originate from natural stands within the area. MC has delineated zones throughout the

province called breeding zones for each of the three species (Figure 17).

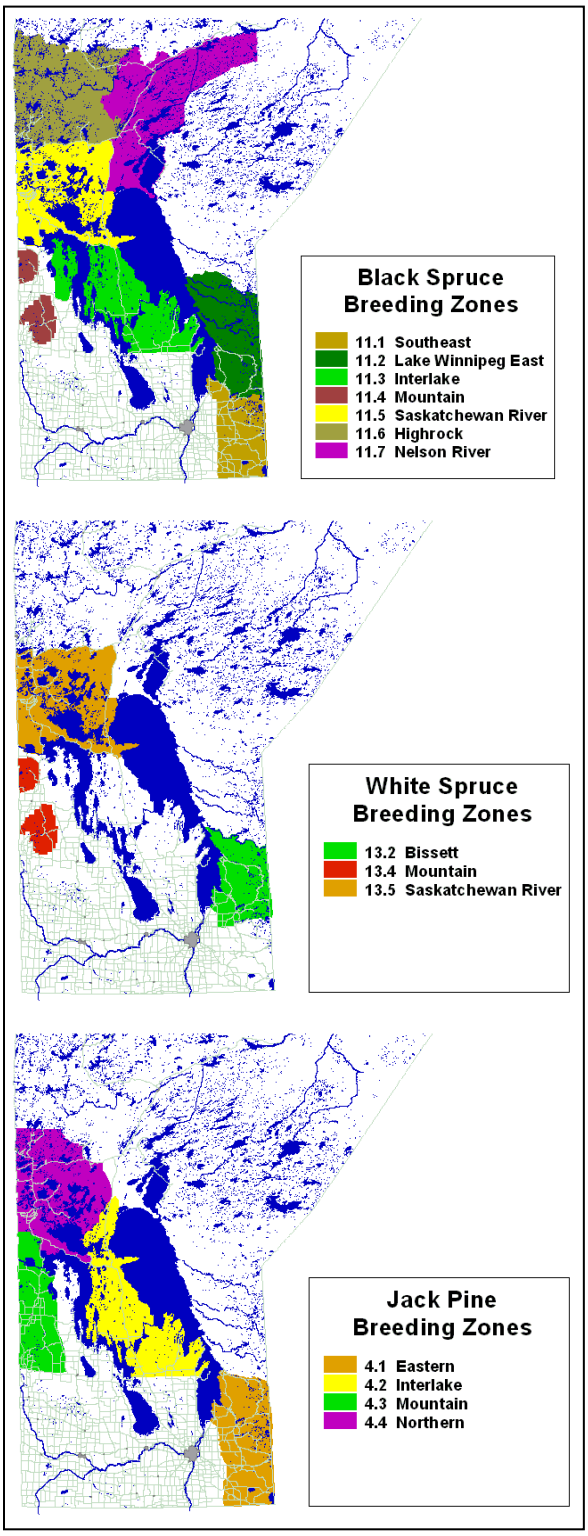
Table 17 Percent seedling stock planted on the FML originating within the same breeding zone.

Species	Seed Zone	% Originating from Zone	% Orignating from Other Zones
Black Spruce	Zone 11.2	100%	0%
White Spruce	Zone 13.2	100%	0%
Jack Pine	Zone 4.1	100%	0%

(Source: Tembec 2008)

These zones are based on similarities in climate, vegetation and physiography. The forests in these zones have adapted over hundred of years to environmentally similar conditions. Seedlings perform better within their original breeding zone as compared to seedlings planted outside their breeding zone. In 2007/08, 100% of Tembec's planting stock originated from the same breeding zone as outlined in Table 17.

Black Spruce seedling ready for planting grown at Pineland Nursery.



(Source: Manitoba Conservation, 2006)

Figure 17 Breeding Zones by Species.

Target 1.3.1.1.2 Maintain an average of 3-5% of the harvest block area in various configurations of clumps & single trees, with emphasis on the maintenance of clumps.

Average Harvest Residual Structure maintained was 8.4% for October 2006 to September 2007 as summarized in Target 1.1.5.1.1 on page 16.

Indicator 1.3.1.2 Utilization of commercial tree genetic material in tree propagation for FML 01.

Target 1.3.1.2.1 100% compliance with provincial MC Tree Improvement Program.

A joint Tembec/Manitoba Conservation tree improvement program was initiated in 1989 to provide a consistent source of black spruce seed for planting stock. Black spruce seeds were collected from 450 trees that exhibited desirable genetic traits such as good form and free of diseases. These trees were selected from over the entire breeding zone to ensure a wide range of genetic variability. Seedlings were planted on three family test sites across the breeding zone and in a seed-producing orchard. Assessment of the three family sites provides direction for thinning the seed orchard to provide the best growing traits from across the breeding zone. Due to a poor cone crop from the Black Spruce seed orchard, there was no improved seed source available for 2008. all seedlings were grown from the mass collection seed source. Forest renewal activities were 100% compliant with provincial Manitoba Conservation Tree Improvement Program, as outlined in Table 18.

Table 18 Seed source of planting stock (Thousands (000) Seedlings).

Year	Tree Improvement Seed Source		Mass Collected Seed Source	
	Seedling (Thousands) (000)	% of Planting Stock	Seedling (Thousands) (000)	% of Planting Stock
2003	299	23%	1,013	77%
2004	0	0%	1,160	100%
2005	746	64%	423	36%
2006	745	59%	506	41%
2007	784	64%	445	36%
2008	0	0%	1,247	100%

(Source: Tembec 2008)

Manitoba Conservation Tree Improvement Program Black Spruce Test Site.

Indicator 1.3.1.3 Distribution of commercial tree establishment from provincial tree improvement sources, natural seed collection within seed zone and regeneration from local site seed source.

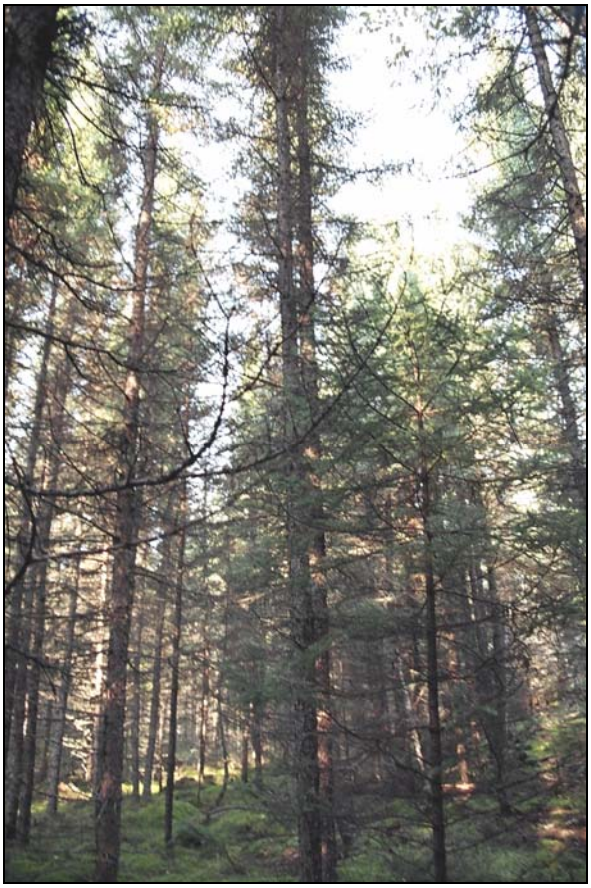
Target 1.3.1.3.1 Natural regeneration >50% and Assisted Regeneration <50%

Natural regeneration is the preferred reforestation method; however with certain species on particular sites, planting may be required to ensure prompt regeneration, which is referred to as assisted regeneration. Sites that do not seed in well typically have rich heavy soils and have a lot of competing vegetation impeding seed germination and seedling growth. Only native species are planted and on average Tembec plants 1.2 million seedlings annually.

Natural Jack Pine Regeneration Resulting from In-block delimbing

The following activities are done to promote natural regeneration.

1. Variable retention clear cutting is the preferred method of harvesting as this opens the area to provide direct sunlight for species such as jack pine and black spruce to germinate and grow. Selective cutting is avoided as this tends to promote balsam fir regeneration and shades out pine and spruce germination.
2. Patches of standing timber are left in cutblocks, providing a continual source of seed. Patches vary in size and are scattered randomly throughout the block.
3. All delimbing and topping is done in the harvest area and not at roadside. This ensures cones are left on site and the limbs become a source of nutrients as they decompose.
4. Some sites are scarified to help break up slash and expose soil for seeds to germinate in.



Spruce forest that was clearcut in 1957 and left to regenerate naturally.

Table 19 Renewal of Harvest Areas Summary.

		2003	2004	2005	2006	2007	Spring 2008*
Harvest Area (ha)		1360	1360	1408	1549	1039	764
Natural Regeneration	**Percent**	45%	61%	40%	45%	49%	73%
	Area (ha)	612	-827	571	701	507	556
Assisted Regeneration (tree improvement seeds)	**Percent**	8%	21%	36%	27%	4%	0%
	Area (ha)	107	281	507	425	42	0
Assisted Regeneration (mass collected seeds)	**Percent**	47%	18%	24%	28%	47%	27%
	Area (ha)	641	252	330	423	490	208

* Numbers are current as of spring 2008. Numbers will change as planting activities will be ongoing in 2008 on some of these areas. These changes will be reflected in next years Criteria & Indicator Monitoring Results

(Source: Tembec 2008)

CRITERION 2 ECOSYSTEM CONDITION & PRODUCTIVITY

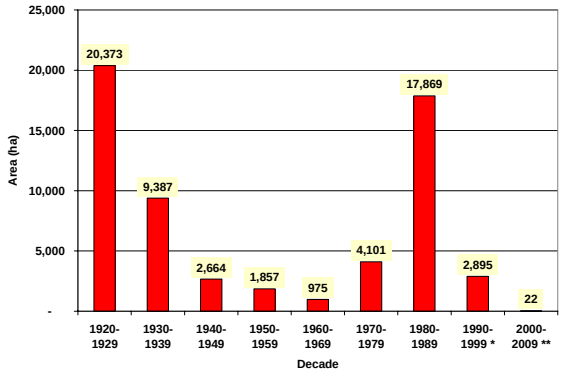
VALUE 2.1 STABILITY, RESILIENCE AND RATES OF BIOLOGICAL PRODUCTION

Goal 2.1.1 Reduce losses of forest productivity due to fires, insects and diseases while recognizing that these natural processes have and will continue to influence the ecosystem processes of FML 01.

Indicator 2.1.1.1 Average area of productive forest depleted through forest fire.

Target 2.1.1.1.1 Report on the average area of productive forest depleted through forest fires.

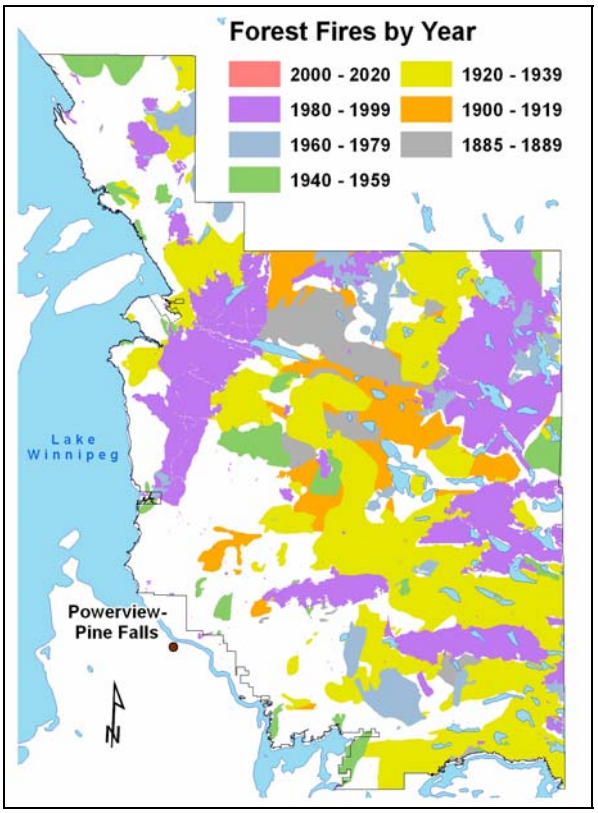
Forest fires are the predominant forest disturbance in the FML as shown in Figure 19. The 1920's, 1930's and 1980's had the highest fire-caused losses, measuring as much as hundreds of thousands of hectares (Table 20).



(Source: Manitoba Conservation, 2008)

Figure 18 Average Area Lost due to Forest Fires by Decade.

As outlined in Table 20, the average annual fire loss this decade (9 years to date) has only been 22 hectares or 0.004% of the total productive area (592,362 ha) of the FML.



(Source: Manitoba Conservation, 2008)

Figure 19 Forest Fire History (1885 – 2008).

Table 20 Annual Productive Hectares Lost to Fire.

Decade	Total Hectares Lost	Average Annual Hectare Loss	Total Productive Hectares Lost	Average Annual Productive Hectares Lost
1920-1929	203,726	20,373	Not available	Not available
1930-1939	93,868	9,387	Not available	Not available
1940-1949	26,635	2,664	Not available	Not available
1950-1959	18,568	1,857	Not available	Not available
1960-1969	9,753	975	Not available	Not available
1970-1979	41,011	4,101	Not available	Not available
1980-1989	178,692	17,869	Not available	Not available
1990-1999 *	28,954	2,895	22,048	3,150
2000-2009 **	195	22	132	15
Total	**601,402**	**60,143**	**22,180**	**1,386**

* 7 year average for Total Productive Hectares Lost and Average Annual Productive Hectares Lost only

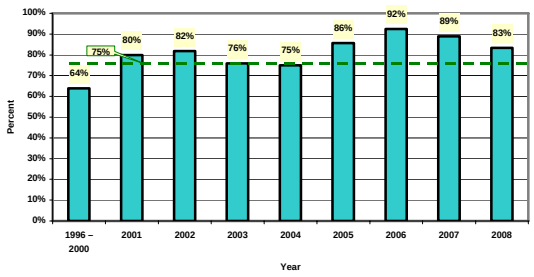
** 9 years only (i.e. 2000-2008)

(Source: Manitoba Conservation- Forestry Branch, 2008)

Indicator 2.1.1.2 Manitoba Conservation fire detection and suppression success.

Target 2.1.1.2.1 Greater than 75 % of fires detected at less than 0.5 hectares.

As a result of the high fire losses in the 1980's, Manitoba Conservation has implemented a program that directs forest fire detection based on fire hazard conditions. Manitoba Conservation Forest Fire Program's goal is to detect forest fires while they are very small, thus making control and suppression easier. Figure 20 and Table 21 shows that since 2001 at least 75% of forest fires were detected at less than 0.5 hectares in size.



(Source: Manitoba Conservation, IRMT Lac du Bonnet, 2008)

Figure 20 Percent of Fires Detected at less than 0.5 hectares by Year.

Table 21 Forest Fire Detection and Suppression Statistics.

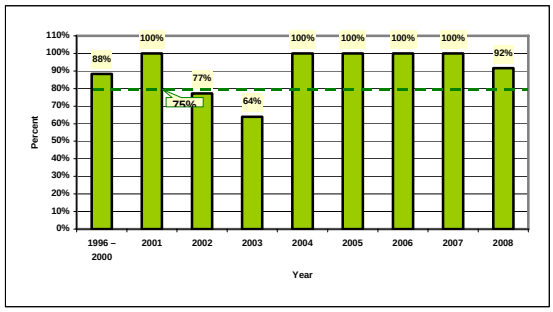
Year	Total Fires	Detected <0.5%	Percent Detected <0.5 Ha	Under Control 1st Burn Period	Percent Under Control
1996 – 2000	**94**	**60**	**64%**	**83**	**88%**
2001	10	8	80%	10	100%
2002	44	36	82%	34	77%
2003	25	19	76%	16	64%
2004	8	6	75%	8	100%
2005	7	6	86%	7	100%
2001 – 2005	**94**	**75**	**80%**	**75**	**80%**
2006	66	61	92%	66	100%
2007	9	8	89%	9	100%
2008	12	10	83%	11	92%
Total	**275**	**214**	**78%**	**244**	**89%**

(Source: Manitoba Conservation, IRMT Lac du Bonnet, 2008)

1989 Fire Along PTH 304

Target 2.1.1.2.2 Great than 75% of fires suppressed within the first burning period.

Also, as a result of the large 1980's, Manitoba Conservation put greater focus on initial attack preparedness and suppression. Manitoba Conservation Forest Fire Program's goal is also to have all forest fires under control within the first burning period as defined by Manitoba Conservation (approximately the first 24 hour period following detection of a forest fire), thus reducing the potential of huge fire losses. Figure 21 and Table 21 shows that over 75% of the forest fires were considered under control in the first burn period except 2003.



(Source: Manitoba Conservation, IRMT Lac du Bonnet, 2008)

Figure 21 Percent of Fires Under Control within the First Burn Period by Year.

Manitoba Conservation Monitors Lighting Strikes to assist in Forest Fire Detection and Control.

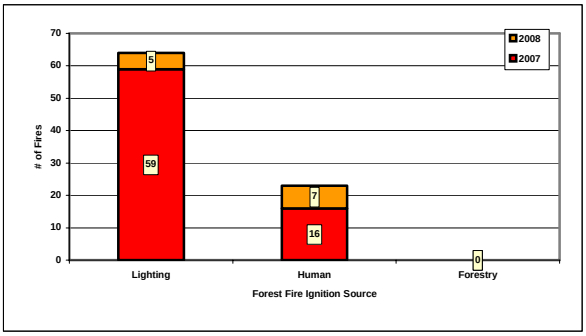
Indicator 2.1.1.3 Source of Forest Fire ignition.

Target 2.1.1.3.1 Report on sources of ignition.

Forest Fires are caused primarily by people and lightning. To reduce the amount of area burnt by forest fires, Manitoba Conservation carefully monitors lightning strikes and regularly teaches people how to prevent forest fires. Figure 22 shows the cumulative ignition causes for forest fires on the FML

(Source: Manitoba Conservation, IRMT Lac du Bonnet, 2008)

Figure 22 Forest Fire Ignition Source.



Target 2.1.1.3.2 No Forest Fires as a result of Forestry Operations.

Tembec works hard to prevent forest fires caused by their operations. They require all their contractors to have fire extinguishers and appropriate fire suppression equipment (water pumps, packs, hoses and tanks) during the fire season. Tembec also monitors the fire hazard and will reduce or shut down its forestry operations when the danger is to high. No forest fires were started in 2008 as a result of forestry operations on the FML, as depicted in Figure 22.

"NO" Forest Fires were started by Tembec's Forest Operations in 2008

Indicator 2.1.1.4 Status of Insect Infestations and Diseases.

Target 2.1.1.4.1 Report by severity class, on the area affected.

The spruce budworm, is the most destructive and widely distributed forest defoliator in North America. The destructive phase of this pest is

the larval or caterpillar stage. Massive budworm outbreaks occur periodically, destroying hundreds of thousands of hectares of valuable fir and spruce forests. In Manitoba, the budworm feeds primarily on white spruce and balsam fir, and, less frequently, on black spruce.

Defoliation Classes

Light

- up to 35% defoliation of current shoots
- based on <40 egg masses per 10 m^2 of branch area

Moderate

- 35% to 70% defoliation of current shoots
- based on 40 to 185 egg masses per 10 m^2 of branch area

Severe

- greater than 70% defoliation of current shoots and possible feeding on old foliage
- based on >185 egg masses per 10 m^2 of branch area

In 2008, the spruce budworm aerial defoliation survey was carried out on July 21 and 22 in FML 01. No spruce budworm defoliation was detected from this aerial survey, indication a continued decline in the budworm population (330 ha of defoliation were mapped in 2007). The results from the egg mass survey (Table 22) predict nil to light defoliation in 2009 throughout FML 01. Spruce budworm pheromone traps were placed at nine locations within FML 01. The mean moth capture per trap in 2008 (nine sample locations) was 60, which is a 71% decrease over the 214 moths/trap captured in 2007.

Table 22 2008 Defoliation and 2009 Predictions.

Location	2008 Defoliation	2008 Egg Mass/10m2	2009 Defoliation Prediction
Bird Lake	Light	0	Light
Maskwa River	Light	8	Light
O'Hanley River	Moderate	0	Light
Duncan Creek	Light	0	Light
Rice River Road	Light	0	Light

(Source: Manitoba Conservation, Forest Health, 2008)

Indicator 2.1.1.5 Areas recommended for treatment from Manitoba Conservation Insect and Disease Surveys.

Target 2.1.1.5.1 100% treatment of all recommended areas by Manitoba Conservation.

Various insecticides are used against the spruce budworm to protect valuable spruce and fir trees. Large-scale chemical and biological control operations are carried out aerially in various parts of Canada to reduce tree mortality.

In 2008, there was no need to conduct an aerial insecticide application for spruce budworm control in FML 01.

Spruce Budworm larval or caterpillar. This the most destructive stage.

Spruce Budworm Defoliation.

Laval feed on the buds and new shoots of Balsam Fir, White Spruce, and Black Spruce, and after a few years of server defoliation will kill the tree.

Table 23 Spruce Budworm Infestation and Treatment.

Location	Description
Booster / Shatford Lake	Immature wood was sprayed. Infestation declining beginning in 2003. Part of area identified as part of next long term plan
Black River	586 ha sprayed in 2007.
Garner / Gem Lakes	Salvage harvest conducted
Happy Lake	Salvage harvest conducted
Hay Bay	In 2007, 675 ha of immature wood was sprayed for protection. No salvage operations planned. Infestation levels declined beginning in 1999.
Long Lake North	Located around cottage subdivision. Infestation levels declined beginning in 1999. No salvage operations planned
Manigotagan River / Hollow Water First Nation / Lake Winnipeg East Road	Spraying recommended but not conducted due to community concerns. Salvage operations will have to be addressed through joint planning with the Hollow Water TAAC. In 2007, 880 ha were sprayed south of the Manigotagan River.
Manigotagan River	The area is contained within Manigotagan River Park Reserve. The area is closed to timber harvesting. Infestation levels declined beginning in 1999
Maskwa River / Little Bear Cr.	1,846 ha sprayed in 2007.
Observation Point	Identified as Area of Special Interest for protected area program. No salvage operation planned. Infestation levels declined beginning in 2002
O'Hanley River	In 2007, 2,880 ha of immature and mature area sprayed for salvage harvest protection. Defoliation declined in 2007 following severe years in 2005 and 2006.
Quesnel / Turtle Lake	Within experimental harvest area proposed for Owl Lake caribou herd
Quesnel Lake North	Salvage operation began in 2004. Infestation levels declined beginning in 1999
Rice / Horseshoe Lakes	Salvage operations ongoing. Infestation level declined in 2000

(Source: Manitoba Conservation, Forest Health, 2008)

Indicator 2.1.1.6 Level of productive forest salvage harvested in fire, insect, and disease affected areas

Target 2.1.1.6.1 Report on areas salvaged and percent of the affected area.

Manitoba Conservation often encourages salvage harvest as a method of treatment for insect and disease infestations. Harvesting these areas can reduce the speed of the infestation spread as well as reduce the forest fire risk associated infestations which cause large areas of tree mortality. Salvage harvest operations, in a Spruce Budworm infestation near Black River, commenced in 2006. The 2008 salvage harvest operations accounted for 22% of the harvest volume.

Table 24 Percent of Harvest for Salvage Areas

Salvage Type	2008
Fire	0%
Insect (Spruce Budworm)	22%
Disease	0%

(Source: Tembec, 2008)

Balsam Fir Mortality Following Several Years of Severe Defoliation

Goal 2.1.2 Renewal of harvested areas such that regeneration and on-going stand dynamics and growth results in new forest stands with stand composition within the range of that expected from natural disturbance when considered across the range of harvested and renewed sites.

Indicator 2.1.2.1 Harvested area successfully reforested and certified as achieving site renewal objectives at 7 year regeneration survey.

Target 2.1.2.1.1 100% of harvested areas successfully regenerated.

All harvest blocks on the FML are surveyed seven years after harvest to ensure they meet standards established by Manitoba Conservation for reforestation. Standards are based on the amount of regeneration, expressed as a percentage that is required to ensure forest development. Harvest blocks meeting the standard are SR (satisfactorily regenerated) and eligible for certification. Blocks not achieving the standard are NSR (not satisfactorily regenerated) and will usually require some follow-up treatment such as planting to achieve SR status.

In 2008, 917 hectares achieved provincial regeneration standards. One area (8 hectares) that did not pass the standard was located in the 1999 Black River Fire. A refill plant was done in 2008 to increase stocking.

Table 25 Regeneration Survey Summary.

Regen Year	Surveyed (ha)	Total Standard Achieved (SR) (ha)	Total NSR (ha)
2000	1,813	1,813	0
2001	298	298	0
2002	3,944	3,815	129
2003	1,859	1,859	0
2004	1,710	1,710	0
2005	1,232	1,161	70
2006	0	0	0
2007	907	777	130
2008	925	917	8

(Source: Tembec, 2008)

Indicator 2.1.2.2 Harvested area successfully reforested and certified as achieving site renewal objectives at 14 year FTG survey.

Target 2.1.2.2.1 100% of harvested areas successfully classified as FTG.

Free–to-grow surveys are conducted fourteen years after harvest and are a follow-up to the regeneration survey. The survey focuses on sapling growth, performance and amount of competing vegetation present on site that can potentially impact on sapling performance. The free-to-grow survey protocol is relatively new and several issues have been raised by Tembec. Manitoba Conservation has established a committee to review the free-to-grow procedures and standards. Table 26 summarizes the regeneration survey results since 2003.

FTG Year	Surveyed (ha)	FTG Achieved (ha)	NFTG, Mixedwood, Hardwood (ha)	Regen (ha)	NSR (ha)
2003	1,515	1,137	378	0	0
2004	2,696	1,978	518	11	189
2005	1,454	900	161	297	96
2006	1939	1841	0	49	49
2007	1342	1067	182	20	73
2008	Cancelled	N/A	N/A	N/A	N/A

Table 26 FTG Survey Summary.

(Source: Tembec, 2008)

Black spruce sapling being assessed for Free to Grow Survey (14 year after harvest).

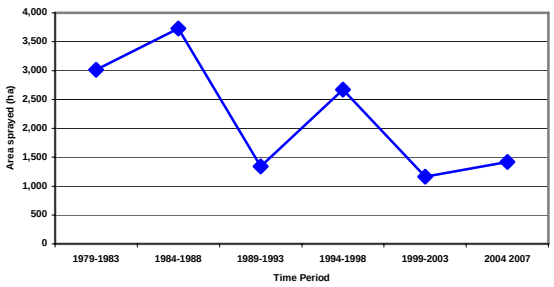
Indicator 2.1.2.3 Sensible use of herbicides to maintain forest stand composition within the natural range of variation.

Target 2.1.2.3.1 Report on herbicide use application type (site prep, release, aerial, and ground), area treated, average volume per hectare, and total volume by year.

Following harvest there may be some ingress of shrubs and aspen, which were not present in the existing stand. If the amount of shrubs and aspen gets too high it can impact on seedling survival and growth, resulting in a different forest stand composition from the original stand. To prevent this from happening Tembec carries out vegetation control using glyphosate herbicide to suppress competing vegetation on the site. The herbicide can be applied from the ground using a mechanical sprayer or backpack sprayer. Spraying can also be done from the air using a helicopter.

Table 27 Herbicide Spraying.

Year	Area sprayed (ha)		Volume litres
	Ground	Aerial	
2004	310	0	910
2005	345	0	938
2006	275	0	1025
2007	250	0	820
2008	240	0	600



(Source Tembec 2008)

Figure 23 Area Herbicide Sprayed since 1979.

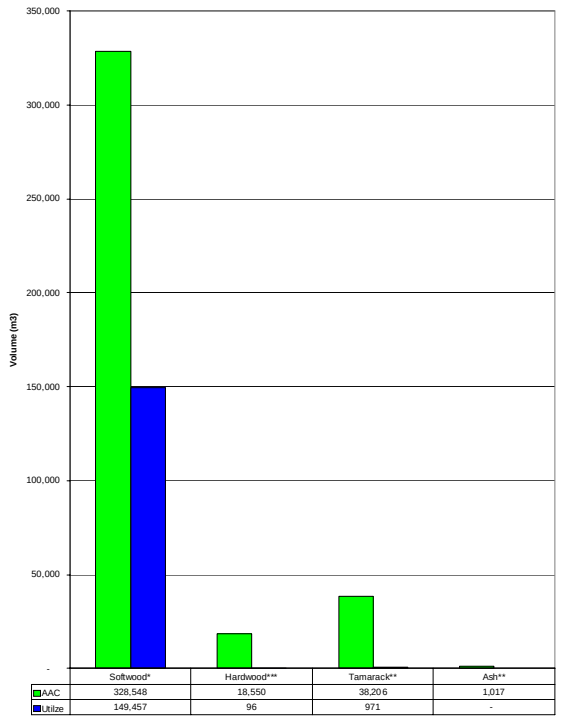
Goal 2.1.3 Maintain and/or enhance productivity of Forest Types and age classes.

Indicator 2.1.3.1 Actual harvest level compared to the determined sustainable timber harvest level.

Target 2.1.3.1.1 Ensure that the actual timber harvest volume does not exceed the sustainable harvest volume determined or approved by Manitoba Conservation through Wood Supply Modeling.

The volume of wood that can be sustainably harvested each year from an area such as the FML is known as the Annual Allowable Cut (AAC). If you expressed the AAC in economic terms, you could compare it to interest from a bank account. If you were to withdraw only the interest from your bank account, the principal or bank balance would never go down.

The AAC calculation is based on the same principle. In simple terms, the AAC is equal to the amount of wood that the forest can grow each year. By ensuring that the AAC is not exceeded, a similar volume of wood will be available for harvest each and every year. In Manitoba, the AAC is calculated by Manitoba Conservation and provided to the license holder. In 2006 a new AAC number was approved by Manitoba Conservation based on their 2006 Wood Supply Analysis for FML 01. The softwood AAC level has been reduced further based on Tembec analysis in the Interim 2006 – 2008 Forest Stewardship Plan. Figure 24 shows the portion of the sustainable harvest level that was used in 2008.



(Source: Tembec, 2008)

Figure 24 2008 AAC Utilization by Species.

Indicator 2.1.3.2 Predicted and Actual Harvest Volume per Hectare

Target 2.1.3.2.1 Report Predicted and Actual Harvest Volume per Hectare by Operating Area.

To better understand harvest stand volume productivity, harvest comparisons are conducted. Table 28, shows the predicted and actual average softwood volumes per hectare. Manitoba Conservation's (MC) Yield Curves and Tembec Pre Harvest Assessment are used to predicted harvest volumes for the planning process, where Tembec's volume scales are used to determine the actual harvest volume pre hectare. The determination of the anticipated and actual volume per hectare are all based on the actual harvest areas, delineated from the harvest update photos, not the planned harvest area.

Table 28 Predicted and Actual Harvest Volume per Hectare by Operating Area.

Operating Area	Average Softwood Volume (m3 / ha)		
	MC Yield Curve	Pre-Harvest Survey	Harvested Volume
Birch Point *	47	89	112
Owl Lake	80	128	140
Average	**63**	**109**	**126**

* Birch Point Area is a Spruce Budworm Salvage area and thus not surveyed to the level as typical operating areas

(Source: Manitoba Conservation, FRI Yield Curves, 2006 & Tembec, 2007)

Harvested volumes, shown in Table 28, were considerably greater than the Pre-harvest Survey volume estimate at Birch Point and significantly greater than the Manitoba Conservation Yield Curves for both operating areas. The discrepancy at Birch Point for the Pre-harvest surveys can be attributed a softwood volume per hectare estimate average from both softwood and hardwood leading stands. The actual harvest by-passes the hardwood leading stands as there was no market available for the hardwood species. This resulted in an average yield per hectare which was underestimated when applied to only softwood leading stands. Part of the under estimate of the Manitoba Conservation Yield curves can be attributed to the fact that 12 percent of the volume harvested for both operating areas came from ground that was classified as non-productive, which does not forecast any volume yield per hectare. The Manitoba Conservation Yield Curves are also averaged over the entire FML area resulting in a potentially lower volume per hectare. The Birch Point operating area is also classified as being a younger age than is actually the case, which results in a large underestimate of volume per hectare.

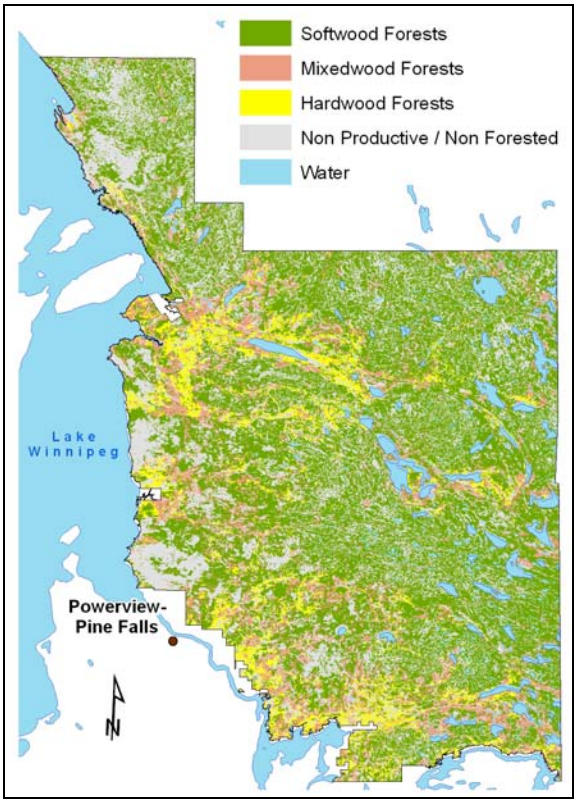
Indicator 2.1.3.3 Status of Forest Productivity for FML 01.

Target 2.1.3.3.1 Report on the land classification for current Forest Inventory.

(Summarized every 5 year, initial 2006 next 2011)

Manitoba Conservation (MC) Forest Branch develops and maintains the Forest Resource Inventory (FRI) for FML 01. The most recent inventory is based on aerial photography which was flown in 1997. Figure 25 show the Forest Land Classification for the FML, based on the 1997 FRI. This FRI is provided to Tembec to allow for planning of forest management

activities and tracking of harvest depletions, road development activities and forest renewal. The forest inventory also provides the basis for the assessment of forest sustainability in terms of both timber and non-timber values.



(Source: Manitoba Conservation FRI, 1997)

Figure 25 Forest Land Classification.

2/3rds of the FML is Productive Forest

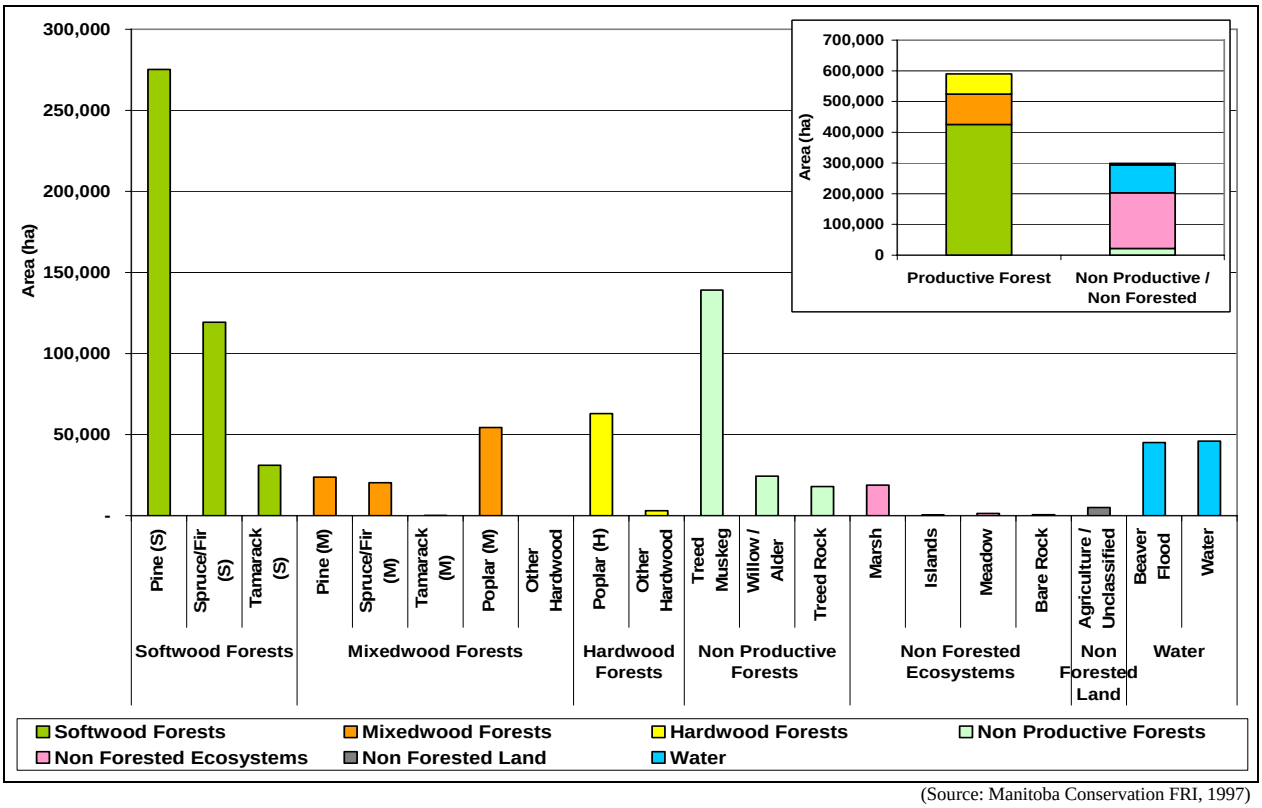
Based on this inventory, approximately 2/3rds of the FML has productive forests, as outline in Table 29 and Figure 26, with a majority of the forests being softwood leading. The majority of the forests are pine leading, followed by spruce as depicted in Figure 26.

Jack Pine and Black Spruce are the primary tree species found within the FML's forest.

Table 29 Forest Land Classification Summary.

Landscape Type		Stand Type	Total	%
Productive Forest	Softwood Forests	Pine (S)	275,187	31.0%
		Spruce/Fir (S)	119,301	13.4%
		Tamarack (S)	31,118	3.5%
		SubTotal	**425,605**	**47.9%**
	Mixedwood Forests	Pine (M)	23,761	2.7%
		Spruce/Fir (M)	20,320	2.3%
		Tamarack (M)	73	0.0%
		Poplar (M)	54,307	6.1%
		Other Hardwood (M)	41	0.0%
		SubTotal	**98,501**	**11.1%**
	Hardwood Forests	Poplar (H)	62,940	7.1%
		Other Hardwood (H)	3,049	0.3%
		SubTotal	**65,989**	**7.4%**
	Productive Forest Subtotal		**590,095**	**66.4%**
Non Productive Forest	Non Productive Forests	Treed Muskeg	139,099	15.6%
		Willow / Alder	24,358	2.7%
		Treed Rock	18,050	2.0%
		SubTotal	**181,507**	**20.4%**
	Non Forested Ecosystems	Marsh	18,807	2.1%
		Islands	499	0.1%
		Meadow	1,307	0.1%
		Bare Rock	578	0.1%
		SubTotal	**21,191**	**2.4%**
	Non Forested Land	Agriculture / Unclassified	5,048	0.6%
		SubTotal	**5,048**	**0.6%**
	Water	Beaver Flood	45,090	5.1%
		Water	45,915	5.2%
		SubTotal	**91,005**	**10.2%**
	Non Productive Forest Subtotal		**298,751**	**33.6%**
Grand Total			**888,846**	**100.0%**

(Source: Manitoba Conservation FRI, 1997)



(Source: Manitoba Conservation FRI, 1997)

Figure 26 Forest Resource Inventory Land Classification Breakdown for FML 01.

CRITERION 3 SOIL AND WATER

VALUE 3.1 QUANTITY AND QUALITY OF SOIL AND WATER

Goal 3.1.1 Minimize loss of gross productive forest land as a result of Tembec operations.

Indicator 3.1.1.1 Loss of gross productive forest land base.

Target 3.1.1.1.1 Loss of gross productive forest land base not to exceed 0.58 km/km^2 of each watershed due to conversion of land to Tembec forest access roads.

There were no watersheds in FML 01, which exceeded the target road density of 0.58 km/km2. Complete data by watershed is provided summarized in Target 1.1.3.3.1 (Page 12).

Goal 3.1.2 Maintain soil productivity within forest operating areas where forest harvesting, renewal and temporary (Class 3 in-block roads) access development have occurred.

Indicator 3.1.2.1 Harvested sites with significant soil compaction, rutting or displacement.

Target 3.1.2.1.1 No incidence of sites assessed where rutting was not kept to a minimum.

Sustainable forestry requires continued soil health and productivity. Severe rutting can negatively impact water drainage, reforestation, and tree growth rates. Although some degree of rutting will occur, contractors are directed to minimize rutting as much as possible by restricting travel to skid trails, forwarding trails and landings. Tembec takes care to schedule operations of soft/wet areas for frozen conditions, and directs contractors through the EMS Work Instruction (WDS-WI-008 – Minimizing Soil Disturbance / Rutting), that if rutting starts to occurs to move to harder ground or stop operations. Tembec through their Environmental Audits assess each operation annually for excessive rutting / soil compaction.

Table 30 summarizes the 2008 Environmental Audit finding for excessive rutting. There was one instances of excessive rutting identified on a skid trail in 2008.

Table 30 Harvested Sites Assessed with No Signification Soil Compaction.

No Significant Soil Compaction	2006	2007	2008
# of Sites Audited	15	12	15
# of Sites with no Significant Soil Compaction	14	12	14
% of Audited Sites in Compliance	93%	100%	93%

(Source: Tembec, 2008)

Indicator 3.1.2.2 Harvested areas successfully reforested and certified as achieving site renewal objectives at 7-year regeneration survey.

Target 3.1.2.2.1 100% of sites successfully regenerated within cutblocks including all Class 3 in-block roads and landings.

In blocks roads that are no longer in use are decommissioned and reforested. Winter swamp roads are left to seed in naturally while upland roads are planted with jack pine. Road may also be scarified or have slash and debris spread onto it to prevent vehicles from using them.

Decommissioned road planted with Jack Pine.

Refer to target 2.1.2.1.1 for regen survey results, which incorporates regen success of roads and landings.

Indicator 3.1.2.3 Percentage of potentially erodable sites treated according to Environmental Management System procedures.

Target 3.1.2.3.1 100% of potentially erodable sites treated according to Environmental Management System procedures for harvesting, forest renewal and road construction.

Sensitive sites requiring erosion protection are identified in Annual Operating Plans. All contractors prior to starting their operations are given maps of these areas and are briefed on how to treat these sites. Table 31 shows the sensitive sites requiring erosion protection identified through pre-harvest survey, spatial database, and community joint planning for the 2006 Annual Plan and assessment results.

Table 31 Sensitive Sites Requiring Erosion Protection.

Erodable Sites	
# of Sites Identified in 2007/08 AORP	3
# of Sites Harvested Near during 2007/08 Fiscal Period	0
# of Sites Audited	0
% of Sites Audited	N/A
% of Sites in Compliance	N/A

(Source: Tembec 2008)

Indicator 3.1.2.4 Retention of soil nutrient sources on site in the form of tree limbs and tops left from logging activity.

Target 3.1.2.4.1 All (100%) logging slash including tree limbs and tops to be distributed across cutover areas.

Valuable nutrients for the new forest are contained in the branches and tops of the trees. Spreading this cone bearing slash out in the cutover assists regeneration and tree growth. Tembec assesses compliance to the Delimbing policy during their Environmental Audit of each forest harvesting operation to ensure limbs and tops are sufficiently spread across the harvest block. Operators are made aware if slash is not adequately spread out and required to adjust there harvesting practices appropriately. Table 32 outlines the audit finding for 2008.

Proper Slash Distribution

Table 32 Harvested Sites Assessed with Proper Slash Distribution.

Proper Logging Slash Distribution	2006	2007	2008
# of Sites Audited	15	12	14
# of Sites with Proper Logging Slash Distribution	15	12	13
% of Audited Sites in Compliance	100%	100%	93%

(Source: Tembec, 2008)

Goal 3.1.3 Prevent long-term alterations to surface water and drainage patterns in wetland ecosystems.

Indicator 3.1.3.1 Areas significantly disturbed as a result of increases / decreases in water levels.

Target 3.1.3.1.1 Monitor and report on water level variances as result of road construction on wet organic sites.

Changes in subsurface flow of water can be dramatically altered as a result of the improper construction of roads over organic soil sites (such as peatlands). Roads with insufficient cross drainage culverts may impede the natural subsurface flow of water in peatlands, causing flooding of vegetation on one side of the road and drying out of soils on the other side. This readily observable when flooded trees die on one side of the road and improved tree growth occurs on the other side.

While this phenomena has been observed elsewhere in Canada, the extent on FML 01 is largely unknown. The Manitoba Model Forest will initiate in their five year plan a research project to study the impacts of road construction on wet, organic soil sites by installing a series of shallow, water level monitoring wells at a study site. Water level will be recorded in a peatland, before and after road construction, using shallow well shafts containing data loggers fitted with pressure transducers. Hourly water level data will be collected for 2 years and downloaded seasonally to a computer for analysis.

Goal 3.1.4 Maintain water quality in forested watersheds.

Indicator 3.1.4.1 Exposure of ground surface adjacent to water bodies which could result in impairment of water quality.

Target 3.1.4.1.1 100% compliance to ground disturbance guidelines (e.g. buffer and stream crossing guidelines).

Tembec, through the Annual Operating and Renewal Plan process, take great care to manage the forest in a sustainable manner and prescribes buffer areas where operating can not occur to help protect waterways, heritage sites, cabins or any other important sites. Contractors are shown, during their pre-work review, the location of these buffer. These areas are depicted on their planning maps and GPS's and important sites such as watercourse buffers are flagged. All operations are supervised and are assessed during the Environmental Audit to ensure these areas are in compliance. Table 33 shows the finding for 2008.

Table 33 Compliance to Buffer and Stream Crossing Guidelines.

Compliance to Buffer & Stream Crossing Guidelines	2006	2007	2008
# of Sites Audited	15	12	14
# of Sites in Compliance to Buffer & Stream Crossing Guidelines	14	12	14
% of Audited Sites in Compliance	93%	100%	100%

(Source: Tembec, 2008)

Water Course Riparian Buffer

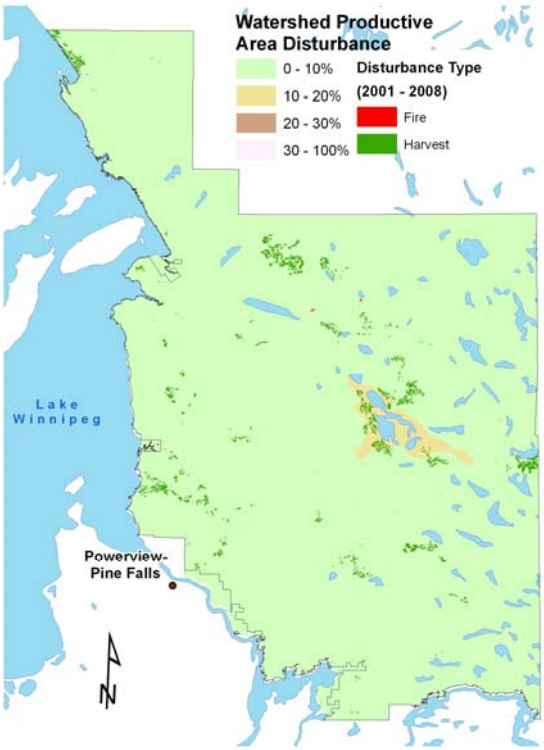
Indicator 3.1.4.2 Percent of gross productive forest area in recently disturbed condition (within 7 years of harvest and/or fire) (i.e. harvested and / or burned).

Target 3.1.4.2.1 Not more than 30% of the gross productive forest area within a watershed to be in a "recently disturbed" condition at any time.

Disturbance in a watershed, whether caused by fire or forestry activities, may have an impact on water quality. Based on research conducted in Eastern Canadian boreal forests, it was determined that there were no negative water quality impacts below the 30% level of disturbance. Tembec adopted the 30% rule and is currently conducting research, through the Manitoba Model Forest, to confirm or revise this target. Any combination of forest fires and harvesting areas less than seven years old (same time period as Regeneration Surveys) that exceeds the 30% threshold would require harvesting to be postponed. Harvesting could resume when the addition of the planned harvest area resulted in a disturbance factor less than 30%.

Bloodvien River Watershed

The same watershed boundaries were used as the road density target (Target 1.1.3.1.1, Page 12), to assess productive area disturbance. These watersheds, range from tens to hundreds of square kilometers. Watersheds developed by The Prairie Farm Rehabilitation Administration (PFRA) and slightly modified by Tembec (Figure 27) were used to access productive area disturbance, starting in 2006 rather then the watershed developed by Department of Fisheries and Oceans (DFO) used in pervious reports.



(Source: PFRA, 2004 & Tembec, 2008)

Figure 27 Percentage of Disturbance per Watershed.

Figure 27 show the past 7 years (2001-2008) of fire and harvest disturbance, and associated current percentage of disturbance per watershed.

The current level of disturbance due to both fires and harvesting for the entire FML area is 1.7%

All of the watersheds in the FML have very little recent disturbance and are therefore at the lower end of the watershed disturbance classification. Only one watershed is over 10% disturbed as shown in Figure 27 and Table 34, the remainder are in the 0 to 10 % disturbance class.

Table 34 Productive Area Disturbance per Watershed for FML 01.

Minor Watershed Name	Total Area (ha)	Total Producitve Area (ha)	Productive Area Disturbed by Fire (ha)	Productive Area Disturbed by Harvest (ha)	Total Productive Area Disturbed (ha)	Percent Disturbed	Productive Area Remaining within 30% target (ha)
Manigotagan - Quesnel Lakes	17,382	10,072	1	1,191	1,192	11.8%	1,830
Ross River	10,264	6,893	0	589	589	8.5%	1,479
Lake Winnipeg Shoreline - Loon Straits	25,624	11,928	8	705	713	6.0%	2,865
Lake Winnipeg Shoreline - Black River	19,542	9,901	3	296	299	3.0%	2,671
Lower Beaver Creek	29,330	21,527	21	760	781	3.6%	5,677
Lake Winnipeg Shoreline - Traverse Bay	34,117	18,748	2	1,240	1,242	6.6%	4,383
Upper Manigotagan River	25,879	18,546	1	685	686	3.7%	4,877
English Brook	27,916	19,286	1	1,022	1,023	5.3%	4,763
Moose Creek	17,755	12,428	1	547	549	4.4%	3,180
Gold Creek	12,387	8,147	2	236	238	2.9%	2,206
Lower Sandy River	16,701	12,734		49	49	0.4%	3,771
Mid Wanipigow River	23,206	17,444	27	413	440	2.5%	4,793
Moose River	22,517	15,011	1	376	377	2.5%	4,126
Peterson Creek	15,207	10,637	1	117	117	1.1%	3,074
Garner Lake	26,639	18,590	3	141	144	0.8%	5,434
Lake Winnipeg Shoreline - Observation Point	20,600	14,612	1	166	168	1.1%	4,216
Upper Maskwa River	37,046	26,752	5	322	327	1.2%	7,699
Lower Manigotagan River	34,201	24,010	5	236	241	1.0%	6,962
Lee River	12,734	7,545	5	47	52	0.7%	2,212
Cat Creek	10,535	7,849	1	72	73	0.9%	2,282
Pine Creek	20,333	13,303	2	100	101	0.8%	3,889
O'Hanley River	33,504	23,079	35	207	242	1.0%	6,682
Lower Black River	43,151	30,328	15	130	145	0.5%	8,954
Upper Sandy River	17,878	12,426	1	68	69	0.6%	3,659
Lower Wanipigow River	17,446	10,488	2	9	10	0.1%	3,136
Lower Bird River	22,097	15,218	8	14	22	0.1%	4,543
Lower Maskwa River	21,509	12,618	4	13	17	0.1%	3,768
Lake Winnipeg Shoreline - Black Island	29,153	14,778	0	20	20	0.1%	4,414
Lac Du Bonnet	12,992	9,574		6	6	0.1%	2,866
Lower Bloodvein River	19,341	11,278	5		5	0.0%	3,378
Broadleaf River	14,898	8,988	1		1	0.0%	2,695
Upper Black River	30,894	20,734	3		3	0.0%	6,217
Coca Cola Creek	24,745	16,380	1		1	0.0%	4,913
Point Du Bois - Ryerson Lake	12,861	9,811			-	0.0%	2,943
Upper Bird River	11,995	8,302	1		1	0.0%	2,490
Upper Beaver Creek	23,179	14,483	0		0	0.0%	4,345
Upper Wanipigow River	17,407	11,433	0		0	0.0%	3,430
Lower Gammon River	32,641	20,417	1		1	0.0%	6,124
Rice River	31,605	18,502	0		0	0.0%	5,551
McGregor - Elbow - Tulabi Lakes	14,697	10,643			-	0.0%	3,193
Obukowin Lake	8,243	4,654			-	0.0%	1,396
Total Hectares	**900,154**	**590,096**	**165**	**9,777**	**9,942**	**1.7%**	**167,087**

(Source: PFRA, 2004 & Tembec, 2008)

Indicator 3.1.4.3 Width of forested buffers along permanent water bodies.

Target 3.1.4.3.1 Maintain an average forested buffer of 65-meters from all harvest blocks (FML 01) and at least a 20-meter average per harvest block.

The Average Riparian Reserve left after Harvest was over 300 meters, and over 190 meter on average is treed as summarized in Target 1.1.2.2.1 on page 11

Goal 3.1.5 Effectively control Waste Generation / Disposal of used oil, lubricants, used chemicals, domestic garbage, industrial garbage, solid waste, and domestic sewage.

Indicator 3.1.5.1 Number of reportable spills associated with the transportation, storage and handling of fuel and operation of machinery.

Target 3.1.5.1.1 Report on the number reportable spills.

Under Tembec's current Environment Act License, all spill over 50 litres must be reported to Manitoba Conservation within 24 hours. Tembec has procedures in place detailing how to action a spill, disposing of waste material, reporting, and preventative measures. All of Tembec's contractors and employees have been trained in these procedures and are required to carry spill kits on the work site. The Company has also implemented measures to prevent spills from occurring, including upgrading all fuel tanks to new TDG specifications and encouraging contractors to carry out preventative maintenance on equipment such as replacing worn hydraulic hoses. Table 35 summarizes the number of reportable spills since 2000.

Table 35 Number of Reportable Spills by Year.

Year	# of Reportable Spills (> 50 litres)	# of Spills Reported to Manitoba Conservaton
2000	1	1
2001	2	2
2002	0	0
2003	4	4
2004	0	0
2005	0	0
2006	0	0
2007	0	0
2008	0	0

(Source: Tembec 2008)

Fuel tanks that adhere to new Transport Canada regulations

Target 3.1.5.1.2 100% of reportable spills reported to Manitoba Conservation.

There were no reportable spills for 2008 as shown Table 35. All past reportable spills were reported to Manitoba Conservation and cleaned up as per their direction.

Goal 3.1.6 Manage sensitive sites (water: riparian zones, lakes, ephemeral streams, and wetlands; soil: steep slopes, wet soils and shallow soils over bedrock) with a high priority placed upon soil and water conservation.

Indicator 3.1.6.1 Areas of forested landscape managed primarily for soil and water conservation.

Target 3.1.6.1.1 Identify and protect all sensitive sites requiring soil and water protection through joint planning, pre-harvest surveys and other available sources of information.

All sensitive site requiring soil and water protection were protected, as outlined previous in Target 1.1.2.1.1 on page 11.

Mineral Lick

Goal 3.1.7 Adhere to all provincial and federal legislation, related to forest management activities. Operate within policies and guidelines related to forest management activities including: road construction and stream crossing developments.

Indicator 3.1.7.1 Provincial and federal procedures, approvals, permits and licenses.

Target 3.1.7.1.1 Receive and be in possession of all required approvals, permits and licenses prior to forest management activities.

Various Approvals, Permits, and Licenses are required prior to all forest management activities.

As part of proper Forest Management, Tembec is required to follow numerous Provincial and Federal procedures, approvals, permits and licenses. Table 36, outlines the status on these numerous approvals, permits, and licenses required for various forest management activities.

All required approvals, permits and licenses were in place for 2008.

Table 36 Status of All Required Approvals, Permits, and Licenses.

	Description
Forest Management Licence Agreement	The Forest Management Licence Agreement with Manitoba is valid until the end of 2008. The 10-year extension, stated in the Agreement, was not completed at the end of 1998 due to discussions regarding a new FML area for a joint venture sawmill with local First Nations and later the commencement of the East Side Lake Winnipeg Land Use Plan initiated by the Province of Manitoba. There is less than 1 year remaining in the evergreen FML 01 Agreement. Manitoba Conservation has indicated that they want to renew the FML Agreement, for the current boundaries of FML 01, to correspond with the implementation of the 2009 – 2028 Forest Stewardship Plan.
Environment Act Licence	Environment Act Licence 1557E was extended for a tenth year, based on approved annual operating and renewal plans, due to a request from MC to not pursue the licensing of a long term plan until the East Side Lake Winnipeg Land Use Plan had sufficiently progressed. A new Environment Act Licence will be required for the 2009 – 2028 Forest Stewardship Plan.
Long Term Forest Management Plan	There is no long-term forest management plan in place due to a request from MC to not pursue the licensing of a long-term plan until the East Side Lake Winnipeg Land Use Plan had sufficiently progressed. Manitoba Conservation has subsequently authorized Tembec to submit a 2009 – 2028 Forest Stewardship Plan (FSP) in 2008. Tembec submitted the 2009-2028 FSP in January 2008 and Mc conducted a completeness review. And authorized Tembec to submit the FSP for review and approval; however, submission of the FSP was delayed as further assessments were undertaken based on input received
ISO 14001 Environmental Management System	Registration of the ISO 14001 Environmental Management System was maintained.
Environmental Audit	There were a total of 16 sites/projects receiving an environmental audit, all of which had the proper authorization and Work Permit at time an audit.
Annual Operating and Renewal Plans	The 2008/2009 Operating and Renewal Plan was approved by Manitoba Conservation and implemented on June 1, 2008.
Harvest Blocks	Work permits were obtained for 94 harvest sites. Of the 94 harvest sites 28 were active in 2007/08.
Road Construction	There were no active road construction sites in 2007/08.
Timber Sales	There were 13 Timber Sales issued a General Permit, which were active outside of FML 01in 2007. 100% of the Timber Sales outside of FML 01 were authorized under a General Permit.
Watercourse Crossing	There were no watercourse crossings constructed within the planning period. There was 1 watercourse crossing decommissioned.
Quarry Sites	There were 3 active quarry sites with permits and an additional 18 permitted quarry sites that were not active.
Renewal	There were 3 active forest renewal projects and 3 Work Permits issued.
Herbicide	There was 1 herbicide project, which was covered by one Pesticide Use Permit and a Work Permit.

(Source: Tembec 2008)

Indicator 3.1.7.2 Meet provincial and federal legislation requirements.

Target 3.1.7.2.1 100% compliance of all regulatory requirements.

There were no regulatory compliance issues identified by Manitoba Conservation resulting in disciplinary action in 2007/08.

CRITERION 4 ROLE IN GLOBAL ECOLOGICAL CYCLES

VALUE 4.1 CARBON CYCLE

Goal 4.1.1 Limit loss of carbon storage capability of forest of FML 01 by minimizing the conversion of forested land to non-forested status.

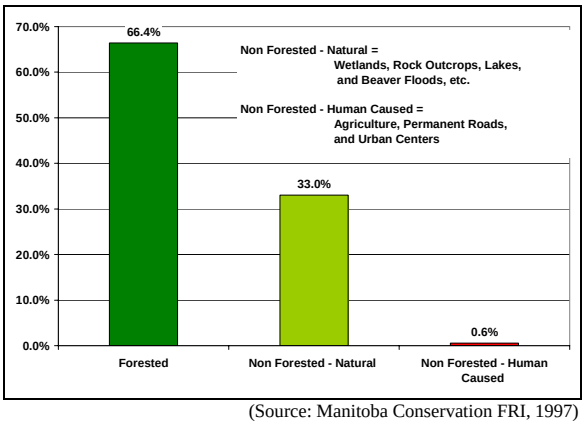
Indicator 4.1.1.1 Area of forested and non-forested land.

Target 4.1.1.1.1 Report on forested and non-forested (natural and human caused) area in FML 01.

(Summarized every new Forest Resource Inventory)

Agriculture, urban uses and major roads development permanently convert forested lands. Tembec's goal for the FML is to limit the amount of area converted to non-forested due to human causes as part of sustainable forest management. Tembec keeps it major road development, which can convert forested land to a minimum and forestry operations are directed and supervised to ensure in block roads and landing areas are kept to a minimum. Figure 28, shows that 0.6% of the FML is permanently non forested due to human activities.

Human Impacts has caused < 1% of the FML to be permanently Non Forested.



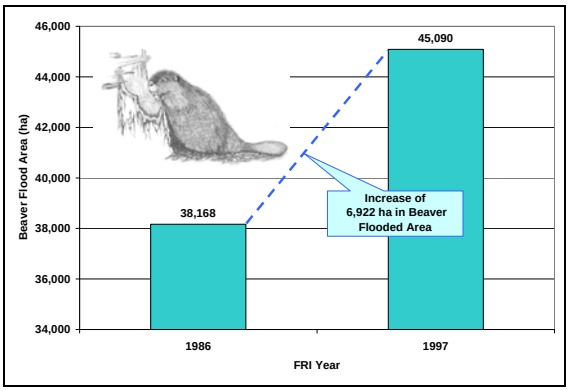
(Source: Manitoba Conservation FRI, 1997)

Figure 28 Current Level of Forest and Non-Forested Land.

Target 4.1.1.1.2 Report on changes in forest productivity due to Beaver activity.

(Summarized every new Forest Resource Inventory)

Beavers are very hard workers and have the ability to change the forest landscape, so much, that they often destroy roads and forests. The dams they build create ponds by flooding the surrounding forested area and thus killing the trees. This flooding can reduce the amount of productive forest land significantly over time, as shown in Figure 29.



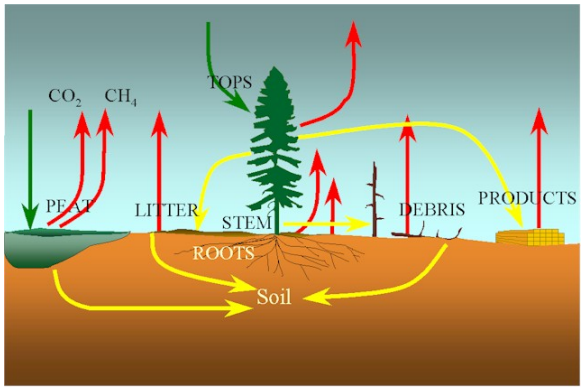
(Source: Manitoba Conservation FRI, 1997)

Figure 29 Changes in Forest Productivity Due to Beaver Activity.

Indicator 4.1.1.2 Carbon Pool Values on FML 01.

Target 4.1.1.2.1 Report on current and projected Carbon Pool Values based on CFS Carbon Budget Model.

Canada's forests play an important role in the global carbon cycle. The storage or release of carbon dioxide (CO2) in forests occurs through the processes of photosynthesis, respiration, and forest growth which stores carbon. Carbon is released through forest decomposition and disturbances like fire, insect defoliation, and timber harvesting. Net changes in forest carbon determine whether a forest ecosystem is a net source or a net sink for atmospheric carbon.

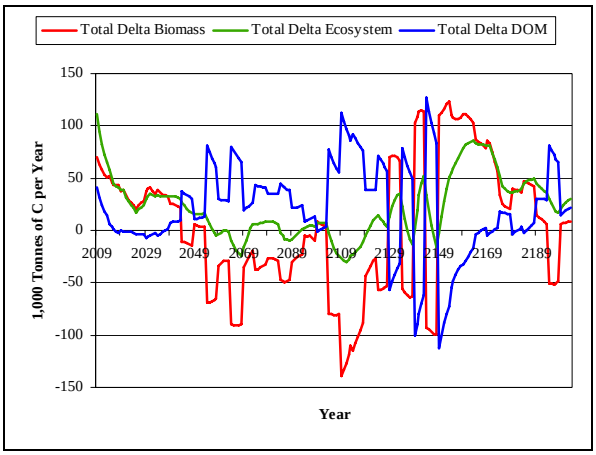


To help understand the forest carbon pools, the Canadian Forest Service (CFS) has developed an Carbon Budget Model (CBM), to account for the ever-changing contributions of all the forest stands, thus allowing forest managers to understand the forest's net carbon balance.

Tembec used the CFS Carbon Budget Model to project carbon pool values over a 200 year planning period for FML1 based on their Long Term Planning forecasts.

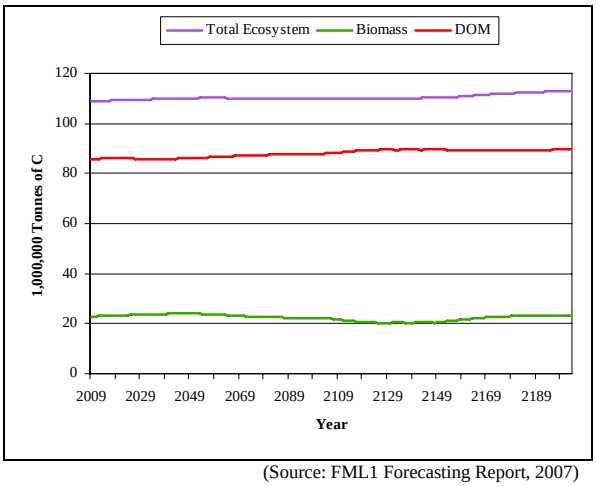
The change to the carbon stocks on the landbase can be seen in Figure 30. When the change in the total delta ecosystem is positive the forest is considered a carbon sink, when the change is negative it is a carbon source. With the current model formulation it can be seen that FML-1 is a carbon sink for the first 50 years. Subsequently the forest changes from a sink to a source periodically for the next 90 years, and then it becomes a sink for the remainder of the planning horizon. The large difference between the early and late periods of the 200 year planning horizon versus the middle is the un-harvested area that is assumed to die naturally within the modelling process (Figure 30). It can be seen that when there are large areas dying there is also a correlation to a large increase of Dead Organic Matter (DOM).

Overall the total carbon in the ecosystem is fairly constant through time (Figure 31). The DOM consistently increases and the Biomass varies slightly while staying at the same approximate level. At all points in time the DOM accounts for approximately 4 times as much carbon as the biomass.



(Source: FML1 Forecasting Report, 2007)

Figure 30 Change to the Biomass, DOM, and Ecosystem Totals through time.



(Source: FML1 Forecasting Report, 2007)

Figure 31 Total Carbon in the Ecosystem, by Biomass and DOM through time.

Goal 4.1.2 Optimize the use of recycled fiber in the papermaking process.

Indicator 4.1.2.1 Production of recycled pulp from the de-inking plant.

Target 4.1.2.1.1 Report on recycled pulp production.

A recycling plant at Tembec's newsprint mill began production in 1996. It is capable of producing 100 metric tonnes of pulp per day, using 75% old newspapers and 25% old magazines. This maximum production capacity represents approximately 20% of the total daily production of the Pine Falls newsprint mill.

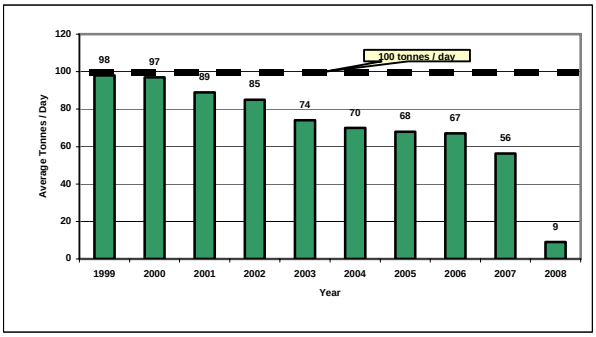
Average Recycle Newsprint Content for 2008 was 2%.

Table 37 and Figure 32 shows the Average Recycled Fibre content per year. The recycling plant was indefinitely shut down in 2008 due to the high global demand for recycled material, which made the facility uneconomical to operate. The shut down reduced the recycled content to 2 % in 2008.

Table 37 Average Recycled Content by Year

Year	Recycled Fibre/Day (Tonnes)	Recycle Content
1999	98	20%
2000	97	20%
2001	89	19%
2002	85	18%
2003	74	17%
2004	70	15%
2005	68	12%
2006	67	13%
2007	56	12%
2008	9	2%
Average	**71.33**	**15%**

(Source: Tembec, 2008)



(Source: Tembec, 2008)

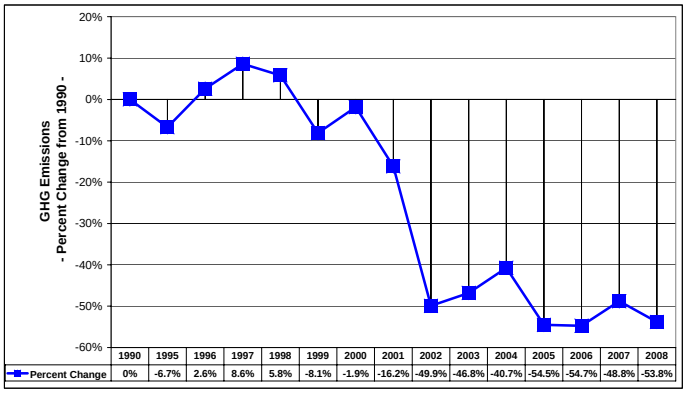
Figure 32 Average Recycled Fiber per Day.

Goal 4.1.3 Reduction in greenhouse gas emissions.

Indicator 4.1.3.1 Level of greenhouse gas emissions from Tembec Newsprint Mill.

Target 4.1.3.1.1 Report on greenhouse gas newspaper mill emissions.

In 2001, we invested $214 million in the construction of a thermo-mechanical pulping (TMP) facility, which cut our coal consumption in half and significantly improved boiler house stack emissions. This investment help to reduce our greenhouse gas (GHG) emissions significantly below the Kyoto Target of 6% below 1990 levels as shown in Figure 33. Currently, the Pine Falls Tembec Newsprint Mill is 53.8 % below our 1990 Greenhouse Gas Emissions. There were no renovations completed to the boiler in 2008 that were directly aimed at GHG's. In addition, we are currently investigating alternate biomass fuel sources to displace coal.



(Source: Tembec, 2008)

Figure 33 Newsprint Mill Greenhouse Gas (GHG) Emissions – Percent Below 1990 Levels.

Newsprint Mill Thermo-mechanical pulping (TMP) facility constructed in 2001.

Goal 4.1.4 Prevent long-term alterations to surface water and drainage patterns in wetland ecosystems.

Indicator 4.1.4.1 Areas significantly disturbed as a result of increases / decreases in water levels.

Target 4.1.4.1.1 Monitor and report on water level variances as result of road construction on wet organic sites.

The Manitoba Model Forest will initiate in their five year plan a research project to study the impacts of road construction on wet, organic soil site as pervious report in Target 3.1.3.1.1 on page 45.

CRITERION 5 ECONOMIC AND SOCIAL BENEFITS

VALUE 5.1 ECONOMIC BENEFIT

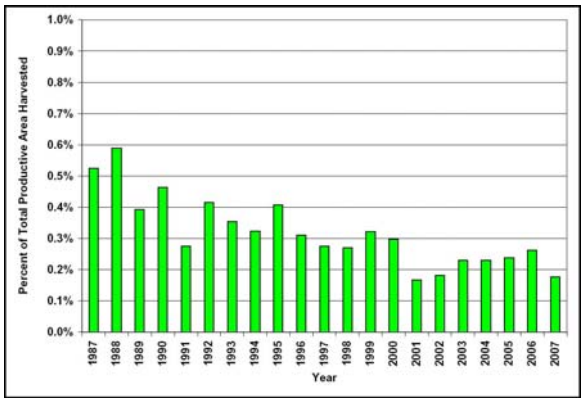
Goal 5.1.1 Maintain sustainable timber harvest levels which are a driver for multiple benefits to society in FML 01.

Indicator 5.1.1.1 Actual harvest level compared to the determined sustainable timber harvest level.

Target 5.1.1.1.1 Ensure that the actual timber harvest area is within +/- 20% of the harvest area sequencing determined or approved by Manitoba Conservation through wood supply modeling.

The amount of area which can be sustainably harvested is approximately 1% of the FML's productive forest per year. Figure 35, shows 2007 harvest areas in comparisons to the harvest areas since 1986 (year at which harvest where inputted into GIS). Figure 34, shows that since 1987, less than 1% of the forest is harvested annually, and for 2007 was less than 0.2% of the productive area was harvested.

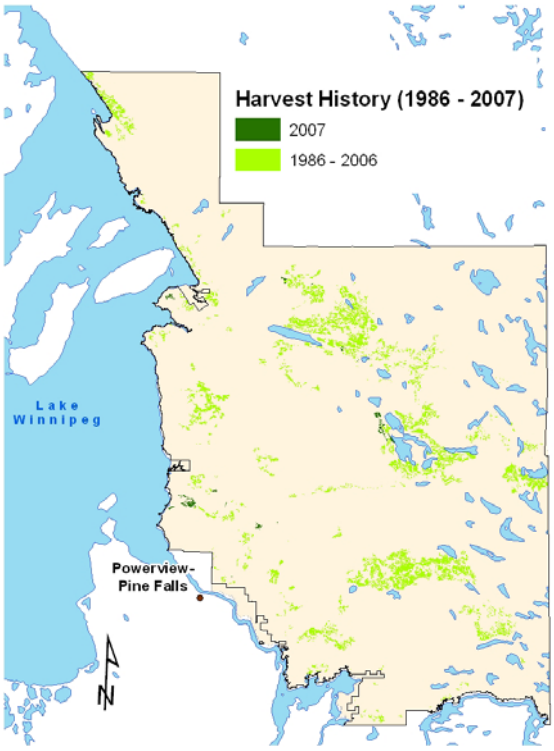
<1% of the FML is Harvested Annually



(Source: Tembec , 2008)

Figure 34 Percent of Productive Forest Harvested by Year.

A wood supply analysis for FML 01, which will provide harvest area sequences by 5 year periods, has been developed by Manitoba Conservation. This analysis will need to be refined by Tembec for incorporation into a Forest Stewardship Plan. Once Tembec's analysis is approved by Manitoba Conservation those harvest area targets will be incorporated into this indicator.



(Source: Tembec, 2008)

Figure 35 Harvest History.

Target 5.1.1.1.2 Ensure that the actual timber harvest volume does not exceed the sustainable harvest volume determined or approved by Manitoba Conservation through Wood Supply Modeling.

The harvest volume was below ACC Volume for all species on the FML. as outlined previously in Target 2.1.3.1.1 on Page 39.

Goal 5.1 2 Maintain an adequate range of habitats at the stand and landscape levels across FML 01 to sustain species diversity.

Indicator 5.1.2.1 Area of habitat expressed as number of habitat units for selected representative species and species guilds.

Target 5.1.2.1.1 Maintain Habitat Units for each selected species (Woodland Caribou, Moose, Pine Marten, Magnolia Warbler, Pileated Woodpecker, and Ruby Crown Kinglet) within 10% of the 1997 Forest Inventory Baseline as a result of forest management activities.

HSI models have been developed for a range of wildlife species that have different habitat requirements, which were previously described in Target 1.2.2.1.1 on page 26.

Goal 5.1.3 Manage forest access to ensure long-term access for timber harvesting while considering other forest values.

Indicator 5.1.3.1 Amount of Spruce and Pine Volume with appropriate road access development secured.

Target 5.1.3.1.1 Secure 50,000m3 of summer Spruce and 60,000m3 of summer Pine which have all-weather road access.

To ensure an even flow of wood to the Pine Falls Newsprint Mill during non-frozen ground conditions, Tembec needs to secure an adequate amount of summer Spruce and Pine volume. This volume needs to be located off of main access roads to allow harvesting and hauling to commence during non-frozen periods. Authorization must also be secured through the planning and approval process with Manitoba Conservation. Not all the volume required was able to be secured in 2008 as shown in Table 38. Summer Spruce was 12,563 m3 short of the 50,000m3 target but Summer Pine exceeded the 60,000m3 target by 26,017 m3.

Areas which don't require frozen ground conditions are harvested during the summer season.

Table 38 Amount of Secured Pine and Spruce Volume.

Operating Area	PreHarvest Surveyed, Planned, and All-Weather Road Accessible		Manitoba Government Approval (Permitted)	
	Summer Spruce Volume m3	Summer Pine Volume m3	Summer Spruce Volume m3	Summer Pine Volume m3
Manigotogan River	8,612	17,710	8,612	17,710
O'Hanley East	17,701	50,948	17,701	50,948
Owl Lake	11,124	17,359	11,124	17,359
Total	**37,437**	**86,017**	**37,437**	**86,017**
Target			**50,000**	**60,000**
Target Shortfall/Exceedance			**-12,563**	**26,017**

(Source: Tembec, 2008)

Indicator 5.1.3.2 Develop Road Management Plans to account for other forest values.

Target 5.1.3.2.1 Report on Road Management Plans developed.

Road Management Plans are created to address road development and access management in designated Operating Areas within FML 01. They are developed with input from First Nation and local communities and identified stakeholders through workshops and group and individual meetings. These plans outline the traditional use of the area, the road development being proposed, and the long-term access control, retirement and / or decommissioning that are planned.

Commercially available steel two piece portable bridge installed on Papineau Road.

This type of bridge can be easily removed and reused in another location when the road is decommissioned.

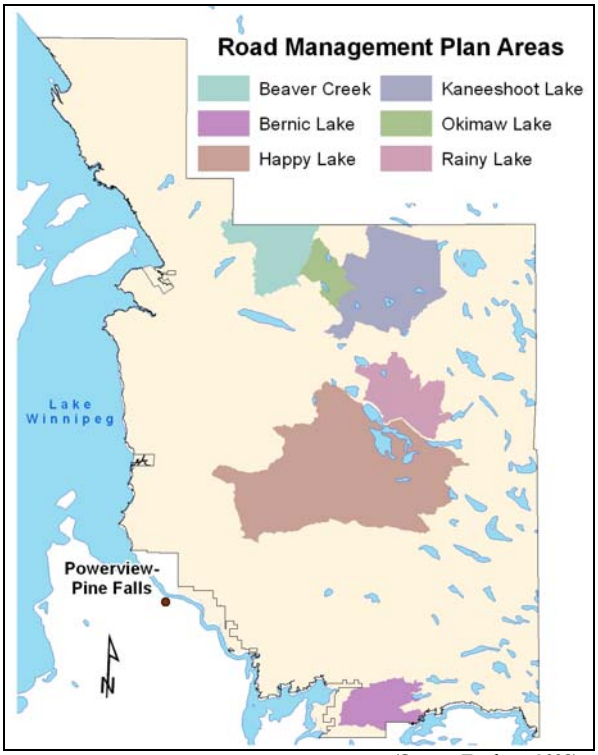
These Road Management Plans provide long-term direction for access development and management, for all users, within designated operating areas. They assist Manitoba Conservation in the review and approval process as well as provide an understanding of road development, access management and retirement/decommissioning plans for all potential road users prior to any activities taking place. . The following are the Road Management Plans that have been developed to date which can be viewed online.

Table 39 Road Management Plans.

Road Management Plans	Area (Ha)	Year of Development	MC Approved
Rainy Lake	18,178	1999	X
Beaver Creek	45,854	1999	X
Okimaw Lake	7,271	2000	X
Happy Lake	93,500	2003	
Kaneeshoot	36,450	2005	
Bernic Lake	12,790	2005	
	214,043		

(Source: Tembec , 2008)

A total of six Road Management Plans have been developed on the FML 01. The three most recent plans are the Happy Lake, Kaneeshoot, and Bernic Lake Road Management Plans. These three Road Management Plans are currently not approved as they are still undergoing further landscape management planning, stakeholder input and or First Nation Consultation. There are three previously approved active Road Management Plans at Rainy Lake, Beaver Creek, and Okimaw Lake as outlined in Table 39. Figure 36 shows the area covered by the currently developed Road Management Plans.



(Source: Tembec , 2008)

Figure 36 Road Management Plan Areas.

Indicator 5.1.3.3 Level of access management on FML 01, which accounts for social, environmental, and economic values.

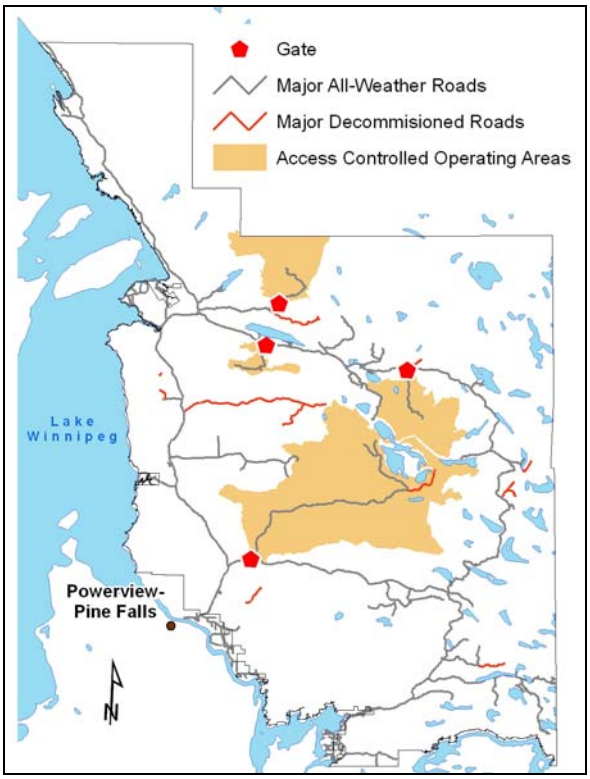
Target 5.1.3.3.1 Report on Access Management Status.

Access control occurs on the FML at various levels and through various means such as gates and / or road decommissioning. Major road decommissioning (depicted in Figure 37) and bridge removal on Sandy River East and West, Beaver Creek, Leaf Lake, Beresford Lake, and Garner Gem Roads. Additionally road decommissioning has also taken place on Bear River and Rocky Ridge roads.

The Minister of Conservation has enacted four road closures to motorized vehicles under the authority of the Manitoba Lands Act. These access closures have been enacted predominately for the protection of wildlife values. Implementation of the closures required Tembec to erect and maintain gates on the Beaver Creek North, Wanipigow South, Rainy Lake, and Happy Lake Roads. Major road decommissioning and closures (gate locations) are identified in Figure 37

Stream bank rehabilitated using erosion control blanket and seeding at Beaver Creek Road bridge removal site.

Aerial view of 3-year old rehabilitated Happy Lake Road crossing site, which was removed as part of Tembec road decommissioning.



(Source: Tembec , 2008)

Figure 37 Road Access Control.

Goal 5.1.4 Undertake Sustainable Forest Management planning and activities in a manner that enables timber, non-timber resource industry, and small business opportunities to develop.

Indicator 5.1.4.1 Involvement of First Nation and other Communities, Stakeholders, and other interested parties.

Target 5.1.4.1.1 Report on involvement activities.

A very important part of forest management planning and operations is communication and consultation with all interested and affected parties. Initiatives to inform, involve, and educate interested parties in forest management operations are listed in Table 40. This includes a wide range of presentations and field tours which were conducted with local communities, trappers, educators, schools, universities and advisory groups. In total Tembec was involved in approximately 290 meetings, presentations, tours and symposiums.

Involving local communities in forest management planning and the development and expansion of economic opportunities remains a very high priority for the Pine Falls Operations. This commitment is demonstrated in the fact that over 23% of these activities are in First Nation communities.

Forest Management Plan Open House.

Table 40 Tembec Involvement with Forest-Based Organizations.

Community Based Planning

First Nation Communities / Groups

There were 11 meetings and 1 field tour, involving up to 2 Tembec staff, with Black River First Nation

There were 21 meetings and 1 field tour, involving up to 3 Tembec staff, with Hollow Water First Nation

There were 13 meetings and 1 tour, involving up to 2 Tembec staff, with Sagkeeng First Nation

There were 2 meetings, involving up to 2 Tembec staff, with the Chiefs from Black River, Hollow Water and Sagkeeng First Nation

There was 1 meeting, involving 1 Tembec staff, with Brokenhead Ojibway First Nation

There was 1 meeting, involving 1 Tembec staff, with Bloodvien River First Nation

There was 1 meeting, involving 1 Tembec staff, with Berens River First Nation

There was 1 meeting, involving 1 Tembec staff, with Peguis First Nation

There was 1 meeting, involving 1 Tembec staff, with Island Lake First Nation

There were 2 meetings, involving up to 4 Tembec staff, with the Manitoba Metis Federation and MMF Locals

There were 4 meetings, involving up to 2 Tembec staff that dealt with strategic issues around FNFLP and Bison Hardwood Project.

There were 4 meetings, involving 1 Tembec staff, with the First Nation Forestry Program and the National Aboriginal Forestry Association

There were 2 meetings, involving 1 Tembec staff member, regarding other First Nation Employment Initiatives

There were a total of 67 meetings and tours, involving up to 4 Tembec staff, regarding First Nation community based planning initiatives and projects.

Northern Affair and Local Communities / Groups

There were 7 meetings, involving up to 2 Tembec staff, with northern affairs communities

There were 9 meetings and 2 workshops, involving up to 4 Tembec staff, regarding trappers and the trapping industry

There were 3 meetings and 1 tour, involving up to 2 Tembec staff, with the Sustainable Forest Management Stakeholder Advisory Committee and appointed sub committee.

There were a total of 21 meetings, tours and workshops, involving up to 4 Tembec staff, regarding northern affair and local community based planning initiatives and projects.

Forest Based Industries and Associations

There were 46 meetings, involving up to 2 Tembec staff, with Forest Products Companies, Quota Holder Associations, Manitoba Forestry Association (MFA), FP Innovations, Canadian Institute of Forest (CIF), Forest Products Association of Canada, Forestry Industry Association of Manitoba (FIAM), and other various Forest Based Industries and Associations.

There was 1 workshop, involving up to 4 Tembec staff, conducted with FML 01 contractors

Non-Forest Based Industries / Recreational Groups

There were 14 meetings, involving up to 4 Tembec staff, with local outfitters, trappers, cottage associations and other groups.

Manitoba Model Forest

There were 25 meetings, involving up to 2 Tembec staff, with regard to the board of directors, working groups, steering committees and specific projects.

There were 18 meetings, involving up to 2 Tembec Staff members, with the Eastern Manitoba Woodland Caribou Advisory Committee.

Environmental Non-Governmental Organizations

There were 3 meetings involving 1 Tembec Staff, with Manitoba Environmental Non-Governmental Organizations dealing predominately with Protected Areas, Forest Management Plans, FSC, and Caribou Strategy.

Provincial and Federal Governments

There was 1 meeting with Manitoba Conservation, involving 6 Tembec staff, for the FML 01 Annual Meeting

There were 7 meetings, involving up to 2 Tembec Staff members, with Manitoba Conservation regarding the Forest Management Licence Agreement and the Forest Stewardship Plan.

There were 3 meetings, involving up to 2 Tembec Staff members, with the Manitoba Conservation Forest Practice Committee.

There were 2 meetings, involving up to 2 Tembec Staff members, with the Manitoba Conservation Silviculture Committee.

There was 1 meeting, involving 1 Tembec Staff member, with the Manitoba Conservation Forest Lands Inventory Committee.

There were 28 meetings / field tours, involving up to 4 Tembec staff, that dealt with operational review / approval / issues that were conducted primarily with the Eastern Region IRMT

There were 18 meetings, involving up to 5 Tembec staff, conducted with MC Branches dealing primarily with administration and strategic planning issues

There were 8 meetings, involving up to 3 Tembec staff, with Manitoba Government Departments dealing primarily with administration and strategic planning issues

There were 2 meetings, involving up to 2 Tembec staff, with Federal Government MP's and Departments

There were a total of 70 meetings with Provincial and Federal Government Departments involving up to 5 Tembec Staff

Tours and Presentations

There were 4 presentations, involving 1 Tembec staff, given at workshops, symposiums and universities.

There were 7 field tours, involving up to 2 Tembec staff, conducted with First Nation communities, universities, MBMF visitors and MFA programs.

There was 1 display, manned by to 2 Tembec staff, at the 4P Festival in Pine Falls.

There were a total of 12 field tours, presentations, and manned displays involving up to 2 Tembec staff,

Workshops / Symposiums

There were 7 local or provincial and/or national workshops / symposiums attended by up to 6 Tembec staff.

Open Houses Meetings

There were 7 open house / invitational meetings, involving up to 6 Tembec staff, conducted in the following locations to solicit input to the 2009-2028 Forest Stewardship Plan and the 2008/2009 Operating and Renewal Plan. Approximately 75 people attended the open houses.

Bissett – 3 attendees
Lac Du Bonnet – 13 attendees
Seymourville – 8 attendees
Sagkeeng First Nation – 6 attendees
Black River First Nation – 2 attendees
2 Winnipeg – 31 & 12 attendees

Sustainable Forest Management Advisory Committee

There were 2 SFMAC meetings and 1 fall field tour, involving up to 2 Tembec staff.

Summary

In total there were approximately 292 meetings, tours, presentations and symposiums.

(Source: Tembec , 2008)

Indicator 5.1.4.2 Issues and information requests identified and dealt with.

Target 5.1.4.2.1 Report on issues identified and requests for information.

Through Tembec's Public Involvement, Planning Processes and Operation Supervision various issues are typically identified throughout the year. Table 41 lists, in chronological order, the issues identified to the Company or requests for information received during this period.

Public Open House Meeting.

Table 41 Identified Woodlands Related Issues.

Date	Identified Issue
01/23/08	A request for a copy of the 2009-2028 Forest Stewardship Plan was received. The Plan could not be released as Manitoba Conservation had not accepted the Plan for review and approval.
03/14/08	A concern was received regarding an outstanding issue with rental property located on mill property. The concern was forwarded to the Human Resource department in the mill.
03/17/08	Four concerns were received regarding the indefinite shut down of the mill recycling facility. Responses were provided that explained the high global demand for recycled material which made the facility uneconomical to operate.
30/24/08	A concern was received regarding harvest operations in the Birch Point area. Forest Resource Management staff met with the concerned individuals.
03/31/08	A concern was received regarding inaction on an outstanding issue with rental property located on mill property. The concern had been forwarded to the legal department for resolution.
05/26/08	Manitoba Conservation identified that a growth and yield permanent sample plot had been destroyed by harvest operations. Tembec assisted MC in re-establishing the plot at an alternate location.
05/27/08	A fire was started, by a tree planter, on a tree planting site through careless smoking. The fire was immediately extinguished by the planting crew and smoking regulations were subsequently reviewed with all planters.
07/23/08	A trapper identified that an ATV bridge had been constructed at the site of a decommissioned bridge. The issue was forwarded to Manitoba Conservation.
06/19/07	A request was received for Owl Lake Caribou management information. The information was provided.

(Source: Tembec , 2008)

VALUE 5.2 DISTRIBUTION OF BENEFITS

Goal 5.2.1 Provide long-term economic opportunities for local communities and contibution to provincial and national economies.

Indicator 5.2.1.1 Number of jobs resulting from Tembec's on-going Forestry operations.

Target 5.2.1.1.1 Report on number of people employed by Tembec's on-going Forestry operations.

There were over 260 full and part time people employed by Tembec and contractors, employed by Tembec, in conducting pre and post harvest surveys, forest renewal projects, road construction and maintenance projects and timber harvesting and hauling operations again in 2008.

Local Road Construction Contractor

Indicator 5.2.1.2 Number, value, and type of contracts awarded to enterprises in FML 01.

Target 5.2.1.2.1 Report on the number, value, type of contracts.

Tembec works closely with local and First Nation communities in an attempt to award contracts to individuals and businesses from these communities. Table 42 is organized by community and provides the types of contracts awarded in 2008.

$10,000,000 paid to Manitoba Forest Operations Contractors.

The total value of all contracts on FML 01 as well as all other contracts, from outside sources, awarded by Pine Falls Operations was approximately $10 million dollars.

Table 42 Local Economic Forest Management Contracts on FML 01.

Community	Contract Description
Black River First Nation	1 Harvesting Contractor 1 Tree Planting Contractor
Brokenhead Ojibway Nation	1 Silviculture Survey Contractor
Hollow Water First Nation	3 Harvesting Contractors 1 Road Construction/ Maintenance Contractor
Sagkeeng First Nation	4 Harvesting Contractors 2 Tree Planting Contractors
Manigotagan / Seymorville	1 Tree Planting Contractor
Bissett	1 Harvesting Contractor
Powerview / Pine Falls	2 Harvesting Contractors 1 Forest Renewal Contractor 2 Road Maintenance Contractor
Other Areas	1 Harvesting Contractor 1 Road Construction/ Maintenance Contractor

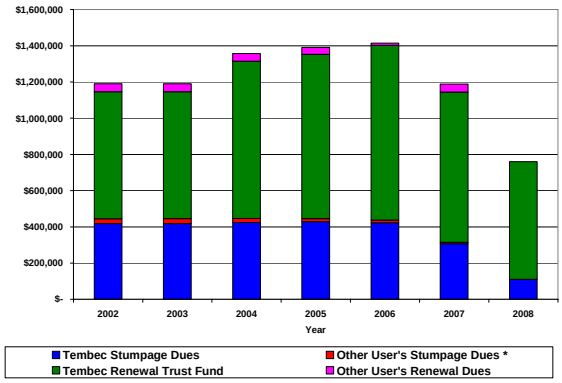
(Source: Tembec , 2008)

Indicator 5.2.1.3 Amount paid to Manitoba Government in Crown Dues for forest operations on public lands.

Target 5.2.1.3.1. Report on payment of Crown Timber Dues.

Tembec, operates on Crown Provincial Land, and under a Forest Management License Agreement. As a result, Tembec as well all other independent operators on the FML are required to pay the crown for timber harvested. These timber dues go to the Manitoba Government to help support the province. Tembec, as well all other independent operators on the FML, are required to also pay into a Renewal Trust Fund or pay Renewal Dues to the Manitoba Government respectively, which is used to fund forest renewal activities. Manitoba Conservation revised the Timber Administration System in 2008 which created market based timber dues based on the commodities produced and required all producers to report directly to Manitoba. Other users now report directly to Manitoba so those numbers are no longer available for Figure 38. Figure 38 show the amount of Timber and Renewal Dues paid by Tembec on the FML. In 2008, almost 760 thousand dollars was paid.

Manitoba Conservation revised the Timber Administration System in 2008



(Source: Tembec, 2008)

Figure 38 Timber and Renewal Dues paid annually.

Note: Stumpage dues are reduced in 2008 due to Manitoba's new market based timber dues, spruce budworm salvage dues rates and reduced harvest volumes on FML 01 due to Whiteshell Provincial Park blowdown salvage.

VALUE 5.3 SUSTAINABILITY OF BENEFITS

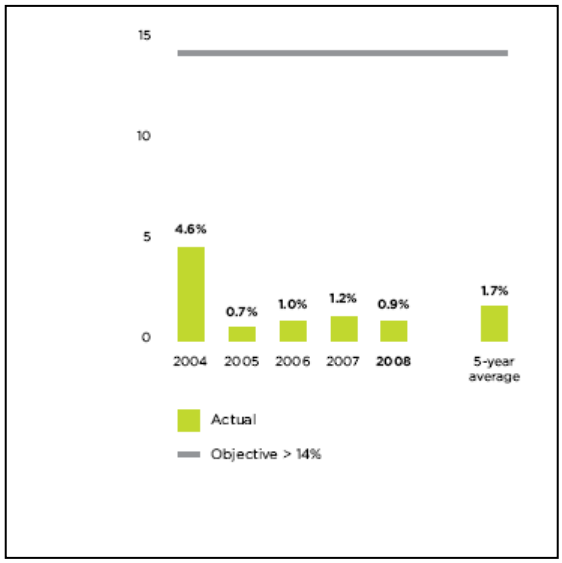
Goal 5.3.1 To operate Tembec Inc. to achieve a level of profitability necessary for sustainable operations.

Indicator 5.3.1.1 Earnings Before Interest, Taxes, Depreciation And Amortization (EBITDA).

Target 5.3.1.1.1 Achieve objective of EBITDA representing 14% of net sales.

Global market conditions for forest products historically follow a roller coaster cycle with market prices rising and falling in relation to economic trends and consumers' response to economic conditions. As the United States is the major export market for Canada's forest products, these cycles are closely tied to the American economy.

As a company, Tembec's Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA) have declined again, and are well below the objective of 14%, as depicted in Figure 39.



(Source: Tembec Annual Report, 2008)

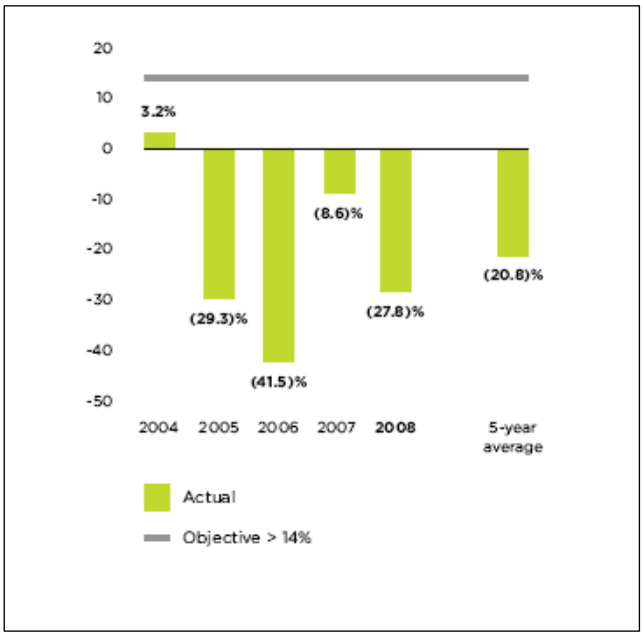
Figure 39 Earnings Before Interest, Taxes, Depreciation and Amortization (EBITDA)

Indicator 5.3.1.2 Cash Return on Capitol Employed (CROCE).

Target 5.3.1.2.1 Achieve objective of 10% for CROCE.

Tembec's economic performance since 2001 has continued to decline as result of lower selling prices, the softwood lumber dispute resulting in higher United States import duties, the rapid value increase of the Canadian dollar, surplus of kraft pulp in the world market, and a decline in U.S. housing starts and . The Canadian forest industry is going through a period of restructuring driven by these combined economic factors.

Tembec's Cash Return on Capital Employed (CROCE) is still well below the 10% objective as shown in Figure 40 due to current economic conditions.



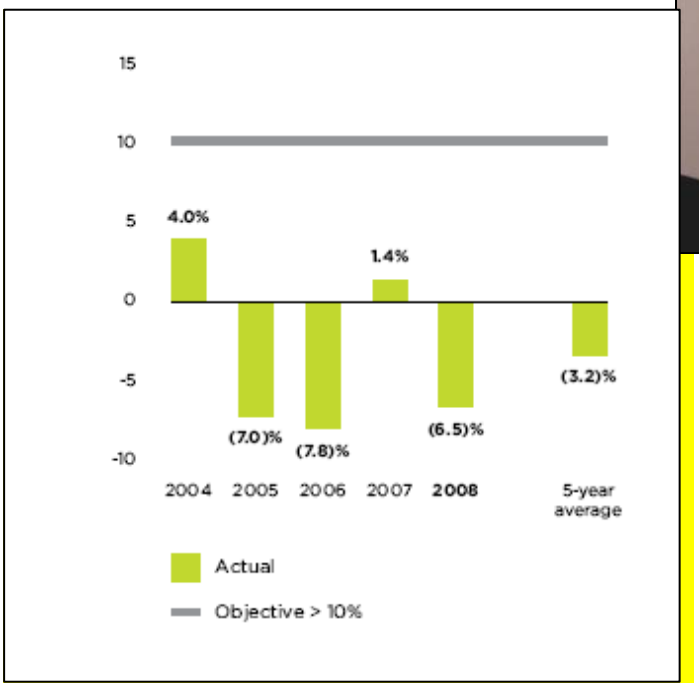
(Source: Tembec Annual Report, 2008)

Figure 40 Cash Return On Capitol Employed (CROCE).

Indicator 5.3.1.3 Return on shareholders equity.

Target 5.3.1.3.1 Achieve objective of 14% return on shareholders equity.

Tembec's Return on shareholders equity is also still well below the 14% objective as shown in Figure 41, due to current economic conditions.



(Source: Tembec Annual Report, 2008)

Figure 41 Return on Shareholders Equity.

Tembec Pine Falls

Newsprint Paper Machine

Goal 5.3.2 Sustain or improve economic and related social benefits derived from the forest for communities in and near FML 01.

Indicator 5.3.2.1 Number and value of contracts awarded to enterprises in FML 01.

Target 5.3.2.1.1 Report on the number and value of contracts

The total value of all contracts on FML 01 as well as all other contracts, from outside sources, awarded by Pine Falls Operations was approximately $10 million dollars, as previously outlined in Target 5.2.1.2.1. on page 62.

Indicator 5.3.2.2 Tembec Inc. support of local, regional and provincial programs and initiatives.

Target 5.3.2.2.1 To donate 1% of pre-tax profits to programs run by non profit organizations to help communities improve their individual and collective way of life.

The Tembec Corporation, in past years, had donated over $2 million to support local projects such as recreational/cultural facilities and events, sports, scholarship programs, medical facilities and a wide range of good causes in

response to the needs and appeals of charitable and community organizations. However in May 2005, Tembec decided to temporarily suspend it's donation program due to the poor financial performance within the forest industry, thus no donations were made in 2006, 2007 or 2008.

Goal 5.3.3 Meet contractual and legal obligations.

Indicator 5.3.3.1 Meet provincial and federal legislation requirements.

Target 5.3.3.1.1 100% compliance of all regulatory requirements.

There were no regulatory compliance issues identified by Manitoba Conservation resulting in disciplinary action as explained in Target 3.1.7.2.1. on page 50.

Plans are downloaded onto GPS units to assist harvest operators in implementing the harvcest design.

CRITERION 6 SOCIETY'S RESPONSIBILITY

VALUE 6.1 FOREST COMMUNITY WELL-BEING AND RESILIENCE

Goal 6.1.1 Help to maintain the viability of existing forest communities through a localized planning process.

Indicator 6.1.1.1 Joint Planning Committees for input to Tembec Forest Stewardship Activities and for Community Development Strategies.

Target 6.1.1.1.1 Report on joint planning processes.

Efforts to expand and improve the consultation process have evolved over the past few years and will continue to do so. Involving First Nation and other local communities in the planning process is one of our main priorities. Tembec has been working with the local Communities and the Manitoba Model Forest to establish processes, acceptable to the local people, that will allow meaningful input in Tembec's annual and long term plans.

The community based joint planning process continues in Hollow Water and Black River First Nations and is referred to as Traditional Area Advisory Committees (TAAC). These committees were developed to meet on a biweekly or monthly basis to discuss resourced based issues, identify any site specific sensitive sites, review operational planning, major road locations, trapper, and wildlife issues. Tembec attends if requested. Discussions with Sagkeeng First Nation Chief and Council continue on an as required basis with resourced based issues being brought to the meetings and discussed.

The Manitoba Model Forest conducted a review of the suite of local level indicators in 2006 and as result establishment a new criteria "Criteria 7 – Aboriginal Benefits".

Refer to the Community Base Planning sections in Table 40 (Page 59), which summaries the meetings conducted with aboriginal groups and communities as part of the on going planning process.

Goal 6.1.2 Provide long-term economic opportunities for local communities and contibution to provincial and national economies.

Indicator 6.1.2.1 Number of jobs resulting from Tembec's on-going Forestry operations.

Target 6.1.2.1.1 Report on number of people employed by Tembec's on-going Forestry operations.

There were over 260 full and part time people employed by Tembec and contractors, employed by Tembec as reported previously in Target 5.2.1.2.1. on page 62.

Indicator 6.1.2.2 Number and value of contracts awarded to enterprises in FML 01.

Target 6.1.2.2.1 Report on the number and value of contracts

The total value of all contracts on FML 01 as well as all other contracts, from outside sources, awarded by Pine Falls Operations was approximately $10 million dollars, as previously outlined in Target 5.2.1.2.1. on page 62.

VALUE 6.2 FAIR AND EFFECTIVE DECISION-MAKING

Goal 6.2.1 Provide opportunities, encourage and engage, in meaningful and effective public involvement in forest management planning prior to decisions being made.

Indicator 6.2.1.1 Variety and participation levels in forums for public and community involvement.

Target 6.2.1.1.1 Report on involvement activities

Tembec was in approximately 290 involvement activities such as meetings, presentations, tours and symposiums as previously outlined in Target 6.2.1.1.1. on page 59.

Tembec advisory committee examining a mining proposal on FML 01

Indicator 6.2.1.2 Issues and information requests identified and dealt with.

Target 6.2.1.2.1 Report on issues identified and requests for information.

Through Tembec's Public Involvement, Planning Processes and Operation Supervision various issues are identified or requests for information are received, which were pervious outlined in Target 5.1.4.2.1. on page 61.

VALUE 6.3 INFORMED DECISION-MAKING

Goal 6.3.1 Develop partnerships and other opportunities with governments (Federal, Provincial and First Nations) and other interested parties to develop an increased knowledge base and public understanding of Sustainable Forest Management planning.

Indicator 6.3.1.1 Research partnerships and projects undertaken by Tembec with government and others.

Target 6.3.1.1.1 Report on a partnership research program including funding levels for each project.

Tembec is fortunate to have the Manitoba Model Forest (MBMF) located within the FML. The MBMF conducts many stakeholder involvement and education initiatives. It also conducts scientifically based, provincially relevant forest ecosystem research.

GPS Collared Woodland Caribou

The Canadian Model Forest Program ended in March 2007 and a competitive process was initiated by Natural Resources Canada to award participation in the new Forest Communities Program (FCP). The Manitoba Model Forest proposal was successful as one of eleven FCP sites selected across Canada. Partnerships were expanded in the MBMF proposal in order to secure additional funding partners to the FCP proposal. Tembec has committed $250,000 towards the first five-year phase of the Forest Community Program.

Tembec's Annual In-Kind Contribution to the Manitoba Model Forest Exceeds $100,000

Table 43 outlines the financial and in-kind contributions to various project partnerships implemented or continued during this reporting period.

Table 43 Tembec Partnership Research Projects (In-Kind & Financial Support).

Organization	Description	Amount
Manitoba Model Forest	**In-Kind Support ***	
	Administrative services donated to MBMF	
	Tembec representative on the MBMF Board of Directors	
	Tembec representative on the MBMF Executive Committee (treasurer)	
	Chairmanship of the MBMF Forest Stewardship Working Group	
	Co-Chairman of the MBMF Local Involvement Working Group	
	Participation and technical support to numerous MBMF projects	
	Total In-Kind Support	**$103,400**
	Financial Support	
	Woodland Caribou Research	$10,000
	Rare Species Inventory	$5,000
	Scenario Planning	$15,000
	Trapper Assessment	$2,500
	Community Based Joint Planning	$5,000
	Junior Rangers	$7,500
	Landscape Design	$5,000
	Total Financial Support	**$50,000**
Total Financial and IN-Kind Support		**$153,400**

* Total in-kind financial support reported for the MBMF 06/07 fiscal year

(Source: Tembec, 2008)

Target 6.3.1.1.2 Report on forestry education activities.

Tembec supports and participates numerous and various forestry education activities. We are active members on various committee and / or active supporters of various education organizations which focus on forestry education, such as:

- Field tours of areas of interest and forest operations for local First Nation communities
- Manitoba Forestry Association's In-Class Forest Education Programs, Envirothon (an annual environmental Olympic style competition for high school students), and Forest Ed – Educators Workshops.
- Manitoba Model Forest
- University of Manitoba, Natural Resource Institute (NRI).
- University of Winnipeg, Centre for forest Interdisciplinary Research (C-FIR)
- Sustainable Forest Management Network (SFMN)

Table 44 and Table 45 outlines the forest education activities, which Tembec participated in 2008.

Forest Ed Educator Workshop hosted by the Manitoba Forestry Association.

Table 44 Tembec Forest Education Presentations and Activities.

Forest Education Presentation Description	Organization
Forest Stewardship Planning	Forest Landscape Planning and Design Workshop
Perspectives on Landscapes, Wildlife and People	Parks and Protected Areas Research Forum
Tembec Forest Management Display	4P Festival Pine Falls
GIS Project Presentations	Red River Community College – GIS Program
Manitoba Envirothon – Trail Guide and Orals Judges	Manitoba Forestry Association
Sustainable Forest Management Lecture	University of Manitoba – Natural Resource Institute
Sustainable Forest Management Lecture	University of Winnipeg Collegiate
Total Presentations	**7**

(Source: Tembec, 2008)

Target 6.3.1.1.3 Report on forestry tours.

Tembec provides tours to numerous groups and individuals on request, as part of it Sustainable Forest Management activities. Table 45 outline the field tours Tembec staff provided to various interested parties.

Table 45 Field Tours.

Field Tour Description	Number
Black River First Nation Operations Tour	1
Sagkeeng First Nation Operations Tour	1
Hollow Water First Nation Operations Tour	1
MFA Forest Ed Educator Workshop	1
Sustainable Forest Management Advisory Committee Forestry Field Tour	1
Canadian Model Forest Network Tour	1
U of M Natural Resource Institute Operations Tour	1
Total Tours	**7**

(Source: Tembec, 2008)

Tour group examining status of harvest buffers

Target 6.3.1.1.4 Report on operation of Tembec Manitoba FRM Web site.

The Pine Falls Forest Resource Management Group web site located at www.tembec-frm-manitoba.ca, was launched in November 2006. The site has been designed to provide information to the public on all aspects of Tembec's forest stewardship activities for FML 01, including our Forest Management Plans, Public Meetings, Forest Monitoring and Research Reports, our Environmental Management Systems, and Forest Certification. A GIS Map Portal was added in the fall of 2007 and features GIS data layers for FML 01. It allows anyone from across the globe to access various features within the FML such as Annual Operating Plan areas and related harvest block prescription summaries, highways and roads and harvest history displayed on aerial photography. The GIS Map Portal allows users to visualize forest management activity within the FML and view other areas of interest on a photomap.

The website, which was designed and hosted by the Canadian Ecology Center, a non profit forest research and teaching center. There have been 10,800 visitors to the web site, from over 40 countries / territories, since the site was launched in 2006.

Target 6.3.1.1.5 Report on public involvement activities.

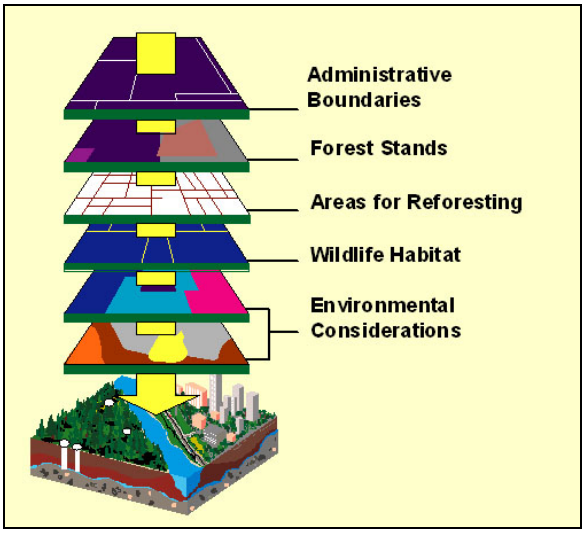
Tembec was in approximately 290 involvement activities such as meetings, presentations, tours and symposiums as previously outlined in Target 6.2.1.1.1. on page 59.

Goal 6.3.2 Maintain up-to-date information and monitoring programs for Sustainable Forest Management planning, operations. and assessment of progress made towards achieving targets.

Indicator 6.3.2.1 Available and timely forest information on which to plan, operate and assess achievement of targets.

Target 6.3.2.1.1 Report on data availability and currency.

The information required to plan, operate and assess forest management activities is very considerable in size, typically spatial in nature, and extremely diverse. For this reason, Tembec manages, stores, and analysis this information as part of its Forest Management Information System (FMIS), with a Geographic Information System (GIS) as its primary backbone. Tembec has been using GIS, one of the most powerful tools for sustainable forest management, since the mid 1980's, because it can be used to store, query, and report on various aspects of forestry activities and forest landscape impacts.



GIS Provides the Framework for Study Complex Landscapes and System, thus help Tembec Make Better Decisions and Create Better Solutions.

Tembec analyzes numerous GIS Data Layers as part of it forest management planning and monitoring.

Tembec utilized the FMIS is in several ways:

- to input, store, update, and analysis the forest inventory and various values layers such as trap lines, watershed boundaries, mining, and parks,
- To create, analyze, and store various types of forest management plans,
- to maintain a complete record of our forest activities, such as harvest, roads, and silviculture,
- as a tool in assisting to put together forest management plans and summary reports,
- as a tool to assisting in monitoring impacts to the forest landscape, and
- as a tool for the modeling of wood supply, wildlife habitat, etc.

To use the FMIS to it full potential and produce accurate forest management plans, various data needed to be made available to Tembec. Table 46 summaries the type of information contained within Tembec FMIS.

Table 46 Tembec Forest Management Information System Data List Summary.

Data Descriptions	Comments	Region		Creator / Owner	Scale *	Year**
		FML	MB			
Forest Resource Inventory	Delinated and Typed from 1997 1:15840 IR Photo's			MC Forestry Branch	1:15,840	2006
Lakes, Rivers, Streams, & Creeks	Delinated from 1997 1:60,000 Photo's			MC Forestry Branch	1:15,840	2002
Orthophotos	1997 1:60,000 Georeferenced Images			MC Forestry Branch	2 meter	1997
Satellite Images	LandSat 7, and Radar Sat Images			MB & Tembec	30 meter	2003
Harvest Areas	Delinated from 1:15,840 Georeference Harvest Photos			Tembec	1:15,840	1986 -2007
Site Preparation Areas	GPS Boundaries			Tembec	1:15,840	1986 -2007
Planting & Seeding Areas				Tembec	1:15,840	1986 -2007
Forest Tending Areas				Tembec	1:15,840	1986 -2007
Regeneration and Free-to-Grow Surveys				Tembec	1:15,840	1986 -2007
Forest Fires				MC Forestry Branch	1:50,000	1986 -2007
Spruce Budworm Infestation Severity				MC Forestry Branch	1:15,840	1986 -2007
Forest Tent Caterpillar Infestation Severity				MC Forestry Branch	1:15,840	1995-2002
Dwarf Mistletoe Infestation				MC Forestry Branch	1:15,840	1989
Pre-Harvest Assessment Plots	GPS Plots			Tembec	1:15,840	2006
Permanent Sample Plots				MC Forestry Branch	1:15840	2000
Temporary Sample Plots	Used to develop MC Yield Curves			MC Forestry Branch	1:15840	2000
National Forest Inventory Plots				MC Forestry Branch	1:15840	2005
Archaeological Sites				MB Culture, Heritage Branch	1:50,000	2007
Archaeological Predictive Model	Developed by MBMF			Tembec, MBMF	1:15,840	2004
Lodges And Outfitter Camps				MB	1:1mil	2007
Cottage Areas				MC	1:1mil	2007
Backcountry Camps				MC	1:1mil	2007
Recreational Trails	Hiking, Ski, Snowmobile, & Multi-use Trails			MB	1:1mil	2004
Canoe Routes	Created by Tembed from Prov Maps			Tembec	1:1mil	2000
Sensitive Sites	Identified During PHA, Field and/or Photo Evaluations			Tembec	1:15,840	2007
Trapper Cabins, Trials, & Values	Identified by Trappers			Tembec	1:15,840	2004
Wild Rice Leases				MB	1:1mil	2007
Owl Lake Core Management Zones				EMWCAC	1:15,840	2005
Caribou Locations				EMWCAC	1:15,840	2005
Caribou Ranges				MC Wildlife Branch	1:50,000	2004
Conservation Data Center Database				MC Wildlife Branch	1:50,000	2006
Fish Minnows Leases				MC Wildlife Branch	1:50,000	2007
Mineral Exploration Licenses				MC Energy & Mines Branch	1:1mil	2000
Mineral Leases				MC Energy & Mines Branch	1:1mil	2007
Mineral Mines				MC Energy & Mines Branch	1:1mil	2007
Mining Claims				MC Energy & Mines Branch	1:1mil	2007
Mining Patent Claims				MC Energy & Mines Branch	1:1mil	2007
Mining Permits				MC Energy & Mines Branch	1:1mil	2007
Quarry Mining Leases				MC Energy & Mines Branch	1:1mil	2007
Crossings	Bridges & Culverts			Tembec	1:15,840	2007
Gates				Tembec	1:15,840	1999
Forestry Access Roads	Derived initially from FRI and Updated by Tembec			Tembec	1:15,840	2007
Access Controlled Forestry Operating Areas				Tembec	1:20,000	2004
Federal & Municipal Highways				MC Lands & Surveys Branch	1:1mil	2000
Provincial Road				MC Lands & Surveys Branch	1:1mil	2000
Provincial Trails				MC Lands & Surveys Branch	1:250,000	2000
Railways				MC Lands & Surveys Branch	1:1mil	2000
Pipelines				MC Energy & Mines Branch	1:1mil	2000
Power Line				MC Energy & Mines Branch	1:1mil	2000
Airports				MC Energy & Mines Branch	1:1mil	2000
Dykes				MC Energy & Mines Branch	1:1mil	2000
Ferries				MC Lands & Surveys Branch	1:1mil	2000
Hydro Dams				Geogratis	1:1mil	1999
Contours	Derived from 1997 Orthophoto DEM			MC Lands & Surveys Branch	1:60,000	2004
Digital Elevation Model	Derived from 1997 Orthophoto			MC Lands & Surveys Branch	1:60,000	1998
US Geological Survey Digital Elevation Models				NASA	90 meter	2005
Enduring Features	Combination of Provincial Soil and Surfical Geology			MC Parks Branch	1:1mil	1999
Surficial Geology	Precambrian & Phanerozoic Formations			MC Energy & Mines Branch	1:1mil	2000
Bedrock Geology				Geogratis	1:1mil	1999
Soils				Geogratis	1:1mil	1999
Eskers				MC Energy & Mines Branch	1:1mil	2000
Ground Faults				MC Energy & Mines Branch	1:1mil	2000
High Metal Belts				MC Energy & Mines Branch	1:1mil	2000

Data Descriptions	Comments	Region		Creator / Owner	Scale *	Year**
		FML	MB			
Bear Outfitter Boundaries				MC	1:1mil	2006
Moose Outfitters Boundaries				MB	1:1mil	2004
Wildlife Management Areas				MC Wildlife Branch	1:250,000	2004
Wildlife Refuges				MC Wildlife Branch	1:250,000	2000
Registered Trapline Boundaries				MC Wildlife Branch	1:1mil	2000
Games Hunting Areas				MC Wildlife Branch	1:250,000	2003
No Hunting Zones				MC Wildlife	1:50:000	2000
First Nation Treaty Land Entitlements				MC Lands & Surveys Branch	1:1mil	2000
Treaty Boundaries				MB	1:1mil	2000
Watershed Divisions	Developed In 1960's			MC Fisheries Branch	1:1mil	2004
Watershed Divisions				PFRA	1:250,000	1999
Watershed Divisions	Tembec Modified PFRA Watershed Boundaries			Tembec	1:250,000	2006
Manitoba Model Forest				MC Forestry Branch	1:15,840	2000
Ecozone, Ecoregions, & Districts				Geogratis	1:1mil	1999
Conservation Districts				MB	1:1mil	2000
Natural Districts				MB	1:1mil	2000
Natural Regions				MB Parks	1:1mil	2001
Natural Sections	Developed by Rowe 1972			MB	1:1mil	2001
Forest Management Licenses				MB Forestry Branch	1:1mil	1998
Forest Management Units & Sections				MB Forestry	1:1mil	2001
Provincial Forest				MB Forestry Branch	1:1mil	1998
Provincial Boundaries				MC Lands & Surveys Branch	1:1mil	2000
Federal Parks				MC Parks Branch	1:250,000	2000
Provincial Parks				MC Parks Branch	1:250,000	2007
Protected Areas				MB Parks	1:1mil	2007
Natural Park Representation	Level of Protection by Natural Region			MB Parks	1:1mil	2001
Parks Areas Of Special Interest				MC Parks Branch	1:250,000	1999
Tembec Voluntary Protection				Tembec	1:15,840	2001
Ecological Reserves				MC Wildlife Branch	1:250,000	2000
Eastside Landuse Study Area				MC	1:1mil	2004
Community, Lake and Land Feature Names				MC Lands & Surveys Branch	1:50,000	2000
Land Ownership				Temebc	1:15,840	2000
First Nation Reserves				MC Lands & Surveys Branch	1:1mil	2006
Northern Community Boundaries				MB	1:1mil	2002
Rural Municipalities				MC Lands & Surveys Branch	1:1mil	2000
Local Government Districts				MC Lands & Surveys Branch	1:1mil	2001
Winnipeg City Limits				Geogratis	1:1mil	1999
Township Quarter Sections				MB	1:1mil	2000
Township Sections				MB	1:1mil	2004
Townships				MB	1:1mil	2000
National Topographic Systems 1:250,000 Sheets				MC Lands & Surveys Branch	1:1mil	2000
National Topographic Systems 1:50,000 Sheets				MC Lands & Surveys Branch	1:1mil	2000
Othrophoto UTM Basemap Grid				MB	1:15,840	2000
Latitude And Longitude Grid				MC Lands & Surveys Branch	1:1mil	2000
UTM Zones				MC Lands & Surveys Branch	1:1mil	2000

* Approximate map scale

** Year created, received, and / or updated

(Source: Tembec, 2008)

Indicator 6.3.2.2 Areas identified as special use.

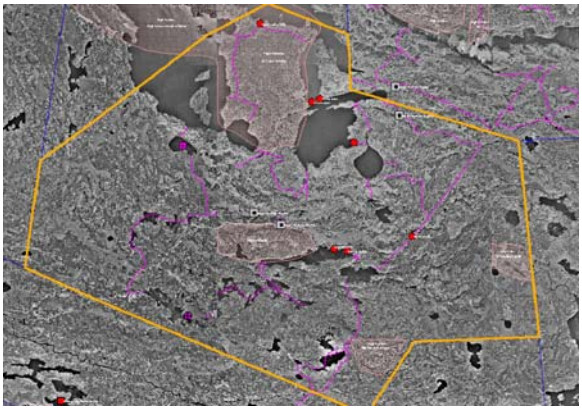
Target 6.3.2.2.1 Identify and protect all special use sensitive sites identified through joint planning, pre-harvest surveys and other available sources of information.

The forests within the FML are used by First Nations, Local Communities, and Stakeholders for various uses. Tembec works closely with these groups to identify and help manage these values. These areas, such as Trapper Cabins or Eagle Nests, are identified as special use sensitive sites in Annual Operating Plans. All contractors prior to starting their operations are given maps of these areas and are briefed on how to treat these sites. Table 47 shows the special use sensitive sites, requiring protection, identified through pre-harvest survey, spatial database, and community joint planning for the 2007/08 Annual Plan and assessment results.

Table 47 Special Use Sensitive Sites Requiring Protection.

Special Use Sites	
# of Sites Identified in 2007/08 AORP	40
# of Sites Harvested Near during Fiscal Period	1
# of Sites Audited	1
% of Sites Audited	100%
% of Sites in Compliance	100%

(Source: Tembec, 2008)



Trapliner Inventory Orthophoto Identifying Trails, Cabins, Caches and Important Areas

Indicator 6.3.2.3 Areas of forested landscape managed primarily for soil and water conservation.

Target 6.3.2.3.1 Identify and protect all sensitive sites requiring soil and water protection through joint planning, pre-harvest surveys and other available sources of information.

All sensitive site requiring soil and water protection were protected, as outlined previous in Target 1.1.2.1.1 on page 11.

Effective Use of Ersoion Control Material and Rip Rap on Portable Bridge Installation

Goal 6.3.3 Maintain a program for on-going education of Tembec staff, contractors and other third parties in implementation of Sustainable Forest Management targets.

Indicator 6.3.3.1 Training and on-going forest education, related to implementation of EMS procedures.

Target 6.3.3.1.1 Report on EMS procedure training and education programs for all staff, contractors and operators working on FML 01.

Training plays an important role in Tembec's Sustainable Forest Management, and provides and / or requires staff and contractors to attend various training courses to ensure that all individuals involved with Forest Stewardship activities have the appropriate knowledge and skills to perform their job properly. These training programs also help Tembec's Forest Stewardship to continuously improve.

Table 48 outlines the training which was conducted for staff, contractors, and their employees.

Table 48 Woodlands Training.

Training Description	# of Participants
GPS Photo Training	9
Basic FRM EMS Work Instruction Review	1
Operating Personnel Carrier	1
Tree Planting	24
Emergency Preparedness	24
Transportation of Dangerous Goods	17
Work Instructions for Forest Renewal	23
Work Instructions for Road Access Decommissioning and Rehabilitation	23
Work Instructions for Road Construction	23
WHMIS	23
Work Instructions for Timber Harvesting	23
Work Instructions for Timber Hauling	23
Emergency First Aid Course	47
Emergency Response Drill	2
Total	**263**

(Source: Tembec, 2008)

Forest Health Training.

Target 6.3.3.1.2 Report on Tembec attendance at Workshops, Seminars and Symposiums.

Tembec staff are encouraged to attend numerous workshops, seminars and symposiums throughout the year. These events help to provide Tembec with up-to-date information, which assist to continuously improve Tembec's Forest Stewardship.

Table 49 outlines the major workshops, seminars and symposiums that were attended by Tembec FRM staff.

Table 49 Tembec Attended Workshops, Seminars, and Symposiums.

Workshops, Seminars, and Symposiums	Location
SFMN Forest Landscape Planning and Design Workshop	Winnipeg, MB
Parks and Protected Areas Forum	Winnipeg, MB
ERSI User Conference	Winnipeg, MB
Manitoba Envirothon	Winnipeg, MB
Canon Envirothron	Winnipeg, MB
MFA Forest Educators Workshop	Winnipeg, MB
DFO Stream Crossing Workshop	Winnipeg, MB
MTA/Tembec Workshop (2)	Pine Falls, MB
Total Workshops, Seminars, and Symposiums	**9**

(Source: Tembec, 2008)

Goal 6.3.4 Engage in on-going learning, education and public awareness processes related to the implementation of Sustainable Forest Management.

Indicator 6.3.4.1 Opportunities to meet and discuss Sustainable Forest Management.

Target 6.3.4.1.1 Report on representation of the cross-section of community representatives, non-timber resource users and other interested parties on the Sustainable Forest Management Advisory Committee (SFMAC).

The Sustainable Forest Management Advisory Committee (SFMAC) is a vehicle that is used to seek advice on forest management operations. The SFMAC has 23 members from local community councils, non-profit organizations, resource businesses and environmental organizations. The following (Table 50) outlines the groups/associations/communities that have representation, as of September 2008, on the Sustainable Forest Management Advisory Committee. The SFMAC meets approximately four times a year and provides advice to Tembec on ongoing projects and proposed initiatives.

SFMAC Field Tour in Plantation.

The Sustainable Forest Management Advisory Committee (SFMAC) was formed in November 1994, by Manitoba Environment, as a condition of Environment Act Licence 1557E. In October 1996, Manitoba Environment assigned responsibility for the Committee to the Company.

Table 50 Tembec's Sustainable Forest Management Advisory Committee Members.

Organization	
Black River First Nation	Paddle Manitoba
Brokenhead Ojibway Nation	Quota Holder - South East Forest Products
Eastern Manitoba Tourism Association	Resource Conservation Manitoba
Hollow Water First Nation	Rural Municipality of Alexander
Hollow Water Traditional Area Advisory Committee	Rural Municipality of Lac du Bonnet
Manigotagan Community Council	Sagkeeng First Nation
Manitoba Association of Cottage Owners	Seymourville Community Council
Manitoba Conservation – Forestry Branch	Shining Waters Heritage Region
Manitoba Lodges & Outfitters Association	Time to Respect Earth's Ecosystem
Manitoba Model Forest	Town of Bissett
Manitoba Trappers Association	Wildlife Association – Pinawa Wildlife Association
Metis Federation - Powerview Local	

(Source: Tembec, 2008)

Sustainable Forest Management Advisory Committee Role

The SFMAC is established, to provide organized and frequent public input into Tembec's forest management planning and operations. The SFMAC is established to select and review issues, consider and recommend actions and policies to Tembec. The SFMAC acts in an advisory capacity only. Tembec is not obligated to accept the input and recommendations; however, Tembec will formally respond to every issue raised with reasons for acceptance, modification or rejection. Tembec expects to hold open and meaningful consultation with the SFMAC during the preparation of annual and long-term forest management plans and in any other relevant areas or emerging approaches to forest management, including all of the aspects of the forest. The SFMAC is expected to share their knowledge of the forest and to provide advice to Tembec.

The SFMAC Membership. Term of Reference and Meeting Minutes are available online at www.tembec-frm-manitoba.ca

Sustainable Forest Management Advisory Commit Objectives

1. To provide a forum for the sharing of interests, values and concerns of all Committee members as they pertain to forestry activities on the FML 01.
2. To advise Tembec in the development of approaches to forest management, forestry plans and operating procedures that affect people or the environment. This includes advising on:
   - the preparation of Annual Operating and Renewal Plans and Long Term Forest Stewardship Plans
   - proposed operating procedures for planning and operations activities
   - proposed public participation programs for planning and operations activities
   - implementation of proposed approaches to forest management that it is considering implementing, including Sustainable Forest Management and Ecosystem Based Management
   - environmental and socio-economic practices
   - measures to comply with independent certification requirements pursued or achieved by Tembec .
3. To promote research and development of measures that more effectively address the impacts of forestry activities on the environment and people.
4. To identify individuals who may be impacted by proposed forestry activities and to allow for further consultation by Tembec on a site-specific basis.
5. To communicate Committee activities to interested individuals, groups, organizations and communities.

SFMAC discuss Mustang Minerals Proposed Nickel Mine

Target 6.3.4.1.2 Report on involvement activities.

Tembec was in approximately 290 involvement activities such as meetings, presentations, tours and symposiums as previously outlined in Target 6.2.1.1.1. on page 59.

Target 6.3.4.1.3 Report on joint planning processes.

Tembec work closely with First Nation and local communities as part of it Joint Planning process as previously described in Target 6.1.1.1.1. on page 67.

Target 6.3.4.1.4 Report on a partnership research program including funding levels for each project.

Tembec contributed $50,000 towards research in 2008, which is summarized earlier in Target 6.5.1.1.1. on page 69.

Manitoba Model Forest stream monitoring project.

Target 6.3.4.1.5 Attend and report on participation in workshops, seminars and symposiums relevant to Sustainable Forest Management activities.

Tembec staff is encouraged to attend numerous workshops, seminars and symposiums throughout the year as described previously in Target 6.3.3.1.2. on page 77.

Target 6.3.4.1.6 Continue liaison with Manitoba Conservation and other government agencies regarding Sustainable Forest Management.

Tembec strives to continually improve its Sustainable Forest Stewardship practices by working closely with Manitoba Conservation and other government agencies. Some areas where Manitoba Government and Tembec worked closely together to advance Sustainable Forest Stewardship are as follows:

- Development and implementation of Manitoba Model Forest programs and projects.
- Involvement and function of the Eastern Manitoba Woodland Caribou Advisory Committee

Eastern Manitoba Woodland Caribou Advisory Committee, discuss Owl Lake Research Harvest Study.

- Involvement and function of the Committee for Moose Management
- Forest Practices Guideline Committee
- 20 Year Forest Management Plan Guideline Committee
- Forest Land Inventory Technical Advisory Committee
- Silviculture Technical Committee
- Development of a Spatial Woodsupply Analysis for FML 01

Target 6.3.4.1.7 Membership in relevant industry associations and forestry related organizations.

Tembec are active members in various forestry related organizations and industry associations, which are listed in Table 51.

Table 51 List of Tembec Organizational Memberships.

Organization	Description of Involvement
Canadian Institute of Forestry (CIF)	Canadian Institute of Forestry (CIF) is a national association made up of foresters, scientists, educators and others with a professional interest in forestry. The goal of the CIF is to advance the stewardship of Canada's forest resources, provide national leadership in forestry, promote competence among forestry professionals, and foster public awareness of Canadian and international forestry issues. Dan Philippot represents Tembec on CIF-Manitoba board and is currently the Vice-Chair.
First Nations Forestry Program (FNFP)	Part of Canadian Forest Service Aboriginal Programs designed to provide "seed money" for First Nation communities in Canada. Each Province has a Provincial Management Committee that is provided a yearly budget that is distributed to successful applicant First Nation's within each reporting Province. Bob Yatkowsky sits on the Manitoba Provincial Committee representing Tembec.
FP Innovations (FERIC)	FP Innovations brings together FERIC, Forintek, Paprican, and the Canadian Wood Fibre Centre of Natural Resources Canada, to create the world's largest private, not-for-profit forest research institute. Tembec – Pine Falls is working with FP Innovations and Manitoba Transportation in implementing a central tire inflation pilot project that will assess timber hauling impacts on Provincial highways.
Forest Industry Association of Manitoba (FIAM)	Andy McCuaig represents Tembec on the Forest Industry Association of Manitoba who's objective is to work together to resolve issues which effect the Industry in Manitoba.
Forest Practices Guideline Committee	Dan Philippot represents Tembec – Pine Falls on the Manitoba Forest Practices Guideline Committee. The objective of the committee is to involve provincial government resource managers and forest industry representatives in the development of forest practices guidebooks for the planning, implementation and / or assessment of forestry operations. Completed guidebooks are presented to Manitoba for approval and publication. In 2006 the focus of the committee was to review and develop new harvesting guidelines for riparian zones and forest health.
Forest Products Association of Canada (FPAC)	Tembec – Pine Falls continues to support FPAC. FPAC represents member interests in issues, policy, and legislative developments in Canada. Tembec representation is co-coordinated corporately with operating site support and involvement as assigned for specific working groups.
Interlake Quota Holder Association (IQHA)	The Interlake Quota Holder Association was established to have a unified group to deal with the Provincial Government on issues relating to the forest industry within the South East Forest Section. Bob Yatkowsky was representative and is the current Treasurer.
Manitoba Forestry Association (MFA)	Manitoba Forestry Association is a forest organization that's mission is to inform and educate all Manitoba's about wise management of trees and forests through their Woodlot, Envirothon, and numerous Forest Education programs. Jennifer Lidgett represents Tembec – Pine Falls on the Manitoba Forest Association (MFA) Board, and is the current MFA President, as of April 2007.
Manitoba Model Forest (MBMF)	Vince Keenan represents Tembec on the Manitoba Model Forest Board of Directors, with Bob Yatkowsky as the Alternate. As well, Vince Keenan is the Manitoba Model Forest Treasurer, and chairs the Forest Stewardship Working Group and Bob Yatkowsky co-chairs the MBMF Local Level Working Group.
North East Sustainable Development Association (NESDA)	The North East Sustainable Development Association (NESDA) is a non profit organization promoting the sustainable use of Manitoba's natural resources through education and their Pine Creek Interpretative Nature Trail Tembec – Pine Falls continues to support NESDA and works with the group on various youth education iniativites. James Fraser is the current NESDA President.
Manitoba Silviculture Technical Committee (MbSTC)	Dan Phillippot represents Tembec on the Manitoba Silviculture Technical committee. The objective of the committee is to involve MC and forest industry in the research, development, and recommendations of silviculture practices, standards, and strategies. In 2006, the focus was on reviewing current free-to-grow standards and developing regeneration surveys specific to hardwood sites.
South East Quota Holder Association (SEQHA)	The South East Quota Holder Association was established to have a unified group to deal with the Provincial Government on issues relating to the forest industry within the South East Forest Section. Bob Durocher represents Tembec on the South East Quota Holder Association.

(Source: Tembec, 2008)

CRITERIA 7 ABORIGINAL BENEFITS

VALUE 7.1 ABORIGINAL AND TREATY RIGHTS

Goal 7.1.1 Create awareness of Tembec staff about Aboriginal and treaty rights and cultural awareness.

Indicator 7.1.1.1 Types and participation in awareness workshops.

Target 7.1.1.1.1 Report on and describe awareness workshops held.

There were no awareness workshops held in 2008, but there were two separate workshops held to help create awareness on Aboriginal and Treaty Rights in previous years. One was held in the community of Sagkeeng which addressed cultural and spiritual values. The second one was held in the community of Pine Falls and gave a history of how the treaties evolved and what was contained in the treaties and signatories to the treaties.

Target 7.1.1.1.2 Percentage of staff having participated in workshops.

Approximately, 80% of the Tembec FRM staff has attended at least one the Cultural Awareness and Aboriginal and Treaty Rights Workshops

Cultural Awareness Workshop held for Tembec Staff in 2004 at Turtle Lodge on Sagkeeng First Nation.

VALUE 7.2 ABORIGINAL TRADITIONAL LAND USE AND FOREST-BASED ECOLOGICAL KNOWLEDGE

Goal 7.2.1 Provide opportunities for the pursuit of holistic and subsistence uses of the forest and respect current First Nations cultural values of the forest.

Indicator 7.2.1.1 Identify and include First Nations special use areas and areas of concern into planning processes, as they are brought forward during joint planning with First Nations and other public consultation processes.

Target 7.2.1.1.1 Report on identified special use areas and areas of concern (while respecting confidentiality of information), as well as the development and implementation of specific mitigation strategies.

Meetings have been held with trappers and areas of concern have been addressed and implemented into the planning process. There have also been meetings with Chief and Councils, communities and with two Traditional Area Advisory Committees (TAAC) to review and where needed appropriate changes have been made.

Tembec has worked with Local Trappers to map their special use area and values.

Target 7.2.1.1.2 Report on joint planning meetings with First Nation communities.

Table 52 summaries the amount and type of meetings that occurs with First Nation Communities for 2008.

Table 52 Joint Planning Meeting with First Nation Communities.

Community	# of Meetings	General Meeting Descriptions / Topics
Hollow Water First Nation	22	• TACC Meetings • Meeting with Chief & Council • Member of Tembec Sustainable Forest Management Advisory Committee • Annual Operating and Renewal Plan • 2009-2028 Forest Stewardship Plan • First Nation Employment Opportunities • Trappers • Tour Forest Operations
Black River First Nation	12	• TAAC Meetings • Meeting with Chief & Council • Member of Tembec Sustainable Forest Management Advisory Committee • Moose Management • Annual Operating and Renewal Plan • 2009-2028 Forest Stewardship Plan • First Nation Employment Opportunities • Tour Forest Operations
Sagkeeng First Nation	14	• Chief and Council Committee • Member of Tembec Sustainable Forest Management Advisory Committee • Moose Management • Annual Operating and Renewal Plan • 2009-2028 Forest Stewardship Plan • First Nation Employment Opportunities • Trappers • Tour Forest Operations
Chiefs from Black River, Hollow Water and Sagkeeng	2	• Joint meetings regarding common issues/initiatives
Brokenhead Ojibway First Nation	1	• Member of Tembec Sustainable Forest Management Advisory Committee • First Nation Employment Opportunities
Bloodvien River First Nation	1	• First Nation Employment Opportunities
Berens River First Nation	1	• First Nation Employment Opportunities
Peguis First Nation	1	• First Nation Employment Opportunities
Island Lake First Nation	1	• First Nation Employment Opportunities
Other First Nation Communities and Groups	28	• First Nation Forestry Program • Strategic issues around FNFLP and Bison Hardwood Project • Trappers • Junior Ranger Program development • Economic Initiatives
Total	83	

(Source: Tembec 2008)

Goal 7.2.2 Incorporation of Traditional Ecological Knowledge (TEK) into the Sustainable Forest Management process.

Indicator 7.2.2.1 Communities that have provided TEK to the Sustainable Forest Management process, while respecting the proprietary nature of the information.

Target 7.2.2.1.1 Report on the opportunities provided to First Nation communities for the incorporation of TEK.

Within the framework of meetings with local communities and an advisory committee, identify opportunities have been provided to TEK values to be incorporated into the Sustainable Forest Management process.

Target 7.2.2.1.2 Create and establish mechanisms to ensure the proprietary nature of TEK.

All material and notes from meetings held with communities and advisory committees are kept within the community unless otherwise advised to do so.

Goal 7.2.3 Improve participation of local Aboriginal communities by supporting and enhancing community land use plans.

Indicator 7.2.3.1 Types of support offered by Tembec for the development and/or refinement of First Nation land use plans.

Target 7.2.3.1.1 Report on the types of support offered by Tembec to First Nation communities for the development and/or refinement of land use plans.

Tembec has provided mapping and GIS services to communities to assist in land use planning. The company is open to assisting in this process when requested by individual communities.

The company participates on and supports the Wabanong Nakaygum Okimawin (WNO) planning initiative, which is currently developing community based land use studies.

VALUE 7.3 DEVELOPMENT OF RELATIONSHIPS BETWEEN TEMBEC AND FIRST NATIONS COMMUNITIES

Goal 7.3.1 Fostering positive relationships with First Nations that extend beyond forest management.

Indicator 7.3.1.1 Types of interactions and involvement of Tembec with local First Nations communities, beyond that of forest management.

Target 7.3.1.1.1 Report on the types of ways that Tembec interacts and supports First Nation communities.

Tembec has supported various community functions from participation in economic development conference, Treaty Days, attending various cultural events and providing in kind support for these events. There have also been donations of firewood and materials for local events.

Ushering in conference dignitaries.

VALUE 7.4 EMPLOYMENT AND BUSINESS OPPORTUNITIES FOR FIRST NATIONS

Goal 7.4.1 Provide long-term employment and business opportunities to local First Nation communities and community entrepreneurs.

Indicator 7.4.1.1 Number of jobs resulting from on-going Tembec Forestry Operations.

Target 7.4.1.1.1 Report on the number of First Nation people employed directly and indirectly by Tembec Forestry Operations.

There were over 260 full and part time people employed by Tembec and contractors, employed by Tembec, in conducting pre and post harvest surveys, forest renewal projects, road construction and maintenance projects and timber harvesting and hauling operations again in 2008.

It is estimated that approximately 150 of all full and part time employees are of First Nation background. This represents over 55 % of the forestry operations employees.

Hollow Water First Nation road construction operation.

Indicator 7.4.1.2 Number, type and value of contracts awarded to First Nation contractors in FML 01.

Target 7.4.1.2.1 Report on the number, value and type of contracts awarded to First Nation contractors.

Tembec's on going policy to work with the local First Nation communities provides for the ability to award contracts to individual and business from these communities.

Over $1,500,000 was paid to First Nation Contractors.

Table 51 outlines by community, the types of contracts awarded to First Nation contractors in 2007. This is less than last year because harvesting contracts no longer included truck, just payment of wood to road side, due to the new tree length system implemented in 2007

The total value of all contracts awarded to first Nation contractors on FML 01 was over 1.5 million dollars.

Table 53 First Nation Economic Forest Management Contracts.

Community	Contract Description
Black River First Nation	1 Harvesting Contractors 1 Tree Planting Contractor
Brokenhead Ojibway Nation	1 Silviculture Survey Contractor
Hollow Water First Nation	3 Harvesting Contractors 1 Road Construction/ Maintenance Contractor
Sagkeeng First Nation	4 Harvesting Contractors 2 Tree Planting Contractors

(Source: Tembec, 2008

Goal 7.4.2 Facilitate training and education opportunities for First Nations, which will enhance opportunities for employment in forest management.

Indicator 7.4.2.1 Type of training and education opportunities conducted by Tembec and/or in partnership with others, and number of First Nation people attending.

Target 7.4.2.1.1 Report on training and opportunities programs.

Tembec has presented and / or worked with numerous First Nation Communities and Forest Education Agencies to promote various First Nation Training and Education opportunities.

Table 54 summarizes the major education and training opportunities presented in 2008.

Tree Planting Training with Black River First Nation Students.

Table 54 First Nation Training and Education Opportunities.

Type	General Description
Contractor Training	Educated Harvesting, Renewal, Road Building Contractor on Tembec's Forest Management Procedures, Environmental Management System and Policies.
Field Tours	Conducted several field tours of Tembec's Forest Operations
Regional Trade School	Active member of the local Trade School Committee, which is working to set up a Regional Trade School in the area that will help provide training and allow First Nation student to stay in their community.
MBMF Forest Youth Symposium	Help to host the MBMF Forest Youth Symposium which exposed approximately 200 Grade 7 students to the Forests and Forest Management.
Junior Ranger Program	Provided support towards the development and implementation of a Junior Ranger Program, which provided First Nation Youth with hands-on experience and exposure to resource employment opportunities and firearm, first-aid and ATV certificate training.
Tree Planting	Trained approximately 12 Black River Student on Tree Planting.

(Source: Tembec, 2008)

Goal 7.4.3 Undertake Sustainable Forest Mangement planning and activities in a manner that enables timber and non-timber resource industry.

Indicator 7.4.3.1 Types of support and / or involvement for timber and non-timber resource industries.

Target 7.4.3.1.1 Report on support and / or involvement for timber and non-timber resource industries with respect to Tembec activities, including joint planning with Aboriginal communities in FML 01.

Tembec has provided financial support and personnel involvement in the development of local contractors. Tembec provided logs to assist in a log home training program. Tembec has provided mapping and forest resource data to communities and individuals within communities to assist in local developments.

VALUE 7.5 INVOLVEMENT OF FIRST NATIONS IN FOREST STEWARDSHIP PLANNING

Goal 7.5.2 Increase participation of local Aboriginal communities in Sustainable Forest Management.

Indicator 7.5.2.1 Establishment of and support for mechanisms with individual communities.

Target 7.5.2.1.1 Report on initiatives for increasing participation by Aboriginal communities.

Tembec has been assisting in the development of local traditional area advisory committees to assist local communities in participating and achieving better understanding of Sustainable Forest Management processes.

Target 7.5.2.1.2 Report on support (financial, in-kind) offered to communities in order to enhance involvement in community joint planning through Traditional Area Advisory Committees and other forums.

Tembec has provided both financial and in kind support for the development of traditional area advisory committees and conducting community meetings.

ACRONYMS

AAC	Annual Allowable Cut
AORP	Annual Operating and Renewal Plan
ASI	Areas of Special Interest
CCFM	Canadian Council of Forest Ministers
CROCE	Cash Return on Capitol Employed
DOM	Dead Organic Matter
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
EMS	Environmental Management System
ENGO	Environmental Non-Governmental Organization
ESRI	Environmental Systems Research Institute
DFO	Department of Fisheries and Oceans
FERIC	Forest Engineering Research Institute of Canada
FIAM	Forest Industry Association of Manitoba
FLITAC	Forest Land Inventory Technical Advisory Committee
FML	Forest Management Licence 01
FNLP	First Nations Limited Partnership
FPAC	Forest Products Association of Canada
FRI	Forest Resource Inventory
FTG	Free-to-Grow
GIS	Geographic Information Systems
GPS	Global Positioning System
HSI	Habitat Suitability Index
HU	Habitat Units
INAC	Indian and Northern Affairs Canada
IRMT	Integrated Resource Management Team
MAI	Mean Annual Increment
MBMF	Manitoba Model Forest
MC	Manitoba Conservation
MFA	Manitoba Forestry Association
MIS	Management Information System
NSR	Not Sufficiently Regenerated
ORP	Operating and Renewal Plan
PFRA	The Prairie Farm Rehabilitation Administration
PHA	Pre-Harvest Assessment
PSP	Permanent Sample Plot
SFM	Sustainable Forest Management
SFMAC	Sustainable Forest Management Advisory Committee
SFMP	Sustainable Forest Management Plan
TAAC	Traditional Area Advisory Committee
TEK	Traditional Ecological Knowledge
UNCED	United Nations Conference on Environment and Development
VTE	Vulnerable, Threatened, and Endangered