

FOREST MANAGEMENT LICENCE # 3

2000 - 2001 ANNUAL REPORT



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Louisiana-Pacific Canada Ltd.
Swan Valley - Forest Resources Division
Forest Management License # 3

FMIL # 3 ANNUAL REPORT 2000-2001

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FML # 3 SIGNIFICANT EVENTS 2000-2001

LP Oriented Strand Board (OSB) Mill

- after successful trials, the OSB mill begins to utilize up to 10% white birch in its OSB production
- installation and start-up of bark burner
- fire marshal reduces wood yard capacity by 50,000 m³ due to growing bark pile

Forest Management Planning

- this annual report contains actual block areas delineated from aerial photos, instead of using planned block areas
- cooperative inventory project Forest lands Inventory started with Manitoba Conservation to develop an ecological inventory for the Duck Mountains and Porcupine Mountains
- 20 Year Forest Ecosystem Management Plan formally started

Harvesting

- Swan Valley Forestry Exhibition & Live Action Demo 2000 held in the Swan River Valley (June 22-24th, 2000)
- Hardwood stumpage increases from \$0.55/m³ to \$1.15/m³
- Stand Management & Renewal fees increase for hardwood from \$0.45/m³ to \$1.30/m³
- Developed and tested Logging Contractor Audit.
- LP harvests 619,819 m³ of Hardwood

Forest Renewal

- LP receives 'Certificate of Reforestation' for 527 ha of five-year old aspen cutovers
- site prepared 1,317 hectares
- Snow cached 1.1 million seedlings
- planted 2.29 million seedlings
- LP completes first cone collection project (black spruce)

Research and Monitoring

- Duck Mountain Bird Monitoring Program – 551 stations were sampled
- completed installation of all hardwood PSPs by EcoRegion
- LP involved with the Sustainable Forest Management Network (SFMN) of Centres of Excellence, WESBOGY growth and yield cooperative, Forest Engineering Research Institute of Canada (FERIC), and the Canadian Woodlands Forum
- Established PSPs within Garland Grazing Trial experimental site



1.0 INTRODUCTION

The 2000 – 2001 annual report summarizes the forest management activities undertaken by Louisiana-Pacific Canada Ltd. within FML # 3 and portions of FML # 2 (Forest Management Units 12 and 14) from May 1st 2000 to April 30th, 2001.

The annual report has been prepared according to the conditions outlined in Paragraph 6 (A) of the Forest Management License Agreement (FML # 3) between the Province of Manitoba and Louisiana-Pacific Canada Ltd., dated September 21, 1994. FML # 3 was allocated to the LP to ensure a long term fiber supply for the operation of the Oriented Strand Board (OSB) mill located near Minitonas in the Swan River Valley (Figure 1).

The Agreement was in effect on the date of signing and will expire on December 31, 2014. The Agreement shall be extended and the license renewed subject to the faithful performance by the Company during the preceding period.

The Company was issued an Environment Act License (No. 2191) dated May 27, 1996 to carry out forest management activities within the geographical boundaries of Forest Management License Area # 3. The appeals process resulted in changes to the Environment Act License No. 2191. Environmental Act License No. 2191E was issued December 11, 1996.

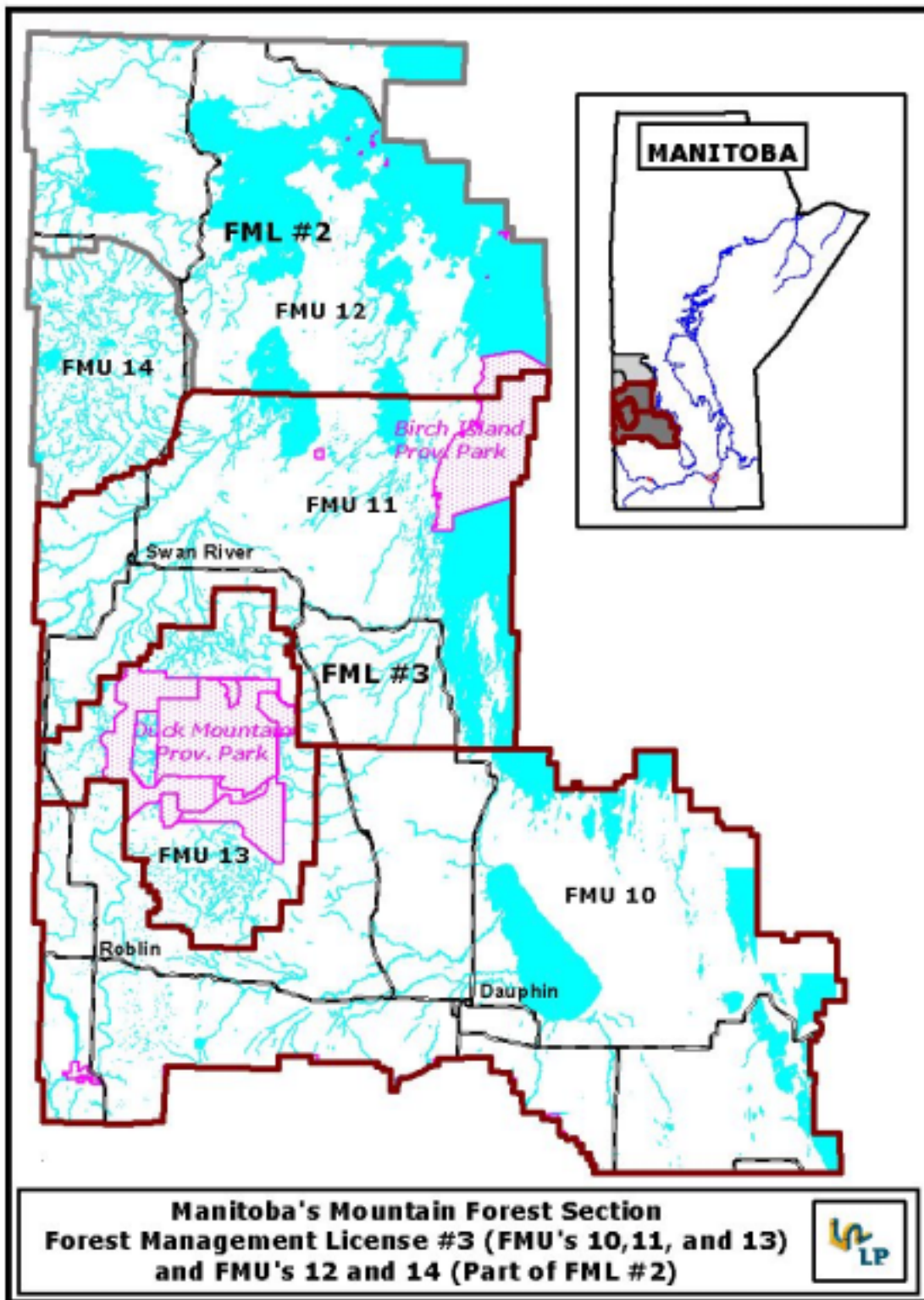


Figure 1. Overview map of the Mountain Forest Section including FML # 3 and a portion of FML # 2



2.0 FOREST MANAGEMENT PLANNING

Forest management planning is used to sustainably manage the renewable resources in FML # 3. Long-term planning is addressed in LP's 10-Year Forest Management Plan, while our Annual Operating Plans (AOP) focus on current plans within the context of those long-term goals. The planning process is open, and seeks advice and input from stakeholders to ensure concerns are mitigated before harvesting begins.

2.1 PLANNING PROCESS

LP continued to improve its' planning process in the following areas:

- Pre-Harvest Surveys (PHS)
- Pre-Harvest Silvicultural Prescriptions (PHSP)
- Mitigation of provincial government concerns prior to AOP submission
- Public Involvement

2.1.1 Pre-Harvest Surveys

A pre-harvest survey is a site-specific ecosystem assessment of a harvest area prior to logging. In the 2000 field season, cutblocks that would be harvested in 2001 are surveyed (Figure 2.1). The assessment is then developed into a site-specific pre-harvest silvicultural prescription (PHSP) which addresses timber and non-timber resource concerns. LP has committed to completing PHS's on all areas planned for harvest.



Figure 2.1 A surveyor conducting a vegetation assessment of the herb layer.

The Pre-Harvest Surveys gather data on most aspects of the ecosystem (Figure 2.2), including:

- in-block waterways
- exceptional features (mineral licks, nests *etc.*)
- live and dead standing (snags) tree data
- coarse woody debris (dead trees on the ground)
- vegetation community and V-type
- soils and S-type
- understory trees (advanced regeneration)
- competitive vegetation (shrub & forb layers)
- ungulate browse activity
- vulnerable, threatened and endangered species
- forest health (insects & disease)
- wildlife evidence (tracks or scat)
- site limitations (steep slopes, wet areas)
- heritage resources



Figure 2.2 Pre-Harvest Survey crew at work.

In the 2000 field season (June 2000 - September 2000), 2,652 PHS plots were surveyed on 130 cutblocks. This total includes both Quota holder proposed cutblocks and LP proposed cutblocks.

2.1.2 Pre-Harvest Silvicultural Prescriptions

The Pre-Harvest Silvicultural Prescription (PHSP) is written for each proposed cutblock, based on the PHS data and mapping. The PHSPs are a detailed site-specific plan which include:

- year and season of harvest
- harvest/Silvicultural System (*e.g.* Clear Cut, Understory Protection)
- wildlife Objectives (*e.g.* leave trees/structure, buffers, corridors)
- renewal detail (*e.g.* site Preparation, Seedlings stock types and densities)
- monitoring (*e.g.* timing of regeneration surveys)

To develop a comprehensive PHSP, a great deal of knowledge is needed in many disciplines, such as forest management, operational forestry, silviculture, and wildlife biology. In order to evaluate the PHS data and develop a PHSP, it was found we needed to establish an “Integrated Planning Team”. The planning team consists of an area planner, silviculture forester, wildlife biologist and the district forester. This group reviews all information regarding any proposal including operating areas, road developments or harvest blocks. Together they develop a site-specific prescription for each harvest block (Figure 2.3).

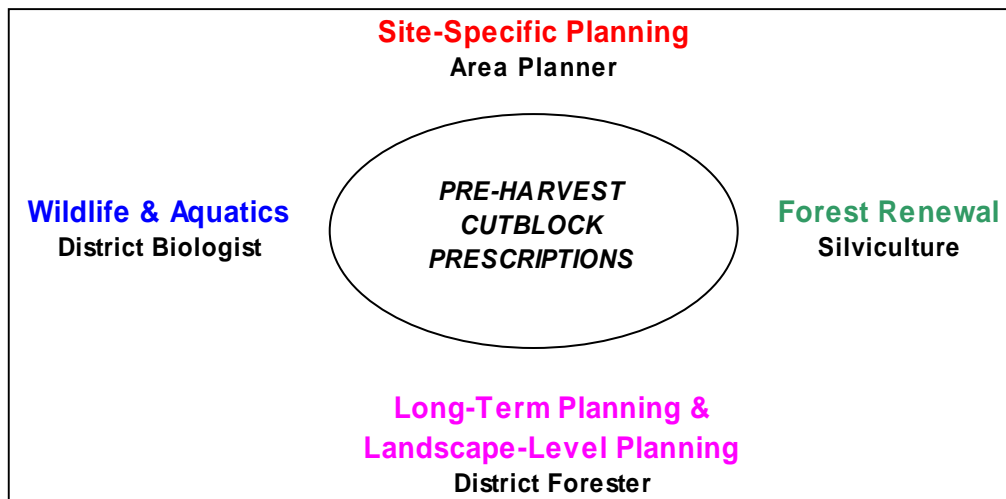


Figure 2.3 An illustration of LP’s integrated planning team and the development of PHSPs for the Annual Operating Plan.

2.1.3 Annual Operating Plan Mitigation Process

In the 2000-2001 operating year, LP continued to work closely with the Grandview, Roblin, and Swan River districts and the local Integrated Resource Management Team (IRMT) to mitigate all concerns regarding cutblock proposals **prior** to the AOP submission. After mitigation, LP completes an AOP with a detailed one-year plan and a general three-year projection. The AOP is submitted to Manitoba Conservation (MC) for a 60-day approval process. Following the AOP’s approval, each proposed cutblock in the plan must be permitted through the local MC district office prior to beginning any forest management activities.

2.2 PUBLIC AND STAKEHOLDERS INVOLVEMENT

A large component of the planning process is obtaining input from the public. The citizens of Manitoba are stakeholders in the forest, and have the right to be informed and to provide input into the management of Crown lands. LP is committed to public involvement and provided this opportunity through public open houses, the Stakeholders Advisory Committee, Rural Municipality meetings, and field tours and presentations with local schools and interest groups.

2.2.1 Public Open Houses

In February of 2001, LP held four public open houses regarding the 2000 - 2001 Annual Operating Plan (AOP). The meetings were advertised in the Winnipeg Free Press, Swan Valley Star and Times, Roblin Review, Dauphin Herald, Parkland Shopper, and Hudson Bay Post Review newspapers. Open house meetings were advertised on Dauphin's radio station 730 CKDM. Written invitations were sent to all Stakeholder Advisory Committee (SAC) representatives, local Rural Municipalities, and town offices.

The four open houses were attended by a total of 71 people. LP believes the exchange of knowledge was beneficial for both LP and the people who attended. The following are the location and dates of the 2000 - 2001 AOP open houses:

Location	Date
• Roblin, MB	Jan. 29 th , 2001
• Grandview, MB	Jan. 30 th , 2001
• Ethelbert, MB	Jan. 31 st , 2001
• Swan River, MB	Feb. 1 st , 2001

Two additional open houses were held at the LP OSB Mill in Minitonas, and an Annual Operating Plan presentation made to the OSB Business Team.

2.2.2 Stakeholders Advisory Committee (SAC)

Throughout the 2000-2001 operating year, the SAC continued as an integral part of the Company's planning process through regular meetings (Figure 2.4) and field trips. The SAC provides valuable insight and information relating to our proposed plans and management activities.

Active representation on the SAC currently consists of the following organizations (listed alphabetically):

- Cottage Owner's Association
- Intermountain Conservation District
- Manitoba Environment
- Manitoba Natural Resources
- Manitoba Naturalists Society
- Manitoba Trapper's Association
- Midwest Manitoba Lodge and Outfitters

- Mountain Quota Holder's Association
- Northern Association of Community Councils (NACC) - Western Region
- Parkland Trails Association
- Parkland West Economic Development
- Riding Mountain National Park
- Swan Valley Sport Fishing Enhancement Inc.
- West Region Elk Management Board



Figure 2.4 Stakeholder's Advisory Committee meeting in the LP boardroom.

During this report period, SAC meetings were held:

- October 23, 2000;
- December 4, 2000;
- January 22, 2001;
- Feb. 19, 2001; and
- April 23, 2001.

Members of the SAC have been involved in field tours to view existing and post logging activities. We value and appreciate the input given by the members of the Stakeholders Advisory Committee and will continue to meet with them on a regular basis.

2.2.3 Local Jurisdictions

LP staff meet regularly with the various local Rural Municipalities (RM) to discuss issues or concerns that may arise due to LP's use of RM road networks in accessing harvest blocks, both on Crown land and private land. Meetings are held to discuss proposed haul routes, necessary road maintenance, road repair or construction.

Traffic safety (*e.g.* avoiding school bus routes) is another important issue. LP staff also met with Swan River RCMP regarding traffic safety through town and school buses.

2.2.4 Other Field Tours and Presentations

The following is a list of meetings, presentations and field tours that LP staff attended in 2000-2001:

- LP staff provided a sustainable forest management presentation and field trip to the Biology class of the *Swan Valley Region Secondary School (SVRSS)*.
- Feb 2000 - LP Staff gave students from Swan River, Roblin, and Grandview a hands-on field trip of snow-caching tree seedlings



3.0 ROAD CONSTRUCTION AND ACCESS MANAGEMENT

Road construction can have a significant impact to the forest landscape. LP wishes to minimize the environmental risk of road construction. Therefore, LP continued to utilize existing trails and roads where possible. After road construction is complete, there is a risk of soil erosion on exposed surfaces. Increasing efforts for erosion control were implemented after road construction and during the active use of forestry roads. When harvesting and renewal activities were complete, LP closed and deactivated roads wherever possible.

Access was managed cooperatively with the public and the IRMT. Existing access generally has to remain open, but newly built roads are access managed through decommissioning the road, road closures, slash roll-back, and/or gates.

3.1 ROAD UPGRADE AND CONSTRUCTION

More roads were made by upgrading trails and existing roads than new construction (Table 3.1 and Figure 3.1). The only major road construction project in 2000 was the Upper Dam Road.

Table 3.1 Road upgrade and construction summary by FML for LP operations.

FML #	Road Upgrade (km)	New Road Construction (km)	TOTAL (km)
2	26.5	8.0	34.5
3	16.0	24.1	40.1
TOTAL	42.5	32.1	74.6

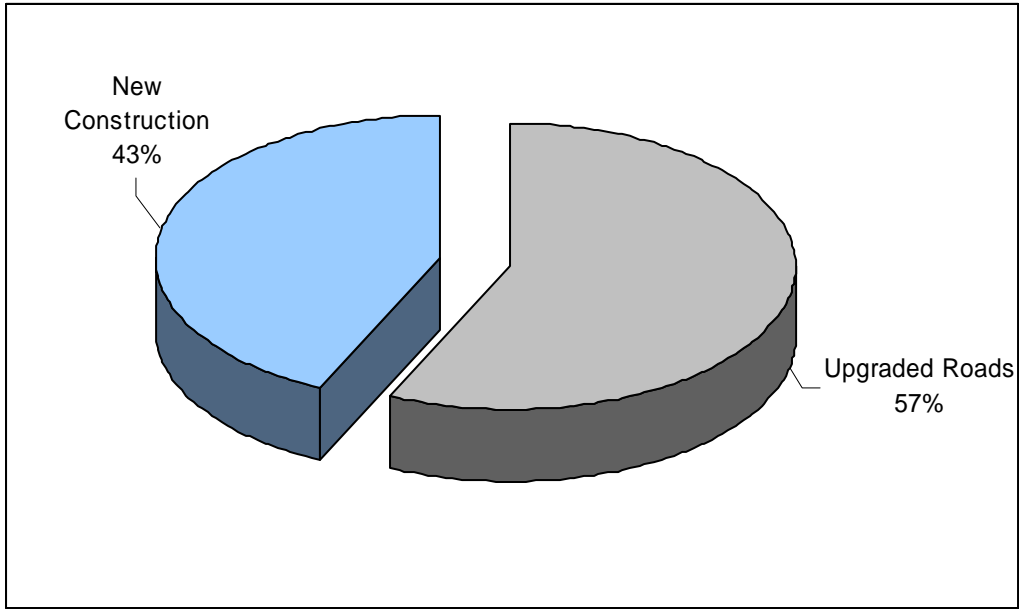


Figure 3.1 Type of road construction by type for LP operations.

LP uses the following Road Class definitions:

- **Class I** - All-weather road; graded and graveled; 20 year plus life span; 45 m ROW
- **Class II** - All-weather road; graded and graveled; up to 20 year life span; 20-30 m ROW
- **Class III** – All-weather road; grading & graveled; 2-20 year life span; 20 m ROW
- **Class IV**- Dry or frozen road; minimal gravel; stumped, life span 1-5 years; 10-20 m ROW
- **Class V**- Winter only road; little development; used to cross lowlands, swamps and water bodies; life span 1-2 years; 8-20 m ROW

In the 2000-2001 operating year, no Class II roads were upgraded or constructed (Table 3.2), and Class IV roads were the most common (Figure 3.2).

Table 3.2 Road construction by class for both LP and Quota Holders for FML # 3

	Road Class (km)				TOTAL
	II	III	IV	V	(km)
LP	0.0	10.5	12.4	2.7	25.6
Quota Holder	0.0	2.0	8.8	1.5	12.3
TOTAL	0.0	12.5	21.2	4.2	37.9

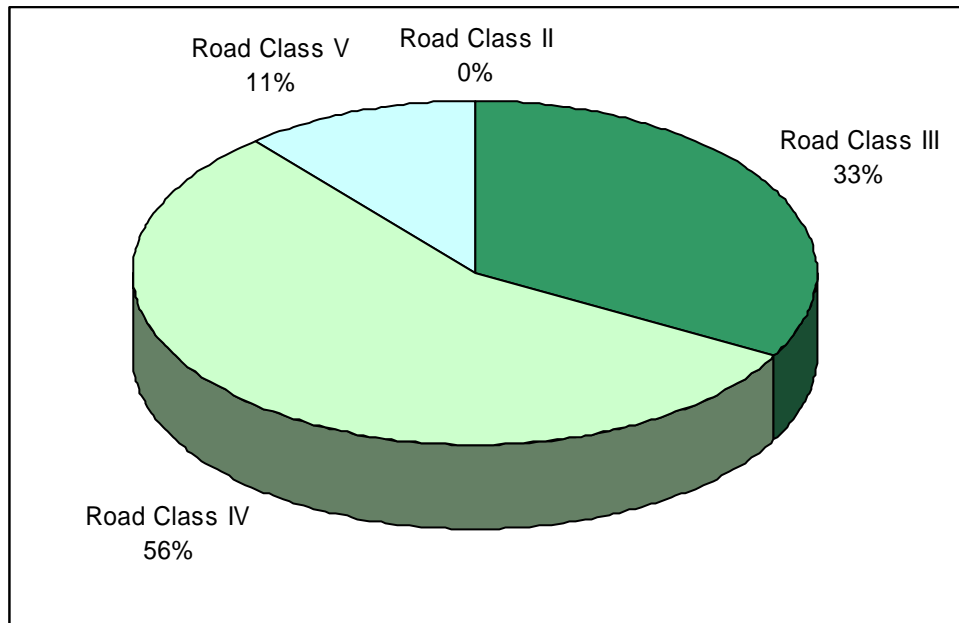


Figure 3.2 Road class percentages for both LP and Quota Holders - FML # 3

The following tables (Table 3.3 to 3.7) list the actual road construction (in kilometers) by FMU, road class, and type for both LP and Quota holders.

Table 3.3 Road upgrade and construction summary for FMU 11 - LP operations.

Road Class	Road Upgrade (km)	New Road Construction (km)	TOTAL
II			
III			
IV			
V	1.5		1.5
TOTAL	1.5		1.5

Table 3.4 Road upgrade and construction summary for FMU 12 - LP operations.

Road Class	Road Upgrade (km)	New Road Construction (km)	TOTAL
II			
III	1.5		1.5
IV	2.0	5.0	7.0
V			

TOTAL	3.5	5.0	8.5
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Table 3.5 Road upgrade and construction summary for FMU 13 - LP operations.

Road Class	Road Upgrade (km)	New Road Construction (km)	TOTAL
II			
III	7.0	10.5	17.5
IV	7.5	12.4	19.9
V		1.2	1.2
TOTAL	14.5	24.1	38.6

Table 3.6 Road upgrade and construction summary for FMU 14 - LP operations.

Road Class	Road Upgrade (km)	New Road Construction (km)	TOTAL
II			
III	16.0		16.0
IV	7.0	3.0	10.0
V			
TOTAL	23.0	3.0	26.0

Table 3.7 Road upgrade and construction summary for FMU 13 – Quota Holder operations.

Road Class	Road Upgrade (km)	New Road Construction (km)	TOTAL
II			
III		2.0	2.0
IV	4.0	8.8	12.8
V		1.5	1.5
TOTAL	4.0	12.3	16.3

3.2 ACCESS MANAGEMENT

Building logging roads can have positive and/or negative impacts on forest resources. Ungulate populations, such as moose, are especially sensitive to the increased hunting pressure that follows newly increased access. LP utilizes a variety of techniques to manage access into logging roads, including:

- Road closures
- Road decommissioning
- Roll-back of slash and organic matter

- Removal of stream crossings
- Gates

LP hopes to minimize the impacts of roads, while maximizing the benefits of short-term road access.



Figure 3.3 An example of a decommissioned road.

3.3 STREAM CROSSING PROGRAM

3.3.1 Background

As part of the Environment Act License 2191E, LP is required to submit detailed information regarding the potential for navigability and presence of fish or fish habitat in areas where LP water crossings have been proposed. Since 1997, LP has conducted detailed stream assessments on proposed water crossings that have *the potential to support fish or fish habitat*. The data collected from the assessment is summarized and used to help LP develop forest road access and water crossing prescriptions included in the Annual Operating Plan, that will mitigate potential impacts to fish habitat and public navigational interests. The Annual Operating Plan which includes the stream assessment summary tables, is submitted to the Department of Fisheries and Oceans and the Canadian Coast Guard, as well as, the local Manitoba Conservation Integrated Resource Management Team for review.

Information is collected on a variety of stream attributes, they include, measurements on morphological and hydrological characteristics, identification of instream cover characteristics and substrate composition, and community sampling of fish and invertebrate populations found within the stream. The stream assessments are conducted on an annual basis by LP Fish and

Wildlife Resource Technicians between the months of May to September. The stream assessment program is coordinated and supervised by the LP Swan Valley District Biologist.

3.3.2 LP 2000 Stream Assessment Results

Eleven stream assessments were completed during the spring and summer field season of 2000. Out of the 11 stream crossings that were surveyed six stream assessments were conducted in FML 3 and five were conducted in FML 2. Field technicians sample 100 m of the stream reach, 50 m upstream and 50 m downstream from the proposed point of crossing (Figure 3.4).



Figure 3.4 Mottled sculpin collected during a stream assessment (left); sampling for invertebrates using a surber sampler (right).

The following is a summary of data collected for the six proposed stream crossings within FML # 3.

Stream Crossing : CWW-C05

Date Surveyed: May 26, 2000

This proposed stream crossing is located on the North Duck River within the Duck Mountains, MB. The average wetted width (water level) of the stream channel was approximately 7.24 m with the width of the high water mark (flood stage) averaging approximately 8.65 m. The mean water depth was approximately 41 cm and mean stream velocity was approximated to be 2.8 cm/s. The water surface slope was relatively flat, averaging about 1%. Vegetation along the stream bank consisted of shrub vegetation, allowing stream water to be directly exposed to the sunlight. The average stream water temperature was 13.5°C.

The stream was located within a black spruce mixedwood stand with silty-clay soils along the stream banks. The substrate was composed of mainly rock (29%), gravel (23%), sand (21%), silt (17%) and some boulder (10%). There was very little instream cover potential along this particular stretch of the river. Instream cover was composed of 2% logs and trees, 0.6% undercut banks, 0.2% rock, and approximately 0.2% of organic material.

The three most dominant invertebrate species collected were identified as (taxonomic Order) Trichoptera (caddis flies), Chironimidae (midges), and Ephemeroptera (mayflies). Fish community sampling was conducted with the use of a backpack electrofishing unit. The fish species collected were identified as *Rhinichthys atratulus* (blacknose dace), *Castostomus commersoni* (common white sucker), *Etheostoma nigrum* (johnny darter), *Cottus bairdi* (mottled sculpin) and *Notropis volucellus* (mimic shiner).

This particular stream crossing was not constructed during the 2000 operating year due to navigability concerns. The stream crossing development plans for CWW-C05 are undergoing review with the Canadian Coast Guard, a division of the Department of Fisheries and Oceans Canada. Installation activities are expected to commence in the winter of 2001.

Stream Crossing: UPD-C01

Date Surveyed: Jun. 9, 2000

This stream crossing was located on an unnamed stream within the Upper Dam Operating Area of FML 3. The average wetted width (water level) of the stream channel was approximately 0.74 m with the width of the high water mark (flood stage) averaging approximately 3.70 m. The mean water depth was approximately 6 cm and mean stream velocity was approximated to be 13.2 cm/s. The water surface slope was relatively flat, averaging about 1%. Vegetation along the stream bank consisted of shrub vegetation, with a large amount of down woody material hanging overtop the stream channel. The average stream water temperature was 7.7°C.

The stream was located within a black spruce mixedwood stand with silty-loam soils along the stream banks. The substrate was composed of mainly muck (60%), rock (24%), silt (10%), and some gravel (6%). Instream cover was composed of 4% logs and trees and approximately 38% of organic material.

The three most dominant invertebrate species collected were identified as (taxonomic Order) Hemiptera (true bugs), Amphipoda (scuds and sideswimmers), and Hirudinea (leeches). Electrofishing was not conducted during the assessment due to rainy weather and the amount of downed woody material present within and on top the banks of the stream which created dangerous walking conditions.

Stream Crossing: UPD-C02

Date Surveyed: Jun. 10, 2000

This stream crossing was located on an unnamed stream within the Upper Dam Operating Area of FML 3. The average wetted width (water level) of the stream channel was approximately 1.3 m with the width of the high water mark (flood stage) averaging approximately 5.2 m. The mean water depth was approximately 7.8 cm and mean stream velocity was approximated to be 25.5 cm/s. The water surface slope was relatively flat, averaging about 1%. Vegetation along the stream bank consisted of tree and shrub cover – canopy closure along the streambanks was estimated to be about 25%. The average stream water temperature was 7.7°C.

The stream was located within a black spruce mixedwood stand with silty-clay soils along the stream banks. The substrate was composed of mainly boulder (60%), muck (35%) and rock (24%). Instream cover was composed of logs and trees (5%), rock (2.5%), and organic material (2.5%).

The three most dominant invertebrate species collected were identified as (taxonomic Order) Pelecypoda (clams), Odonata (damselflies), and Coleoptera (water beetles). Fish community sampling was conducted with the use of a backpack electrofishing unit. The fish species collected were identified as *Culaea inconstans* (brook stickleback) and *Semotilus atromaculatus* (creek chub).

Stream Crossing: UPD-C05

Date Surveyed: Jun. 11, 2000

This stream crossing was located on an unnamed stream within the Upper Dam Operating Area of FML 3. The average wetted width (water level) of the stream channel was approximately 1.46 m with the width of the high water mark (flood stage) averaging approximately 4.6 m. The mean water depth was approximately 10 cm. The water surface slope was relatively flat, averaging about a 2 % slope. Vegetation along the stream bank consisted of shrub vegetation, no treed canopy cover present. . Stream velocity and temperature could not be determined at the time of the assessment due to equipment damage.

The stream was located within a black spruce mixedwood stand with silty-clay soils along the stream banks. The substrate was composed of mainly rock (50%), silt (30%), and gravel (20%). No instream cover types were present along the sample reach.

At the time of the assessment, severe weather conditions did not permit sampling of fish and invertebrate communities.

Stream Crossing: JFL-C12

Date Surveyed: Sept. 18, 2000

This stream crossing was located on an unnamed stream within the Jackfish Lake Operating Area of FML 3. The average wetted width (water level) of the stream channel was approximately 3.61 m with the width of the high water mark (flood stage) averaging approximately 10+ m. The mean water depth was approximately 25 cm and mean stream velocity was approximated to be 2.2 cm/s. The water surface slope was relatively flat, averaging about 1%. Vegetation along the stream bank consisted mainly of grass and some shrub species. The average stream water temperature was 15.9°C.

The stream was located within a black spruce mixedwood stand with silty-loam soils along the stream banks. The substrate was composed of mainly muck (36%), gravel (36%), cobble (13%), sand (12%) and boulders (2%). Instream cover was composed of emergent and submergent vegetation (43%).

Fish community sampling was conducted with the use of a backpack electrofishing unit. The fish species collected were identified as *Culaea inconstans* (brook stickleback), *Etheostoma nigrum* (johnny darter), *Perca flavescens* (yellow perch) and *Couesius plumbeus* (lake chub). Invertebrates could not be sampled due to equipment damage.

Stream Crossing: 133224VM-C1

Date Surveyed: Aug.30, 2000

This stream crossing was located on an unnamed stream within the Vimy Ridge Operating Area of FML 3. The average wetted width (water level) of the stream channel was approximately 1.17 m with the width of the high water mark (flood stage) averaging approximately 2.02 m. The mean water depth was approximately 9.2 cm and mean stream velocity was approximated to be 7.8 cm/s. The water surface slope was relatively flat, averaging about 2%. Vegetation along the stream bank consisted of small tree and shrub vegetation. The average stream water temperature was 9.0°C.

The stream was located within a black spruce /feather moss stand with silty-loam soils along the stream banks. The substrate was composed of mainly sand (54%), boulder (22%), silt (18%), and some rock (6%). Instream cover was composed of undercut banks (3.8%), rock (1.6%), logs and trees (1%) and organic material (0.8%). Several invertebrate collections were attempted, however no animals were encountered. Fish community sampling was conducted with the use of a backpack electrofishing unit. The only fish collected was identified as *Culaea inconstans* (brook stickleback).

2000 Stream Assessment Summary Table

Stream Crossing Name: CWW-C05

Date of Survey	Stream Type	Wet Channel Width (m)	High Water Channel Width (m)	Mean Depth (cm)	Velocity (cm/s) from Hydraulic Head	Mean Stream Temperature (°C)	Mean Water Surface Slope (%)
May 26, 2000	Permanent	7.24	8.65	41	0.144	13.6	1

Bank Materials	FEC V-Type	Canopy Cover	Terrain Type	Instream Cover % of Undercut Banks	Instream Cover - % of Rock	Instream Cover - % Logs and Trees	Instream Cover - % Organic Debris	Instream Cover - % Other
SIC	17	0	Meadow/upland conifer	0.6	0.2	2	0.2	0

Substrate - % Rock	Substrate - % Boulder	Substrate - % Rubble	Substrate - % Gravel	Substrate - % Sand	Substrate - % Silt	Substrate - % Clay	Substrate - % Muck	Substrate - % Detritus
29	10	0	23	21	17	0	0	0

Invertebrate Family 1	Invertebrate Family 2	Invertebrate Family 3	Fish Sp 1	Fish Sp 2	Fish Sp 3	Fish Sp 4	Fish Sp 5
Trichoptera	Chironimidae	Ephemeroptera	Blacknose dace	Common white sucker	Johnny darter	Mimic shiner	Mottled sculpin

Stream Crossing Name: UPD-C01

Date of Survey	Stream Type	Wet Channel Width (m)	High Water Channel Width (m)	Mean Depth (cm)	Velocity (cm/s) from Hydraulic Head	Mean Stream Temperature (°C)	Mean Water Surface Slope (%)
Jun 9, 2000	Permanent	0.74	3.7	6	13.2	7.7	1

Bank Materials	FEC V-Type	Canopy Cover	Terrain Type	Instream Cover % of Undercut Banks	Instream Cover - % of Rock	Instream Cover - % Logs and Trees	Instream Cover - % Organic Debris	Instream Cover - % Other
SIL	17	8	5	0	0	4	38	0

Substrate - % Rock	Substrate - % Boulder	Substrate - % Rubble	Substrate - % Gravel	Substrate - % Sand	Substrate - % Silt	Substrate - % Clay	Substrate - % Muck	Substrate - % Detritus
24	0	0	6	0	10	0	35	0

Invertebrate Family 1	Invertebrate Family 2	Invertebrate Family 3	Fish Sp 1	Fish Sp 2	Fish Sp 3	Fish Sp 4	Fish Sp 5	
Hemiptera	Amphipoda	Hirudinea	No sampling conducted					

2000 Stream Assessment Summary Table

Stream Crossing Name: UPD-C02

Date of Survey	Stream Type	Wet Channel Width (m)	High Water Channel Width (m)	Mean Depth (cm)	Velocity (cm/s) from Hydraulic Head	Mean Stream Temperature (°C)	Mean Water Surface Slope (%)
June 10, 2000	Permanent	1.3	5.2	7.75	25.5	8	1

Bank Materials	FEC V-Type	Canopy Cover	Terrain Type	Instream Cover % of Undercut Banks	Instream Cover - % of Rock	Instream Cover - % Logs and Trees	Instream Cover - % Organic Debris	Instream Cover - % Other
SIC	17	25	4	0	2.5	5	2.5	0

Substrate - % Rock	Substrate - % Boulder	Substrate - % Rubble	Substrate - % Gravel	Substrate - % Sand	Substrate - % Silt	Substrate - % Clay	Substrate - % Muck	Substrate - % Detritus
5	60	0	0	0	0	0	35	0

Invertebrate Family 1	Invertebrate Family 2	Invertebrate Family 3	Fish Sp 1	Fish Sp 2	Fish Sp 3	Fish Sp 4	Fish Sp 5
Pelecypoda	Odonata	Coleoptera	Creek chub	Brook stickleback	0	0	0

Stream Crossing Name: UPD-C05

Date of Survey	Stream Type	Wet Channel Width (m)	High Water Channel Width (m)	Mean Depth (cm)	Velocity (cm/s) from Hydraulic Head	Mean Stream Temperature (°C)	Mean Water Surface Slope (%)
June 11, 2000	Permanent	1.46	4.6	10	No data	No data	2

Bank Materials	FEC V-Type	Canopy Cover	Terrain Type	Instream Cover % of Undercut Banks	Instream Cover - % of Rock	Instream Cover - % Logs and Trees	Instream Cover - % Organic Debris	Instream Cover - % Other
SIC	17	0	4	0	0	0	0	0

Substrate - % Rock	Substrate - % Boulder	Substrate - % Rubble	Substrate - % Gravel	Substrate - % Sand	Substrate - % Silt	Substrate - % Clay	Substrate - % Muck	Substrate - % Detritus
50	0	0	20	0	30	0	0	0

Invertebrate Family 1	Invertebrate Family 2	Invertebrate Family 3	Fish Sp 1	Fish Sp 2	Fish Sp 3	Fish Sp 4	Fish Sp 5
No data – sampling not conducted			No data – sampling not conducted				

2000 Stream Assessment Summary Table

Stream Crossing Name: 133224VM-C1

Date of Survey	Stream Type	Wet Channel Width (m)	High Water Channel Width (m)	Mean Depth (cm)	Velocity (cm/s) from Hydraulic Head	Mean Stream Temperature (°C)	Mean Water Surface Slope (%)
August 30, 2000	Permanent	1.17	2.02	9.2	7.8	9.0	2

Bank Materials	FEC V-Type	Canopy Cover	Terrain Type	Instream Cover % of Undercut Banks	Instream Cover - % of Rock	Instream Cover - % Logs and Trees	Instream Cover - % Organic Debris	Instream Cover - % Other
SIL	29	74	5	3.8	1.6	1	0.8	0

Substrate - % Rock	Substrate - % Boulder	Substrate - % Rubble	Substrate - % Gravel	Substrate - % Sand	Substrate - % Silt	Substrate - % Clay	Substrate - % Muck	Substrate - % Detritus
6	22	0	0	54	18	0	0	0

Invertebrate Family 1	Invertebrate Family 2	Invertebrate Family 3	Fish Sp 1	Fish Sp 2	Fish Sp 3	Fish Sp 4	Fish Sp 5
0	0	0	Brook stickleback0	0	0	0	0

Stream Crossing Name: JFL-C12

Date of Survey	Stream Type	Wet Channel Width (m)	High Water Channel Width (m)	Mean Depth (cm)	Velocity (cm/s) from Hydraulic Head	Mean Stream Temperature (°C)	Mean Water Surface Slope (%)
September 18, 2000	permanent	3.61	20 +	25	0.113	2.2	1.2

Bank Materials	FEC V-Type	Canopy Cover	Terrain Type	Instream Cover % of Undercut Banks	Instream Cover - % of Rock	Instream Cover - % Logs and Trees	Instream Cover - % Organic Debris	Instream Cover - % Other
SL	Nil	0	Meadow	0	0	0	0	43.4

Substrate - % Rock	Substrate - % Boulder	Substrate - % Rubble	Substrate - % Gravel	Substrate - % Sand	Substrate - % Silt	Substrate - % Clay	Substrate - % Muck	Substrate - % Detritus
2	0	13	36	12	0	0	37	0

Invertebrate Family 1	Invertebrate Family 2	Invertebrate Family 3	Fish Sp 1	Fish Sp 2	Fish Sp 3	Fish Sp 4	Fish Sp 5
Sampling could not be conducted			Brook stickleback	Lake chub	Johnny darter	Yellow perch	



4.0 HARVESTING

The harvest block design is one of the most critical components of forest management. The design must incorporate site specific concerns such as wildlife habitat and ecological features, as well as fit into the larger picture of sustainable forest management and conserving bio-diversity. Current research is suggesting that to achieve this, harvest plans must “emulate natural disturbances”. The boreal forest’s primary natural disturbance comes from fire. Forest fires create landscape mosaics of large and small openings with irregular boundaries and leave burned and unburned trees standing.

4.1 HARVESTING OPERATIONS

4.1.1 Wildlife Trees

After reviewing current research and literature, LP’s Standard Operating Procedures (SOPs) were modified to ensure 8 – 12 wildlife trees per hectare are maintained on all cut blocks larger than 10 hectares.

Leaving structure throughout a cut block not only benefits wildlife but also achieves several other goals such as:

- conservation of biodiversity
- meeting Provincial line-of-sight guidelines
- protecting softwood understorey
- achieving silvicultural objectives (*e.g.* seed source)
- retaining structure for in-block drains
- retaining structure on steep slopes to prevent erosion

4.1.2 Best Practices Meeting

On July 10, 2000 LP held a Best Management Practices meeting for logging contractors. Invitations were sent to all contractors (mandatory), Quota holders, MC, and SAC members. 86 people attended and were given presentations on mill requirements, safety issues, LP planning requirements, LP standard operating procedures, future certification requirements, and a fire presentation from MC.

On July 11, 2000 LP held a Best Practices meeting for truckers. Invitations were sent to all registered truck owners, and SAC members. 80 people attended and were given presentations on mill requirements, safety issues. Also in attendance were the Department of Transportation and RCMP.

4.1.3 Contractor Audit

In order to judge the performance of our logging contractors and to ensure our site specific plans (PHSP) are achieved, LP has developed a field audit process. The procedure involves a consistent team of LP staff auditing both active and completed operations of our logging contractors. The contractors will be judged on many aspects of their work including road construction; wood utilization; understorey protection; and safety as well as all forestry and environmental regulations. Two audits were completed on each of LP's active logging contractors. The audit results were positive allowing LP to objectively rate contractor performance as well to better communicate our expectations and ensure compliance.

4.1.4 Independent Logging Contractors (Crown Land)

During the 2000-2001 operating year LP had 22 independent logging contractors harvesting in the Mountain Forest Section. These consisted of both conventional and mechanical harvesting systems. Table 4.1 illustrates the number of contractors by FML and logging system.

Table 4.1 Number of harvesting contractors by FML for LP operations.

FML	LOGGING SYSTEM		TOTAL
	MECHANICAL	CONVENTIONAL	
2	5	1	6
3	12	4	16
TOTAL	17	5	22

4.1.5 Timber Purchase Agreements (Private and Crown)

LP signed 133 Timber Purchase Agreements (TPAs) during the 2000-2001 operating year. These consisted of 89 TPAs on private land and 44 TPAs on Crown land. Private land TPAs are signed with the logging contractor, and the private landowner signs an authorization form.

Timber Purchase Agreements for Crown land wood are entered into with third party operators (Quota holders) or their contractors to purchase residual hardwood. Typically, softwood Quota holders cut some hardwood that is within their cutblock. Hardwood Quota holders manufacture lumber from the sound hardwood, and sign a TPA to sell LP the remaining hardwood that is unsuitable for sawtimber.

4.1.6 Trucking

Approximately 189 trucks are registered to haul hardwood to the OSB mill. During the 2000-2001 operating year 174 trucks were actively hauling. The average haul distance was 105 kilometers in 2000.

All hardwood harvested for LP is delivered in 2.54 metre lengths, therefore several different configurations of trailers can be utilized. In 2000, 40% was delivered by Super-Bee Trains; 28% by Bee Train; 25% by Tri-Axle; and 7% by Self-loading Picker trucks.

4.2 SWAN VALLEY FORESTRY EXHIBITION & LIVE ACTION DEMO 2000

The biannual Swan Valley forestry exhibition & live action demo was held at the demonstration site in the Duck Mountain Provincial Forest. The demonstration site was a Legacy Project from 1998 when Swan River was Forestry Capital of Canada. LP is one of several founding sponsors of the demonstration site. The forestry exhibition was sponsored by the Loggers and Hauler's Association.

The forestry exhibition featured:

- forestry equipment
- live action demos
- West Coast Logging shows
- static displays by 63 exhibitors
- education booths
- harvesting
- educational tours
- a Model Forest display
- pioneer logging, and
- silviculture demonstrations.

4.3 FIBRE PROCUREMENT

LP began harvesting on July 17th, 2000 and finished March 26th, 2001. In the 2000-2001 operating year LP harvested a total of 619,819 m³ of hardwood. Private land wood accounted for 70,293 m³ or 11% while Open Crown land wood accounted for 534,686 m³ or 87%, and Agriculture Crown Land was 14,839 m³ or 2% (Figure 4.1).

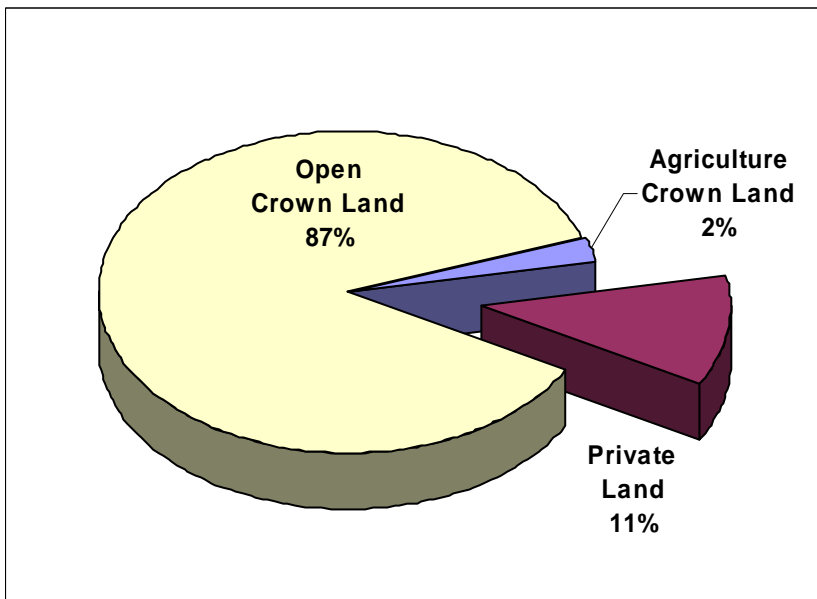


Figure 4.1 Percentage of hardwood volume harvested on Private versus Crown Land – LP.

Figure 4.2 illustrates the distribution of Crown land harvest by FMU. The largest volume of wood harvested is from FMU 13 (Figure 4.3).

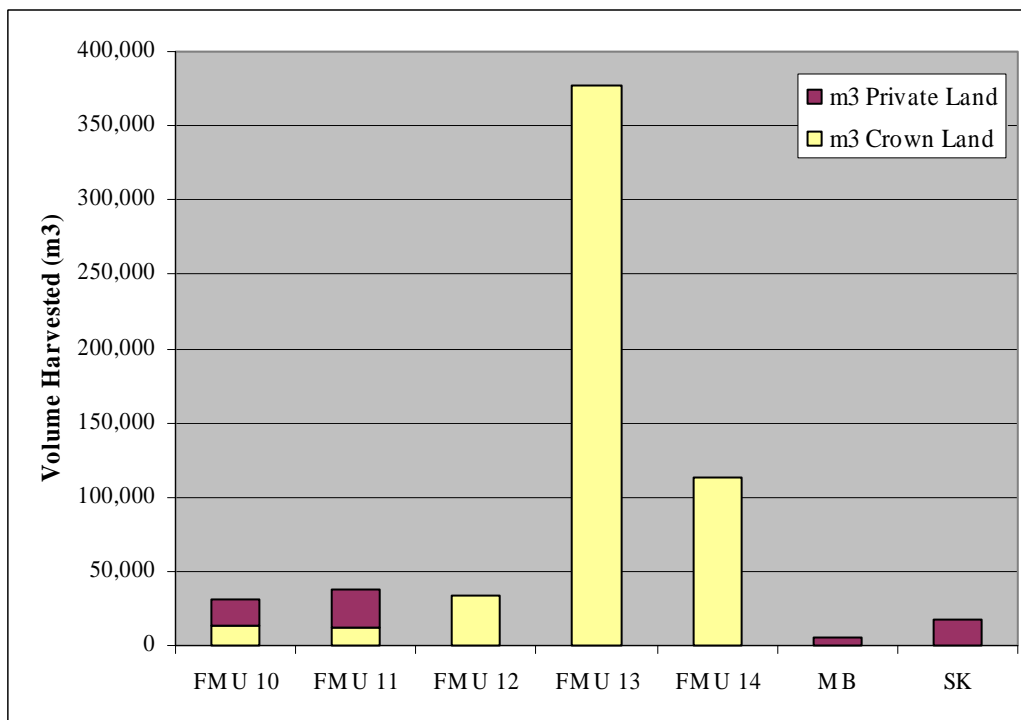


Figure 4.2 Volume harvested on Crown Land by FMU – LP.

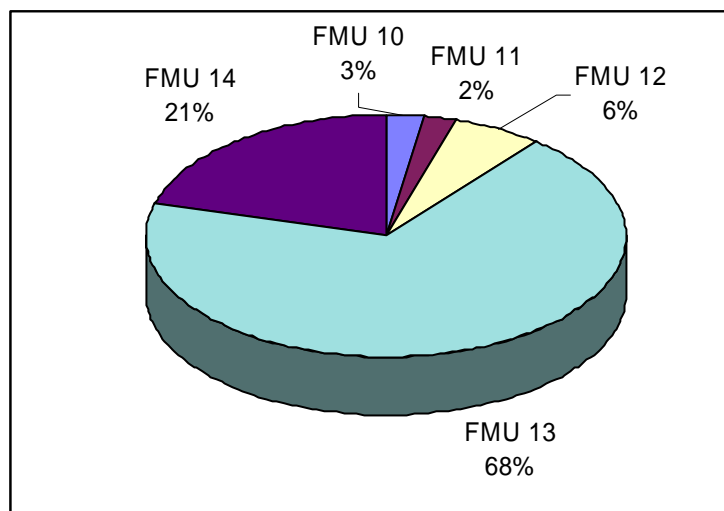


Figure 4.3 Actual volume harvested from Crown land within each FMU.

LP's hardwood harvest is below the annual allowable cut (AAC) for all FMUs (Table 4.2). Softwood harvest numbers in Table 4.2 are based on F40 returns from Quota Holders. Additional AAC tracking by Open Crown Land (Table 4.3), Leased Crown Land (Table 4.4), and Private Land (Table 4.5) is included for FML # 3. Softwood volumes for FML # 2 are not included.

Table 4.2 Actual volume harvested by LP versus the Annual Allowable Cut – Mountain Forest Section – all Crown Land

Forest Management Unit	2000 Hardwood Harvested (m ³)	Hardwood AAC (m ³)	Percent of AAC Harvested	2000 Softwood Harvested (m ³)	Softwood AAC (m ³)	Percent of AAC Harvested
FMU 10	13,764	136,070	10 %	0	210	0 %
FMU 11	11,741	144,200	8 %	1,867	18,630	10 %
FMU 13	377,189	468,900	80 %	188,103	199,220	94 %
FML #3 TOTAL	402,694	749,170	54 %	189,970	218,060	87%
FMU 12	33,789	97,020	35 %			
FMU 14	113,043	156,260	72 %			
FML #2 TOTAL	146,832	253,280	58 %			
TOTAL	549,526	1,002,450	55 %			

Table 4.3 Actual volume harvested by LP versus the Annual Allowable Cut of Open Crown Land in FML # 3.

Forest Management Unit	Hardwood		
	2000 Actual Harvest Volume (m ³)	Provincial AAC (m ³)	% of AAC
FMU 10	5,035	7,850	64 %
FMU 11	5,340	51,310	10 %
FMU 13	337,189	545,700	62 %
FML # 3 Open Crown Land Total	347,564	604,860	57 %

Table 4.4 Actual volume harvested versus the annual allowable cut from Leased (Agricultural) Crown Land, Community Pasture, and Local Government District Land in FML # 3.

Forest Management Unit	Hardwood		
	2000 Actual Harvest Volume (m ³)	Provincial AAC (m ³)	% of AAC
FMU 10 Development Allowed	8,728	109,700	8 %
FMU 10 No Development Allowed	0	18,520	0 %
FMU 11 Development Allowed	6,112	80,030	7 %
FMU 11 No Development Allowed	0	12,860	0 %
FML # 3 Leased Crown Total	14,840	221,110	7%

Table 4.5 Actual volume harvested versus the annual allowable cut from Private Land in FML # 3.

Forest Management Unit	Hardwood		
	2000 Actual Harvest Volume (m ³)	Provincial AAC (m ³)	% of AAC
FMU 10	16,890	140,110	12 %
FMU 11	25,844	71,610	36 %
FML # 3 Private Land Total	42,734	211,720	20 %

The percent hardwood species harvested in 2000 was 81% Trembling Aspen (TA), 17% Balsam Poplar (BA), and 2% White Birch (WB) (Figure 4.4).

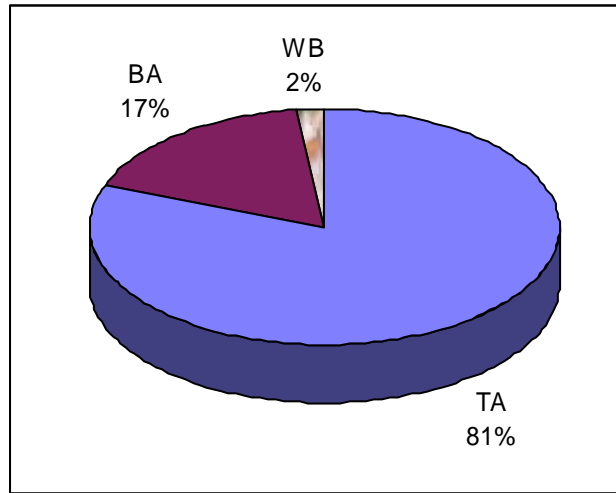


Figure 4.4 Hardwood species percentage for LP 2000-2001 harvest.

Based on 104 cutblocks delineated from supplemental aerial photography, the average cutblock size in FML # 3 (FMUs 10, 11 & 13) is 27.0 ha, with a range of 1.0 to 81.5 ha, and a standard deviation of 20.3 ha.

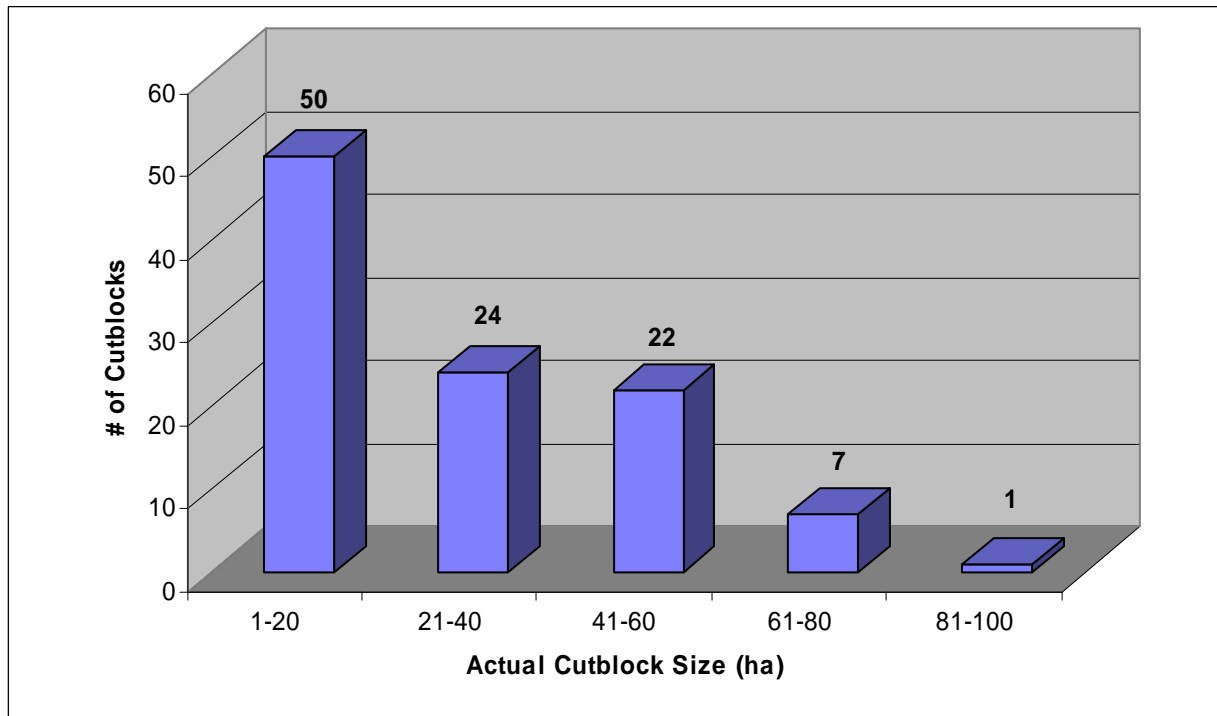


Figure 4.5 Distribution of actual cut block sizes in FML # 3.

4.4 CROWN FEES

LP collects and submits three types of fees for each cubic metre of Crown wood harvested to MC on a quarterly basis for FML #3. These three fees are:

1. Stumpage Dues;
2. Stand Management and Forest Renewal Charge; and
3. Forest Protection Charge.

In the 2000-2001 operating year a total of \$917,116.27 was paid by LP and all quota holders in FML # 3. Figure 4.6 illustrates the percentage of all hardwood and softwood fees collected in 2000-2001. Table A3.1 in Appendix III details the volume summary for Quota Holders, and Table A3.2 details the fees collected by quarter.

Stumpage dues in 2000-2001 totaled \$917,116.27. Hardwood contributed \$304,865.51 (33% of total) and \$612,250.76 (67% of total) was paid on softwood.

The total of the Forest Renewal Charges (FRC) collected in 2000-2001 was \$1,215,843.73. Charges associated with hardwood totaled 22% or \$270,083.34 while 78% or \$945,760.39 came from softwood.

The total of the Forest Protection Charges (FPC) collected was \$102,848.26 in 2000-2001. Charges associated with hardwood totaled 66% or \$67,689.36 while 34% or \$35,158.90 came from softwood.

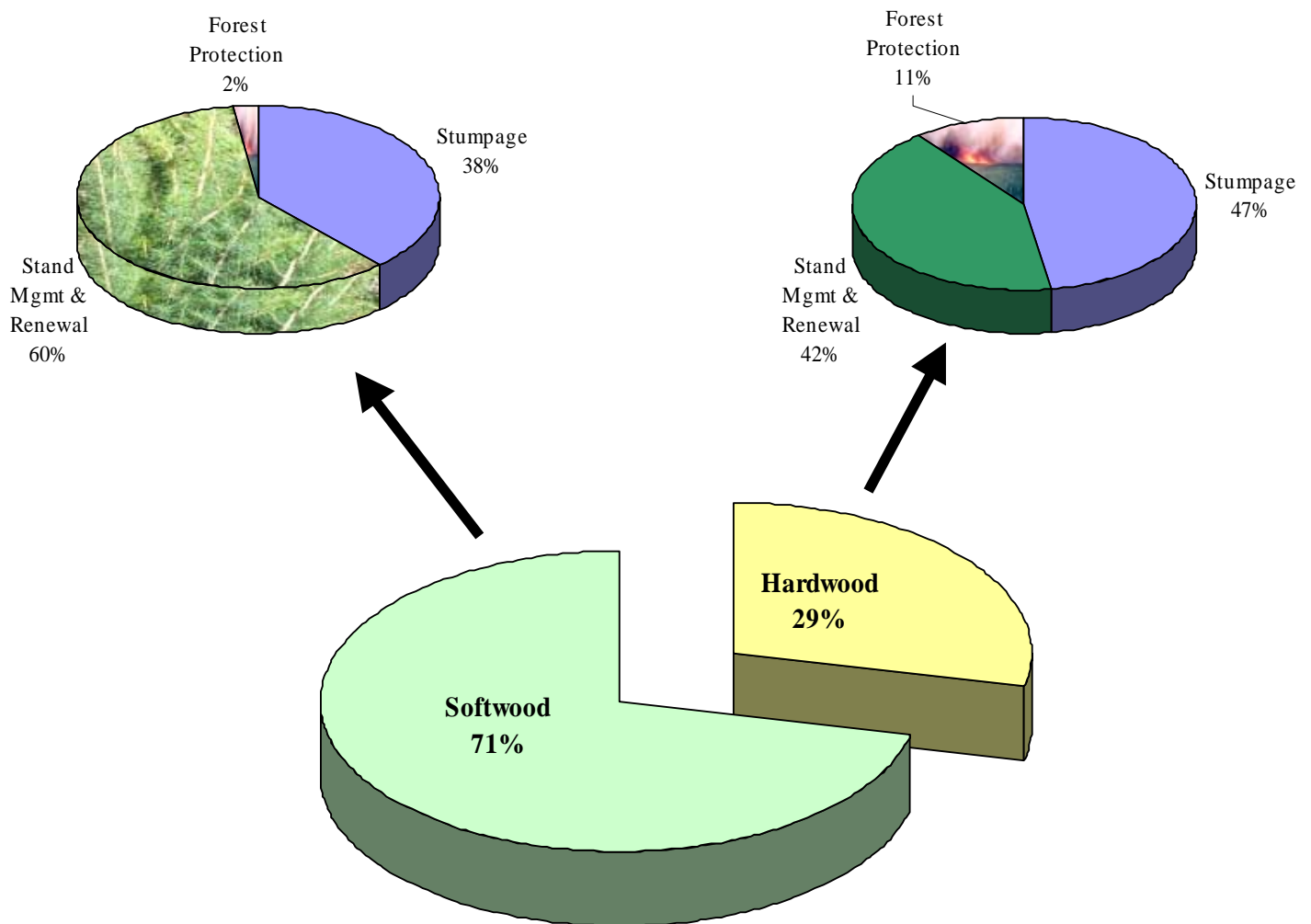


Figure 4.6 Percentage of hardwood and softwood fees collected in 2000-2001 including Stumpage Dues, Stand Management and Forest Renewal Charge (FRC), and Forest Protection Charge (FPC).

4.5 HARVESTING REQUIREMENTS

Environmental Act Licence number 2191E issued Dec. 10, 1996 and the FML # 3 Forest Management Licence Agreement dated Sept. 21, 1994 both have harvesting requirements for LP's operations.

4.5.1 Bird Breeding Season

To reduce the impact to breeding bird populations in the forest, Environmental Act Licence number 2191E section 11 states:

The Licencee shall minimize the harvest of hardwoods during May, June and July of each year, but, in any event, shall not harvest a cumulative volume of more than 100,000 cubic metres of hardwood from FMUs 10, 11, and 13, during May, June and July in any year.

In the period from May 1, 2000 to July 31, 2000 LP harvested a cumulative volume of 48,798 m³, which is well below the 100,000 m³ maximum. Attempts were made to minimize this volume.

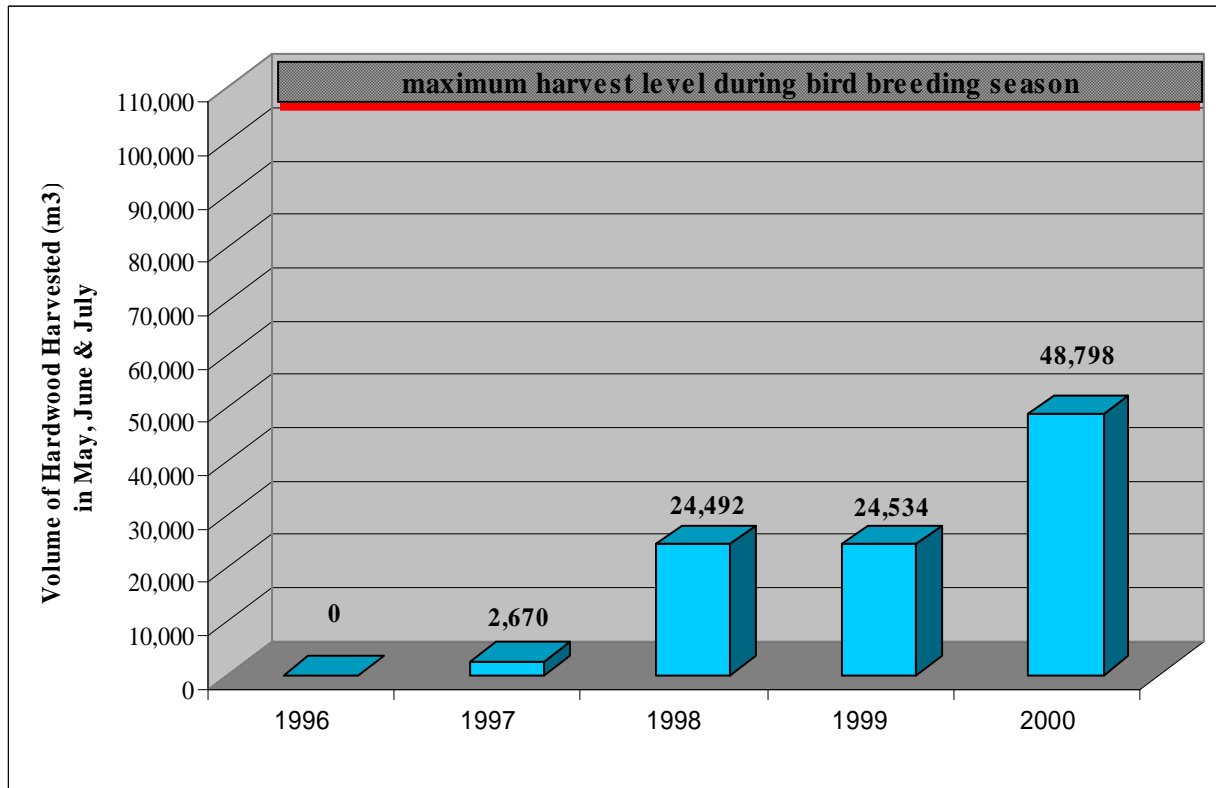


Figure 4.7 LP actual hardwood harvest volume during the bird breeding season as compared to annual 100,000 m³ maximum.

4.5.2 Maximum Harvest Level

The FML # 3 Forest Management Licence Agreement section 12(A) states:

The Company represents to Manitoba that it requires a timber supply of 900,000 cubic metres per annum of hardwood and softwood to meet the requirements of the O.S.B. Mill in accordance with plans that are or will be prepared by the company. The Company acknowledges that in order to satisfy its annual timber supply, it must access timber from both Crown and private lands.

The amount of hardwood harvested in the 2000-2001 operating year from all sources was 619,819 m³, which is below the 900,000 m³ maximum (Figure 4.8).

4.5.3 Minimum Harvest Level

The FML # 3 Forest Management Licence Agreement section 12 (C) states:

In the event that the five (5) year average planned harvesting program for the Crown land portion of FML 3 and the hardwood portions of FMUs 12 and 14 is less than 400,000 cubic metres per annum and the production capacity of FML 3 and FMUs 12 and 14 exceeds the timber volumes required by the Company, then FML 3 and commitments to the Company in FMUs 12 and 14 will be adjusted to the then planned annual requirement level, effective on the 1st day of January, 2000, or, on subsequent anniversary dates thereof as mutually agreed to by Manitoba and the Company. Such adjustments will only be made by Manitoba after consultation with the company.

Actual harvested volumes from FML # 3 (FMUs 10, 11 & 13) for the last five years are shown in Table 4.6.

Table 4.6 Five year volumes and average volume of hardwood harvested from FML # 3 and FMUs 12 and 14 Crown land¹.

Operating Year	Volume Harvested (m ³)
2000 – 2001	549,526 m ³
1999 – 2000	565,547 m ³
1998 – 1999	592,280 m ³
1997 – 1998	457,714 m ³
1996 – 1997	398,057 m ³
Five Year Average	512,625 m³

¹. – excludes private land

The five year average harvest volume of 512, 625 m³ meets or exceeds the 400,000 m³ minimum required harvested volume requirement (Figure 4.8) Note that the year 2000 is the first year that a five year average could be calculated. A rolling five year average will be calculated each year hereafter.

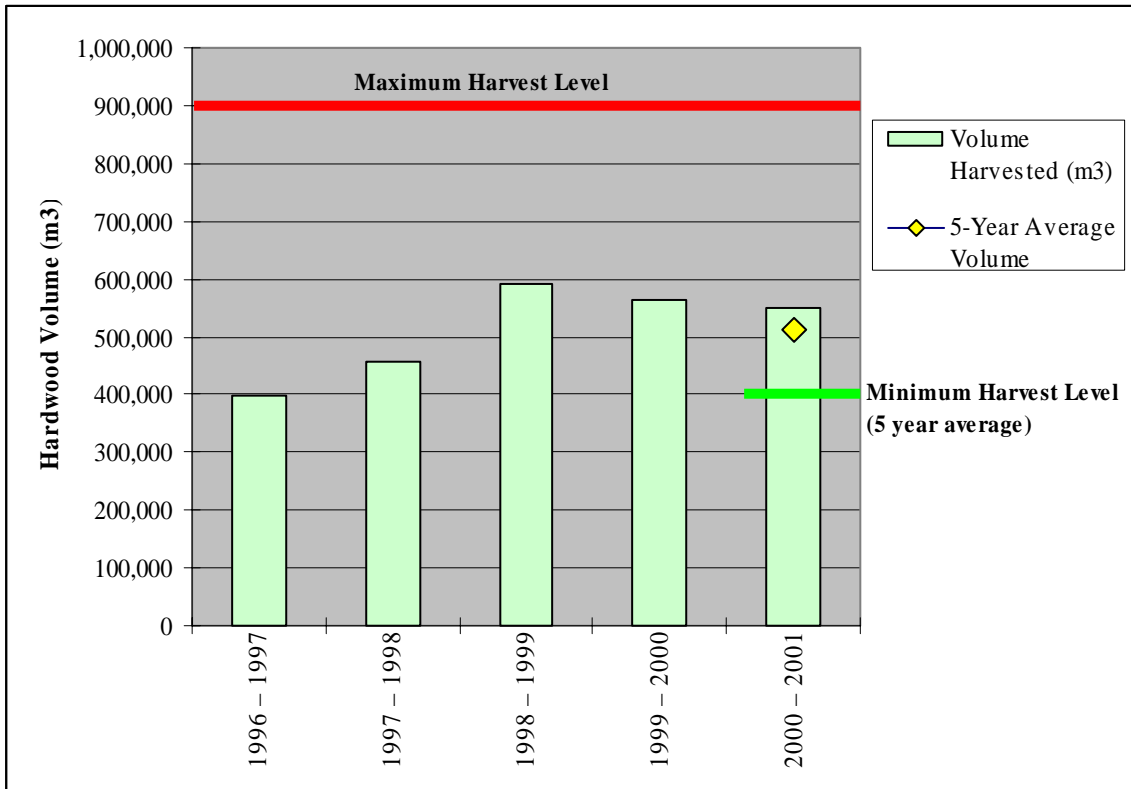


Figure 4.8 LP actual hardwood harvest volume in FML # 3 and FMUs 12 & 14 as compared to annual maximum and five-year minimum harvest levels.



5.0 FOREST RENEWAL AND STAND MANAGEMENT

Forest renewal and stand management are an integral part of LP's commitment to responsible forest stewardship and forest management. LP has been assigned all obligations and responsibilities with respect to forest renewal and stand management within FML # 3 (Forest Management Units 10, 11 and 13). The FML Agreement (dated Sept. 21, 1994) states in section 22 (D):

"The Company acknowledges its primary forest management and renewal responsibility by ensuring that all harvested areas within FML 3 are regenerated to approved Provincial Standards."

These renewal responsibilities apply to all areas harvested by LP and all third parties (*i.e.* Quota holders) in FML # 3, both hardwood and softwood. This commitment to forest renewal shall ensure:

- (i) a perpetual sustained timber yield from the productive forest lands harvested; as well as,
- (ii) the maintenance of forested ecosystems within FML # 3.

LP carries out all reforestation activities within FML # 3, financed by a Forest Renewal and Stand Management Trust Fund (the Fund) which it has established. Proceeds from the Fund are used to ensure adequate and reasonable reforestation (and stand management) within FML 3. LP, as well as all quota holders harvesting merchantable timber from FML # 3, contributes a per cubic metre fee to the Fund. These fees are collected and administered by LP.

LP has committed to manage and maintain forest ecosystems on a landscape level basis. LP's strategy is to reforest harvested ecosystems to their pre-harvest tree species composition. This is achieved through a variety of silvicultural (harvest) systems such as leave-for-natural (Figure 5.1)

modified clear-cut, group seed tree, understorey protection and other treatments which balance the ecology of the forest with the silvics of the tree species. These regeneration strategies rely on 'natural', "advanced' and/or 'assisted' regeneration tactics. All silvicultural management interpretations, prescriptions and objectives are based upon (i) the assessment of the forest ecosystem (Vegetation & Soil Types) prior to harvesting (Pre-Harvest Survey & Silvicultural Prescription) and (ii) joint field visits to all active harvest blocks by the operations supervisor (of logging) and the silviculture forester, in order to 'finalize' forest renewal strategies/objectives for each site.

LP's reforestation responsibility was initiated in 1996 after the signing of the FML Agreement with the Province of Manitoba. The Company's silvicultural activities have dramatically increase over the last few years with the continuation or commencement of the following initiatives:

- (i) development of alternative silvicultural/harvest systems;
- (ii) cone/seed collection;
- (iii) tree planting;
- (iv) site preparation/scarification;
- (v) forest plantation survival assessments;
- (vi) forest regeneration surveys;
- (vii) free-to-grow surveys;
- (viii) establishment of a tree improvement cooperative with Manitoba Conservation;
and
- (ix) silviculture research trials.

Financial information regarding these forest renewal and stand management (Trust Fund) activities/programs are included within this report (Appendix V), which contains financial ledger and withdrawal summaries regarding the Trust Fund's 2000-2001 programs.



Figure 5.1 Four-year old aspen regeneration within a harvested hardwood V-Type.

5.1 SITE PREPARATION AND SCARIFICATION

Site preparation and scarification are necessary treatments in order to ensure (i) the survival and establishment of coniferous seedlings, as well as (ii) in some circumstances used to promote the regeneration (suckering) of hardwoods. In the past LP recruited contractors from outside its FML to complete site preparation/scarification treatments. LP realized that it would be more beneficial to have local contractors performing this work. The company was having difficulty recruiting site preparation contractors to FML 3; therefore a decision was made to develop local contractors. In order to make this a reality, LP committed to the purchase of the site preparation/scarification equipment. By 1999 all site preparation/scarification was completed by local contractors from the area (western Manitoba and eastern Saskatchewan). LP owns a TTS power disc trencher and a set of shark-fin barrels and anchor chains, which it affixes to a local contractor's prime mover throughout the frost-free period. In 2000, LP signed Site Preparation/Scarification Agreements with the following contractors/equipment:

- Ted Schwanke - Triple S Construction Co. Ltd. (D8 with Ripper Tooth Plow).
- Dave Adams - Adams Contracting (1989) Ltd.. (JD 748G & 648G forwarders for LP's) Power Disc Trencher and Shark-fin barrels and anchor chains.

5.1.1 Site Preparation Activities

Table 5.1 summarizes the company's 2000-2001 site preparation activities from May 1st, 2000 until April 30th, 2001. A total of 1,317.3 hectares (ha) were site prepared/scarified. The Shark-fin Barrels and Anchor Chains scarified 159.5 ha (12 %), the Power Disc Trencher 510.9 ha (39%), and the Ripper-Tooth Plow 647.0 ha (49%) (Figure 5.5). A complete summary of the harvest blocks treated can be referred to within Appendix IV.

Table 5.1 Actual area site prepared by equipment type.

Equipment Type	Area (ha)
Shark-fin barrels & Anchor Chain	159.5
Disc Trenching	510.9
Ripper-Tooth Plow	647.0
TOTAL	1,317.3

Shark-fin barrels/anchor chains and disc trenching were prescribed for site preparation to all weather areas, accessible during the spring/summer/fall season. Scarification is prescribed on sites having a shallow organic surface layer, low slash loading and only requiring minimal disturbance. Scarified sites are typically left for natural regeneration (jack pine types), however

the disturbance created by the scarification equipment often produces excellent planting microsites within the white spruce/hardwood mixedwood cover types.

Ripper tooth plowing is prescribed to winter ground/areas, typically comprised of organic surface soils (> 30 cm) and/or areas accessible only during frozen conditions (January to March). Figures 5.2 to 5.4 illustrate the microsites created by these three different implements.



Figure 5.2 Site preparation equipment - ripper tooth plow mounted on a dozer.



Figure 5.3 Site preparation equipment - power disc trencher mounted on a skidder.



Figure 5.4 Scarification equipment – shark-fin barrels and anchor chains being pulled by a skidder.

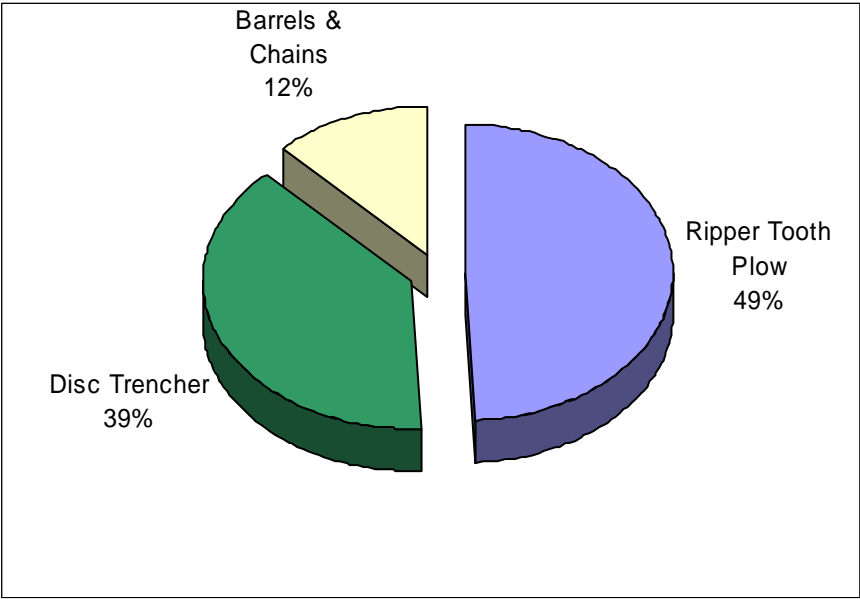


Figure 5.5 Distribution of Site Preparation by equipment type.

5.1.2 *Silvitrac*s Scarification Monitoring System

In 1997 Louisiana-Pacific Canada Ltd. purchased two portable *Truckbase Silvitrac*s Geographic Positioning Systems (GPS) based Scarification Monitoring Systems. *Silvitrac*s is designed to record the precise path taken by scarification/site preparation equipment, correct/analyze the GPS information, measure treatment areas/units, locating and measuring missed areas within the cutblock, monitor machine production and efficiency, process information in order to determine fair contractor payment rates, create a GIS treatment layer/quality map report, create a site map for planting and aid management with strategic planning initiatives.

*Truckbase Silvitrac*s consists of an onboard GPS receiver and computer that is mounted on the site preparation equipment (prime mover). The onboard computer is literally a ‘black box’ programmed to communicate with the GPS receiver computing position, speed and bearing of the prime mover. This information is stored on a PC memory card that can be easily removed and the data transferred to a conventional Windows-based computer. Using *Truckbase*’s Corrector and Analysis software the memory card’s data is differentially corrected, thereby providing real-time information on the prime mover’s location, time, speed, *etc.*



Figure 5.6 *Silvitrac*s map showing the exact path of the site preparation equipment. Note the leave areas (yellow residual pockets) that were not treated.

5.2 SNOW CACHE

Louisiana-Pacific Canada Ltd. snow cached a total of 1,105,560 white and black spruce bareroot seedlings in February of 2001. The numbers of seedlings cached by Operating Area are shown in Table 5.2. Bags or boxes of seedlings are placed on pallets and wrapped in poly prior to being buried with one metre of clean snow (Figure 5.7). A one-metre layer of flax straw is then placed over the snow to insulate the snow and seedlings, in order to keep seedlings at a proper storage temperature. All stock was found to be in excellent condition upon removal from the snow caches in May/June of 2001.

Students from schools in Swan River, Roblin, Grandview and Ethelbert helped in the construction of LP's snow caches in 2001. Students spent the day (field trip) assisting with the unloading of seedlings from the trailer, as well as touring LP harvesting operations and winter site preparation activities.

Table 5.2 Number of seedlings snow cached in February 2001 by species and operating area.

Cache Site	Black Spruce		White Spruce		Total	
	Seedlings	#Boxes	Seedlings	# Boxes	Seedlings	# Boxes
Vimy Ridge	90,000	250	-	-	90,000	250
Valley River	20,160	56	110,880	308	131,040	364
Angling Lake	15,120	42	74,880	208	90,000	250
East Favel	29,880	83	-	-	29,880	83
Route H	129,960	361	60,120	167	190,080	528
Wine Lake	29,880	83	174,960	486	204,840	569
Four Corners	85,680	238	154,080	428	239,760	666
Cowan West	129,960	361	-	-	129,960	361
Totals	530,640	1,474	574,920	1,597	1,105,560	3,071



Figure 5.7 A snow cache in progress. Boxes of seedlings wrapped in plastic are being buried with one metre of clean snow.

5.3 TREE PLANT

In 2000 the company planted a total of 2,291,405 seedlings throughout FML # 3. The spring (May and June) tree plant was comprised of 1,343,025 black spruce, white spruce and jack pine seedlings, while an additional 948,380 white and black spruce seedlings were planted during the summer plant (July). Figure 5.8 illustrates tree planting in progress.

Seedlings planted in 2000 were grown by Pineland Forest Nursery (Hadashville, Manitoba) and Brinkman & Associates Reforestation Ltd. (North Bay, Ontario). The stock grown by Brinkman & Associates Reforestation Ltd. performed very poorly and the (majority of) areas planted with this stock had to be replanted by LP. Stock types and species are shown as percentages in Figure 5.9. A summary of harvested areas planted, species and stock types planted, number of seedlings planted, planting dates and planting qualities are in Appendix IV.



Figure 5.8 Planting a spruce seedling within a prepared (mixed and raised) microsite.

The spring tree plant was awarded to two contractors: Heritage Reforestation and Shuswap Silvics Ltd. The summer tree plant was completed by Coast Range Contracting Ltd. (a.k.a. Outland Reforestation Inc.).

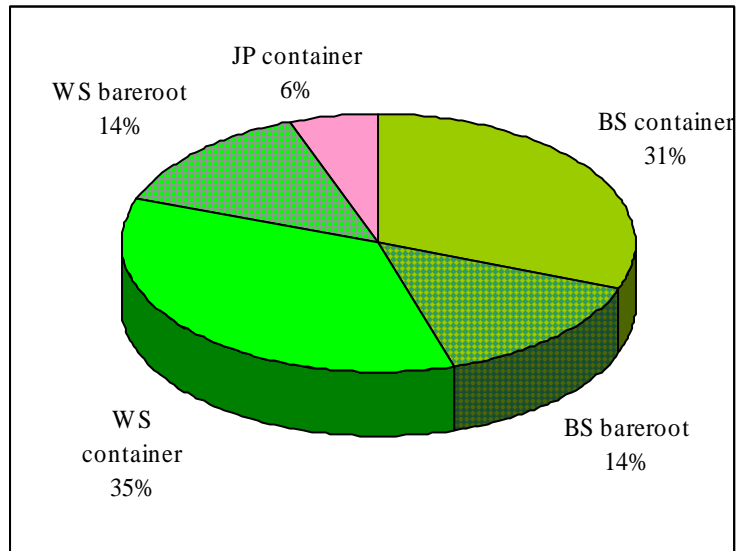


Figure 5.9 Percentage of white and black spruce seedlings by stock type planted in 2000.

5.4 PLANTATION SURVIVAL ASSESSMENTS

In the fall of 2000, LP performed plantation survival assessments (Figure 5.10) on areas planted from 1998 to 2000. A total of 2,660 temporary plots were established within 88 forest plantations, encompassing 3,088.5 hectares. Provincial survey methodology/protocol outlined within the Manitoba Plantation Assessment Manual was followed. A summary of the areas surveyed can be found within Appendix IV. These assessments are performed to determine the success of the plantations based on seedling survival and vigour. The survey information is also used to quantify future stand tending treatments, as well as, identify areas requiring refill/replanting (*i.e.* areas found to have poor seedling survival or vigour).



Figure 5.10 Plantation assessment in a mixedwood cutover.

5.5 FOREST REGENERATION PERFORMANCE SURVEYS

Hardwood harvest blocks are regenerated by prescribing a modified clear-cut silvicultural system to the site. Removal of the hardwood/mixedwood overstorey is crucial in promoting prompt initiation of ‘coppice’ (to reproduce vegetatively from stumps or root suckers) aspen, poplar and birch regeneration. All sites are carefully harvested and monitored on a regular basis to ensure that the regeneration capacity/potential of the site is not negatively impacted by the following:

- (i) excessive slash logging/poor utilization;
- (ii) excessive roads, truck turn a-rounds and camp sites;
- (iii) rutting of forest soils; and
- (iv) maintaining a disproportionate amount (*i.e.* too much) of in-block ‘leave’ structure.

The harvested hardwood sites (described above) are monitored (by LP) by way of forest regeneration surveys. After five growing seasons a forest regeneration survey is completed in order that LP can apply for and receive a ‘Certificate of Reforestation’ from the Province of Manitoba. To date, all hardwood sites harvested by LP have met (and exceeded) the provincial regeneration standards.

Forest regeneration performance surveys were initiated by LP in the fall of 2000. A total of 19 hardwood harvest blocks (all LP sites logged in the summer of 1996) were surveyed. All company staff performing regeneration surveys were certified by the Province of Manitoba. A subset of the harvest blocks surveyed by LP were ‘check surveyed’ by Manitoba Conservation. On January 16th, 2001 LP received a Certificate of Reforestation (from Manitoba Conservation) for these 19 harvest blocks, totaling 527.3 hectares.

5.6 CONE COLLECTION

LP completed a large black spruce and jack pine cone collection in February of 2001 within the Onion Lake and Vimy Ridge Operating Areas of FML 3. A total of 94 hectolitres of black spruce and 7.5 hectolitres of jack pine (from provincial Seed Zone 4) were collected. Brinkman & Associates Reforestation Ltd. was contracted to perform the cone collection utilizing one of their cone processors (Figure 5.11). The contractor processed black spruce and jack pine cone bearing tops, collected from harvest blocks during active logging operations.

The black spruce cones collected yielded 25.34 kilograms of seed or 22,907,600 seeds. The average germination rate was between 91 and 92 %. This seed collected will produce approximately 11.5 million black spruce seedlings over the next ten years. The jack pine cones collected yielded 3.62 kilograms of seed at an average germination rate of between 93 and 94%. The current FML # 3 seed inventory is listed in Table 5.3.



Figure 5.11 Workers feed black spruce tops into a cone combine to separate the cones from the branches.

Table 5.3 FML # 3 seed inventory as of August 31, 2001.

Seedlot Number	Seed Year	Species	Seed Zone	% Viability	Grade	Region	Total Seed (Kg)	Viable Seed/ Gram	Total Number Viable Seeds
529	94/95	BS	11.4	93		LP	0.36	937	337,203
654	94/95	BS	11.4D	95		LP	0.00	928	0
687	97/98	BS	11.4D	99		LP	0.00	983	0
688A	97/98	BS	11.4D	99		LP	0.00	961	0
688B	97/98	BS	11.4	92		LP	0.16	1030	164,743
3-00-11.4-834	2000	BS	11.4	93		LP	0.48	1058	507,784
3-01-11.4-909	2001	BS	11.4	91		LP	5.83	890	5,184,134
3-01-11.4-910	2001	BS	11.4	91		LP	19.52	898	17,536,612
Total Black Spruce 11.4							26.35		23,730,476
689A	97/98	WS	13.4	81		LP	8.60	352	3,030,552
689B	97/98	WS	13.4	68		LP	24.00	336	8,070,240
Total White Spruce 13.4							32.60		11,100,792
690	97/98	JP	4.4	94		LP	10.58	259	2,735,865
3-01-04.4-911	2001	JP	4.4	94		LP	3.62	242	876,583
Total Jack Pine 4.4							14.20		3,612,448

5.7 TREE IMPROVEMENT

LP Canada Ltd. (Swan Valley FRD) and Manitoba Conservation have signed Tree Improvement Memorandum of Understandings, thereby creating a Manitoba Tree Improvement Co-operative between the two parties. LP Canada and Manitoba Conservation formed a trust account to facilitate the operation of the tree improvement co-operatives in breeding zones 11.4 and 13.4. The trust account was executed on December 12, 2000. The 2nd annual tree improvement meeting was held on Sept. 26, 2000 in Winnipeg. Below is a list of the tree improvement activities completed within FML 3 this year.

5.7.1 Breeding Zone 13.4 (Mountain Breeding Zone)

Birds Hill Clonal Orchard

- The first orchard roguing was completed during May 2000. The bottom 1/3 ranked families were removed using the Holder tractor with a lifting clamp attachment.
- 126 potted grafts of the top 1/3 ranked families were planted in the orchard in spaces left by the roguing using the neighborhood design guidelines. There are now 1710 trees in the orchard.
- The orchard was mowed on May 17, May 25 – 26, June 7, June 23, June 30, July 21, Aug 10 –11, Sept 6 and Sept. 25, 2000.
- The grass near orchard trees was trimmed on May 25, 26, 29, July 4 –5, 2000.
- An application of Vision was applied on May 31 to control grass between trees within the rows.
- An application of SCOOT was applied on Oct. 19, 2000 to deter browsing or girdling.
- A cone induction trial was initiated with a root pruning trial on May 26 and June 4 2000.
- Two fertilizer applications were applied on May 8 and June 7, 2000.
- Foliar samples were collected on Oct. 11, the analysis of the samples aided in formulating the fertilizer schedule for application during the summer of 2001.
- Crown management pruning was carried out on Oct. 16, 2000.
- A GIS data file was initiated with the orchard layout, 2000 roguing and replacement data entered and the 2000 frost damage files entered.

Clone Bank

- Grass at the clone bank was mowed on May 15, June 15- 16, July 11 and Aug. 9, 2000.

Boggy Creek and Rice Creek Family Tests

- An application of Methoxychlor was applied on May 2 &3, 2000 at the family tests to control white pine weevil.

Antler Corner Family Test

- The site was brushed to remove hardwood competition from the test on June 27 –28, 2000.

5.7.2 Breeding Zone 11.4 (Mountain Breeding Zone)

- Pineland Forest Nursery completed the rearing of the family test and seed orchard stock as an over winter crop. The seedlings were sorted into replications, packaged and placed into cold storage for out planting in the spring of 2001.
- Planting designs for the family tests and seed orchards were prepared. The data loggers for the mapping the tests and orchard were programmed during April 2001.
- Hardwood competition at the Wine Lake and Cryderman family test sites and the Wine Lake orchard site was controlled with an application of VISION on August 21 – 24, 2000.
- To facilitate the pinning of the site the controlled hardwood stems were mowed on Oct 2 – 5, 2000.
- The corner posts were set at the sites on Oct 4 and 5, 2000.
- The Homestead Creek family test was selected on Oct. 3 and cleared Jan 2001.



6.0 RESEARCH AND MONITORING

6.1 PERMANENT ECOLOGICAL MONITORING PLOTS (PSP)

Louisiana-Pacific Canada Ltd. (LP) is responsible for the sustainable management of the forest resources in Forest Management License (FML) #3 in western-central Manitoba. As part of LP's Forest Management Plan, and in accordance with Environmental Act License 2191E, LP Swan Valley - Forest Resources Division is establishing ecological monitoring permanent sample plots (PSPs) within its license area. The primary objectives of the PSP program are:

1. To assess stand dynamics such as succession, regeneration, and mortality within major forest cover-types;
2. To provide information that will be used to formulate yield curves and tables, taper functions, timber supply models, *etc*;
3. To provide representative areas for the study of forest management treatments;
4. To collect data that enables LP to monitor the long-term health of the forest ecosystem; and
5. To develop relationships between stand structure, forest ecosystem classification (FEC), vegetation and soil types, forest successional pathways, and wildlife habitat and biodiversity conservation attributes.

LPs permanent sample plots are established according to the protocol outlined in the LP Ecological Monitoring PSP Field Procedures Manual. The plots are established in clusters of three, within each randomly selected stand that meets specific site criteria. Each square plot is approximately 22 m X 22 m (0.050 hectares). Within each plot, data are collected for a variety of ecological attributes, which enable the program to meet its objectives. Data collection includes measurements of trees, vegetation, soils, wildlife habitat values, downed woody debris, vegetation-type classification, *etc*. All ecological monitoring PSPs are scheduled for re-measurement at five-year intervals.

In 1994, LP initiated its PSP Program by establishing 150 plots within hardwood dominated areas. Initial measurements on these PSPs were completed by 1997. In 1998, LP established, and completed initial measurements on 21 PSPs within mixedwood areas. In 1999, LP

established and completed initial measurements on an additional 129 PSPs within mixedwood areas. Another accomplishment in the 1999 field season was the establishment and initial measurements completed on 27 hardwood PSPs in the Interlake Plain Ecoregion (Figure 6.1).

In 2000, LP completed the following PSP objectives:

- Spring maintenance on 60 WESBOGY plots;
- Re-walked both WESBOGY sites for spruce transplanting in July;
- Fall re-measurement of all 60 WESBOGY PSPs;
- Re-measurement of 23 hardwood PSPs;
- Establishment of 12 second-growth PSPs (3 at the Loggers & Haulers Demo Site, and 9 at the Garland Grazing Trial);
- Vegetation measurements at 31 PSPs that were established in the fall of 1999;
- Completed laboratory analysis (University of Alberta) of soil samples from 46 PSPs;
- Establishment of 85 hardwood PSPs;
- Quality assessments on 51 PSPs;
- PSP plot upgrading on 39 PSPs;
- Attempted the re-location of 226 MS-69 PSPs and found (GPSed) 184 PSPs within Riding Mountain National Park (81% re-location success rate);
- Completed data-entry of 108 PSPs, 32 Veg Plot PSPs, and 24 WESBOGY spruce plots; and
- Entered MS-69 PSP data (from archived field data sheets @ CFS Edmonton) into a digital database.

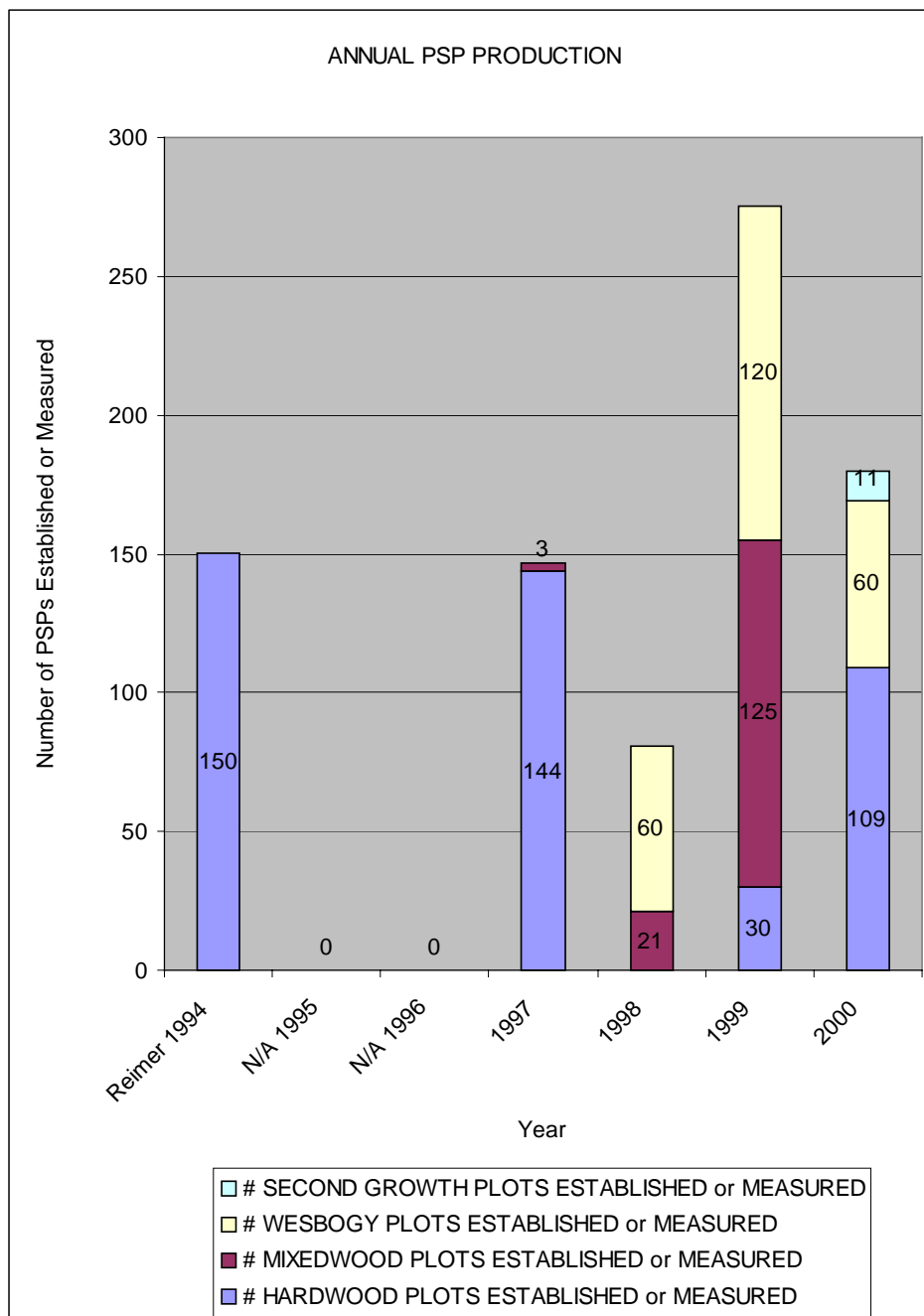


Figure 6.1 Permanent sample plot establishment and re-measurement history.

Notes:

1. 150 hardwood PSPs were established and some measurements were taken in them in 1994. In 1997 these plots were revisited and further measurements were taken, however, 1 cluster (3 PSPs) had been harvested and 1 cluster (3 PSPs) could not be located (this cluster was located & measured in 1999).
2. In 1998 21 mixedwood PSPs were established in the mid-boreal uplands. Also, 60 WESBOGY PSPs were established in 1998. Initial measurements (60 plots) and first year measurements (60 plots) were completed in the spring and fall respectively in 1999.

3. In 1999 125 mixed-wood PSPs were established in a variety of ecoregions, 27 hardwood PSPs were established in the Interlake Plains ecoregion, and the 3 hardwood PSPs that could not be located in 1997 were measured.
4. PSP activities for 2000 were as follows:
 - (i) establishment of 84 hardwood PSPs in the Lake Manitoba Plain ecoregion;
 - (ii) re-measurement of 23 hardwood PSPs which were established in 1994 (15% of the original 150 PSPs established);
 - (iii) eight second-growth PSPs and one hardwood PSP were established as part of the Garland Grazing Trial Experiment;
 - (iv) 3 second-growth PSPs were established at the Loggers and Haulers Forestry Demonstration Site;
 - (v) one hardwood PSP was established in the Mid-Boreal Uplands ecoregion in order to change a cluster of two previously established PSPs into a cluster of three PSPs;
 - (vi) completed laboratory analysis (University of Alberta) of soil samples from 46 PSPs;
 - (vii) the annual spring maintenance and the fall re-measurements (Figure 6.2) were completed at the WESBOGY sites (60 PSPs);
 - (viii) located and GPSed 184 of 226 attempted MS-69 PSPs located within Riding Mountain National Park; and
 - (ix) entered MS-69 PSP data (from archived field data sheets @ CFS Edmonton) into a digital database.



Figure 6.2 Seasonal staff measuring the WESBOGY mixedwood trial.

LP is a member of the Western Boreal Growth and Yield Cooperative (WESBOGY). The general objective of this cooperative is to promote further understanding of the effects of intensive management strategies on boreal mixedwood forest dynamics. As a member of this cooperative LP agreed to establish 60 mixedwood density study (MDS) PSPs. Establishment of these 60 MDS PSPs was completed in 1998. Initial measurements of these PSPs were completed in the spring of 1999, and re-measurements were completed in the fall of 1999 and 2000.

6.2 DUCK MOUNTAIN FOREST BIRD MONITORING PROJECT

The Duck Mountain Forest Bird Monitoring project was initiated in spring 1997 to fulfill a condition of LP's Environmental License. Baseline data is collected annually in support of concerns raised at the Clean Environment Commission Environmental Hearings about neo-tropical migrant and resident bird populations, and potential impacts of forest management activities on the bird's breeding habitat in the Duck Mountains.

The multi-year objective of the bird monitoring project is to identify and quantify factors which influence the distribution and abundance of bird species in the Duck Mountains. The fourth year objective was to resample a subset of all the habitat types sampled between 1997 and 1999 using stand and site level variables to account for annual variation in populations over the 4 year life of the project. A total of 532 stations were established and visited between 28 May and 7 July 2000. 62% of the plots were visited twice. The stations sampled were comprised of 149 aspen plots from 1997 (have been sampled each year since 1997 for a four year period), 144 aspen dominated mixedwoods from 1998 (3 year re-sample), and 179 conifer dominated mixedwoods from 1999 (2 year re-sample). A total of 118 bird species were recorded at bird stations, and an additional 52 species (170 species total) were incidentally sighted. The top 10 bird species observed by habitat type are listed in Table 6.1.

Table 6.1 Top ten bird species observed by habitat type (1997 to present).

Aspen Forests	Aspen mixedwoods	Coniferous mixedwoods
American redstart	Ovenbird	Ovenbird
Ovenbird	Nashville warbler	Nashville warbler
Red-eyed vireo	White-throated sparrow	White-throated sparrow
White-throated sparrow	Red-eyed vireo	Ruby-crowned kinglet
Chestnut-sided warbler	American redstart	Yellow-rumped warbler
Mourning warbler	Chestnut-sided warbler	Red-eyed vireo
Rose-breasted grosbeak	Ruby-crowned kinglet	Blackburnian warbler
Nashville warbler	Yellow-rumped warbler	Black-throated green warbler
Black-and-white warbler	Blackburnian warbler	Swainson's thrush
Veery	Swainson's thrush	Chipping sparrow

The relative abundances of the number of bird species found on plot in the 2000 survey were skewed towards uncommon, rare and occasional bird species. 29 of these bird species were represented by only 1 or 2 individuals. In addition, 20 primary and secondary cavity-nesting species were recorded on the plots. This year's efforts bring the total number of bird species recorded in the Duck Mountains from 1997-2000 to 208 bird species.

The bird monitoring program will continue in 2001. The fourth year of the study will concentrate on sampling bird communities associated with riparian forested habitats.

6.3 FOREST RESEARCH AND MONITORING ASSOCIATIONS

LP continued its' association with a number of partners and research organizations including:

- the Sustainable Forest Management Network of Centres of Excellence (SFMN)
- the Western Boreal Growth and Yield Cooperative (WESBOGY at University of Alberta)
- the Forest Engineering Research Institute of Canada (FERIC)
- Centre for Interdisciplinary Forest Research (C-FIR at University of Winnipeg)
- Natural Resources Institute (NRI at University of Manitoba)
- the Canadian Woodlands Forum (CWF)

As well as the above organizations, LP and LP staff continue to hold membership and/or participate on committees of the

- Forest Products Association of Canada (FPAC formerly CPPA)
- Canadian Forestry Association (CFA)
- Manitoba Forestry Association (MFA)
- Canadian Institute of Forestry (CIF)
- Manitoba Model Forest (MMF)
- Ecosystem Based Management Pilot Project for Ecoregion 90

6.3.1 Sustainable Forest Management Network of Centres of Excellence

LP joined the Sustainable Forest Management Network of Centres of Excellence (SFM-NCE) in early 1997. The SFM-NCE provides research support for the development of a total management protocol for Canada's Boreal Forest so it will be sustained in all its physical, biological, ecological and economic dimensions for future generations. This includes creating environmental technologies and management strategies for sustaining all values inherent in boreal forests (SFM-NCE, 1998)

The network is a research consortium of 120 Canadian researchers from 25 universities across the country, federal and provincial government agencies, and 9 forest industry partners. The SFMN researchers are among the country's best from four areas: 1) biology; 2) forestry; 3) engineering; and 4) social sciences. The key to the networks approach is integration of various disciplines in research projects. The Network's research and scientific excellence program is composed of three interdisciplinary themes. They are:

- **Legacy 1:** Understanding Disturbance Minimal Impact Technologies (MIT)
- **Legacy 2:** Strategies for Sustainable Forest Management
- **Legacy 3:** Impact Minimization Planning and Practices (P& Socio P)

LP staff members are representatives on a number of network committees including the Research Planning Committee and Partners Committee.

LP received additional funding for some projects to begin in the summer of 2000. The following list of SFMN supported research outlines the project title, principal investigator and university affiliation.

- **Forecasting our Future Forests: Integrated Ecological Resource Management in the Duck Mountains** (This is an integrated approach to forest management planning and includes the projects below) Dr. Norm Kenkel, Group leader, University of Manitoba
- **Forest succession and post-logging regeneration dynamics in the Duck Mountain Ecoregion, west-central Manitoba** . Dr. Norm Kenkel, University of Manitoba.
- **Impact of slash loading and residual trees on soil temperatures and aspen regeneration.** Dr. Ken Van Rees, University of Saskatoon.
- **Historical disturbance regime and dendrochronological study of FML area #3.** Dr. Jacques Tardiff, University of Winnipeg, Centre for Forest Interdisciplinary Research
- **Multiscale landscape indicators of forest bird diversity and community structure.** Dr. Robert Rempel, Lakehead University.
- **The management of boreal riparian areas: development of stand level wetland classification guide for operational use, ecologically-based buffer management guidelines and integrated watershed management protocols.** Dr. Dale Vitt, University of Alberta
- **Assessing factors of seedling mortality of important boreal species across the Canadian boreal forest.** Dr. Norm Kenkel, University of Manitoba. (funded by the SFMN)

6.3.2 Western Boreal Growth and Yield Cooperative (WESBOGY)

LP became a member of the Western Boreal Growth and Yield Cooperative (WESBOGY) in 1997-1998. The WESBOGY Cooperative is currently comprised of members representing governments, academic and forest industry agencies. The general objective of this cooperative is to advance the understanding of the dynamics of the boreal mixedwood forest (under management). LP realizes that a better understanding of the dynamics of these mixedwood forests is necessary.

Specific objectives of the WESBOGY cooperative are:

- to access total and individual species productivity in various densities and mixtures
- to develop an individual tree growth model using stand growth, mortality and Crown dynamics;
- to simulate a model of Crown dynamics of aspen and spruce mixedwood stands

- to develop, share and exchange growth and yield data (PSP data matrix) between all cooperative members
- to formulate short-term and long-term growth and yield research priorities

6.3.3 Forest Engineering Research Institute of Canada (FERIC)

FERIC, the Forest Engineering Research Institute of Canada, is a private, non-profit research and development organization. FERIC's goal is to improve Canadian forestry operations related to the harvesting and transportation of wood, and the growing of trees, within a framework of sustainable development.

FERIC's research and development programs cover the engineering, human, operational and environmental aspects of harvesting, processing and transportation of forest products; silvicultural operations; and the specific problems encountered in small-scale operations. In addition, FERIC conducts contract research on projects selected for their value to its' partners, whose research is field-oriented, and is carried out in close cooperation with woodlands personnel. FERIC's research focuses on the following areas:

- Wood Harvesting
- Transportation and Roads
- Silvicultural Operations
- Small-scale Operations
- Engineering Design/Specialized Technologies

6.3.4 Canadian Woodlands Forum

The Canadian Woodlands Forum (CWF) is a membership-based organization with the improvement of the competitiveness of the Canadian forest industry as it's goal. Its members include contractors, foresters and the mills and business that support the forest industry.

Although the CWF is not a research organization, it does provide its members with information regarding forestry trends from across Canada. The CFW provides information on forest management, harvesting operations, and forestry equipment. It is LP's belief that by keeping informed of and working with others in the forest industry it will continue to stay competitive and keep its practices current.

6.4 OTHER RESEARCH AND MONITORING INITIATIVES

LP has also provided direct funding to the following projects:

- **Influence of forest harvesting on arthropod biodiversity in mixedwood ecosystems.** Dr. Richard Westwood, University of Winnipeg, Centre for Forest Interdisciplinary Research . (partial funding for 2001 operating year will be provided by the Manitoba Model Forest)
- **Forest site quality evaluation and classification of three stand types in western Manitoba.** Dr. Steve Titus, University of Alberta.

There are a number of **collaborative projects** that are supported by LP and other partners, depending on the project. Support may include research funds, baseline data, preharvest survey or ecological monitoring plot data, GIS thematic information, aerial photo and satellite imagery and GIS technical support. These projects include

- **Land Use in the Intermountain Conservation District: Interactions between Forestry and Agriculture .** Nicole Mischuk, Masters candidate. Natural Resource Institute, University of Manitoba. (project completed in 2000)
- **Climate change impacts on productivity and health of aspen forests in the western Canadian interior .** Ted Hogg and Michael Michaelian, Northern Forestry Centre, Canadian Forest Service, Edmonton.
- **Prairie Region landscape analysis of bird communities and habitat associations.** Dr. Keith Hobson, Canadian Wildlife Service, Saskatoon.
- **Localization of the Mixedwood Growth Model for Saskatchewan and Manitoba.** Dr. Steve Titus, University of Alberta.
- **Assessing factors of seedling mortality of important boreal species across the Canadian boreal forest.** Dr. Norm Kenkel, University of Manitoba. (funded by the SFMN).
- **Development of an analytical framework to assess adaptability of forest operations to climate change.** Dr. Mark Johnston, Prairie Adaptations Research Centre, Saskatoon.
- **Development and collection of data to support modelling for water quality and watershed disturbances on the Boreal Plain.** Dr. Ellie Prepas, University of Alberta and Millar Western Forest Products.
- **Development of an ecosite-based decision support system for sustainable forest management.** Dr. Rick Baydack, Natural Resource Institute, University of Manitoba, Manitoba Conservation, Tembec Forestry Group, Tolko Industries Inc., Geospatial International, Manitoba Model Forest and LP.
- **Sucker Regeneration of Aspen.** Drs. Simon Landhausser and V. Lieffers. Alberta Pacific Forest Industries Inc., Slave Lake Pulp Corp, Weyerhaeuser Canada Ltd, LP Canada Ltd., Daishowa-Marubeni International Ltd., Ainsworth Lumber Co Ltd.

7.0 EMPLOYMENT SUMMARY

LP's OSB mill directly generates many jobs. In addition to the mill, a great deal of employment has been created in the forestry sector of the Mountain Forest Section. LP has distributed the economic benefits of harvesting and trucking activities throughout the entire FML area, other parts of Manitoba and into Saskatchewan.

Much forestry employment is seasonal or contracted, therefore all figures have been converted into equivalent person/years. The equivalent of 415 full time jobs were attributed to LP's forestry operations in 2000-2001 season (Table 7.1).

Table 7.1 Employment in person years for all activities related to LP's operations.

HARVESTING	PERSON/YEARS
LP Crown Land Logging	128.8
TPA Crown Land Logging	41.6
Private Land Logging	108.3
All Trucking	87.0
SUBTOTAL	365.7
RENEWAL	PERSON/YEARS
Site Preparation	1.0
Snow Caching	0.5
Planting	10.0
Surveys	1.5
Cone Collection	0.5
Tree Improvement	3.0
SUBTOTAL	16.5
LP FOREST MANAGEMENT	PERSON/YEARS
LP Regional	5.0
LP Full Time	14.0
LP Part Time/Contract	1.5
LP Seasonal	8.0
Consultants	5.0
SUBTOTAL	33.5
TOTAL	415.7

For all calculations a year is considered 250 working days. For each sector, the following equation was used to determine the number of person/years:

$$(\# \text{ of employees} \times \# \text{ of weeks} \times \# \text{ of days/weeks}) / 250 \text{ days/year}$$

APPENDIX I GLOSSARY OF TERMS

Annual Allowable Cut (AAC) - the volume of wood which can be harvested from an area each year on a sustainable yield basis. In Manitoba, AAC volumes are determined by the MC Forestry Branch

Coarse Woody Debris – dead and down trees on or near the forest floor.

Conventional Logging - a logging system that includes chains saw operators and cable-line skidders.

Crown Land - forest lands owned by the Province of Manitoba

Crown Other – a term used by LP in this document for summarizing hardwood delivered to the OSB mill that was harvested by a quota or permit holder.

Cutblock - a designated area within which harvesting has been proposed or taken place.

Forest Ecosystem Classification - a management oriented classification system for Manitoba Forests. It is intended to identify and describe accurately the major forest conditions in Manitoba including vegetation and soils types and management interpretations.

Forest Management License (FML) Area - the area in western Manitoba described within the Forest Management License Agreement between the Province of Manitoba and LP.

Forest Management Unit (FMU) - designated areas of the Province of Manitoba by the MNR for the administration of the forest resource.

Forest Renewal - projects that are aimed at establishing a new forest stand on a site following a disturbance.

Hardwood - tree species with the typical broad-leafed appearance. These tree species lose their foliage during the winter months. Species included in this group are balsam poplar, trembling aspen, white birch, Manitoba maple etc.

Integrated resource Management Team (IRMT) - a regional Manitoba Natural Resource team organized to review natural resource issues. They are comprised of members of the following branches: Forestry, Wildlife, Regional Operations, Lands, Fisheries, Water Resources, and Parks and Natural Areas.

Manitoba Conservation (MC) - the department of the government which is responsible for the administration and overseeing of the management of the natural resources on Crown lands. MC includes several branches each responsible for the administration of a particular segment of the natural resource. These branches include: Forestry, Wildlife Regional Operations, Lands, Fisheries, Water Resources and Parks and Natural Areas.

Mechanical Logging - a logging system that includes mechanical tree felling and skidding equipment.

Operating Area - a designated area used for the operational management of timber harvesting. These areas are often delineated based on natural features and or access routes.

Oriented Strand Board (OSB) - a type of particle board in which logs are processed by cutting strands tangentially from the longitudinal face of the log so the grains of the wood runs the length of the strand. Strands are bonded together with resins under heat and pressure.

Permanent Ecological Monitoring Plots (PSP) - a permanent research plot that is established and re-measured at regular intervals to monitor changes over time.

Pre-Harvest Silvicultural Prescriptions (PHSP) - a detailed site-specific management plan developed prior to harvesting.

Pre-Harvest Surveys (PHS) - a detailed site-specific assessment of ecosystem elements within a proposed cutblock conducted prior to harvest.

Quota Holders - parties other than LP who have been granted the right to harvest timber within the FML area by the Government of Manitoba.

Road Classes - the type of roads built for the extraction of timber. LP uses the following definitions:

- **Class I** - All-weather road; graded and graveled; ≤ 20 year life span; 45m right-of-way
- **Class II** - All-weather road; graded and graveled; < 20 year life span; 30m right-of-way
- **Class III** - Dry weather road; minimal grading and graveling; 1-10 year life span
- **Class IV** - Winter road (frost); stumped, no gravel; life span 1-5 years
- **Class V** - Winter only road; little development; used to cross lowlands, swamps and water bodies; life span 1-5 years

For reporting purposes LP uses the following definitions for each type of road construction:

- **Existing Road Maintenance:** Where an existing road or trail was utilized requiring minimal road work (*e.g.* grading).
- **Existing Road Upgrade:** Where an existing road or trail was utilized but significant road work was required to allow logging trucks to move efficiently and safely (*e.g.* widening of right-of-way, “cat work”, grading *etc.*).
- **New Road Construction:** Where no road or trail existed previously, requiring design, layout and complete construction (*e.g.* Harvesting and stumping of right-of-way, cut and fill leveling, grading *etc.*).

Silviculture - the science and art of growing and tending a forest based on the knowledge of the forest species requirement.

Site Preparation - the treatment of a harvest cutblock prior to planting to enhance the growth of desired tree species.

Softwood - conifer tree species with the typical “evergreen” appearance. Species included in this group are black spruce, white spruce, jack pine, balsam fir and tamarack.

Stakeholders Advisory Board (SAC) - a group of individuals representing the various stakeholders within the FML area. The SAC plays an integral role in the planning process by reviewing LP’s operating plans and Standard Operating Procedures. The SAC members bring valuable local knowledge and concerns to LP’s planning process.

S-Type – soil type classified in the field, using the soil key within the forest ecosystem classification for Manitoba field guide (Zoladeski *et. al* 1995).

Timber Purchase Agreements - Crown land wood agreements are entered into with third party operators who do not harvest for LP under the Company’s Independent Logging Contractor Agreement.

V-Type - vegetation type classified in the field, using the vegetation key within the forest ecosystem classification for Manitoba field guide (Zoladeski *et. al* 1995).

APPENDIX II - FIBRE PROCUREMENT

The following tables (A2.1 – A2.5) contain the hardwood volume harvested by LP on crown land. In addition, these tables contain the total hardwood volume received from quota holders (cutblocks whose block number is 800 or greater) and lease holders. The hardwood volume is measured and recorded in tonnes when it crosses the scales at the LP OSB mill site. The wood's weight is then converted to cubic meters using conversion factors that account for the changing weight/density of the hardwood throughout the year. The conversion factors used in 2000-2001 were:

Quarter		BA/TA	WB	
Quarter 1	Tonnes x	1.100	1.100	= m ³
Quarter 2	Tonnes x	1.068	0.970	= m ³
Quarter 3	Tonnes x	1.032	0.943	= m ³
Quarter 4	Tonnes x	0.995	0.893	= m ³
Average	Tonnes x	1.049	0.977	= m³

Tables A2.1 to A2.5 also contain cutblock areas in hectares. Within FML # 3 (FMUs 10, 11 & 13), the cutblock areas are based on **actual** areas delineated from cutover photography which was digitized. FML # 2 cutblocks had to use **planned** areas, since LP does not yet have access to cutover photography for FMUs 12 & 14.

Table A2.1 Hardwood volume and actual cutblock areas from Crown land within FMU 10.

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Actual Cutblock Area
Cutblock Number		m3	m3	m3	m3	ha
GRL-102	Open	1190.0	3845.6	0.0	5035.6	29.2
NRW-L11	Leased	0.0	1843.8	0.0	1843.8	17.1
NRW-L12	Leased	58.9	1038.6	0.0	1097.5	14.8
NRW-L13	Leased	127.6	1293.3	0.0	1420.9	11.8
NRW-L16	Leased	18.3	1437.7	0.0	1456.0	19.6
NRW-L17	Leased	23.3	1756.8	0.0	1780.1	18.4
SRS-L01	Leased	16.8	1094.5	0.0	1111.3	18.8
TOTALS		1,435	12,329	0	13,764	129.7

Table A2.2 Hardwood volume and actual cutblock areas from Crown land within FMU 11.

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Actual Cutblock Area
Cutblock Number		m3	m3	m3	m3	ha
ALP-L20	Leased	0.0	955.8	0.0	955.8	7.2
ALP-L21	Leased	15.0	709.6	0.0	724.6	3.2
BSN-L10	Leased	261.9	1875.1	0.0	2137.0	18.6
CWE-801	Open					1.0
CWE-851	Open	0.0	90.8	3.7	94.5	1.6
RWR-101	Open	639.2	94.9	0.0	734.1	2.8
SLT-022	Open	228.4	2483.3	0.0	2711.7	20.9
SLT-L10	Leased	6.6	1447.1	0.0	1453.7	12.4
SLT-L51	Leased	352.0	488.5	0.0	840.5	6.2
SWL-851	Open	194.6	1605.3	0.0	1799.9	11.6
TOTALS		1,698	9750	4	11,452	85.5

Table A2.3 Hardwood volume and planned cutblock areas from Crown land within FMU 12.

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Planned Cutblock Area¹
Cutblock Number		m3	m3	m3	m3	ha
43-29-9	Open	383.1	1826.0	35.5	2244.6	
44-27-27-NE	Open	1977.4	848.3	0.0	2825.7	
45-27-3	Open	1208.3	4064.2	0.0	5272.5	
46-25-8-N	Open	5.9	47.9	14.7	68.5	
49-25-15-SW	Open	241.6	356.1	0.0	597.7	
NLM-101	Open	6074.9	4107.2	185.6	10367.7	59.6
NLM-102	Open	2990.1	1733.0	59.6	4782.7	35.3
NLM-103	Open	365.9	3226.2	0.0	3592.1	34.2
SLP-003	Open	333.6	3006.1	68.3	3408.0	35.1
SLP-004	Open	147.1	476.2	6.2	629.5	24.8
TOTALS		13,728	19,691	370	33,789	189.0

¹ – TPAs on Crown Land have blank cells

Table A2.4 Hardwood volume and actual cutblock areas from Crown land within FMU 13.

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Actual Cutblock Area
Cutblock Number		m3	m3	m3	m3	ha
13272601-04	Open	155.4	2,595.5	0.0	2750.9	12.1
13282304-05	Open	90.4	535.7	13.8	639.9	
132923S2-08	Open	933.6	5,200.7	108.2	6242.5	32.5
13312302-08	Open	54.1	1,952.7	119.3	2126.1	11.4
13322802-01	Open	234.8	2,345.7	0.0	2580.5	26.1
133424S1-28	Open	235.6	1,844.8	256.7	2337.1	14.9
133425S3-02	Open	274.6	1,277.1	0.0	1551.7	14.7
133424S1-22	Open					11.7
133426S2-17	Open					2.2
3628-DEMO	Open	0.0	161.4	0.0	161.4	2.0
ALP-853	Open					14.7
ARL-008	Open	1056.5	7,465.0	0.0	8521.5	41.1
ARL-009	Open	404.7	2,301.0	50.2	2755.9	10.8
ARL-802	Open	34.1	188.0	0.0	222.1	1.7
CHL-ROW Intermtn	Open	602.0	821.7	89.4	1513.1	
CHL-802	Open					33.0
CHL-804	Open	162.6	57.7	0.0	220.3	36.6
CHL-806	Open	96.3	547.4	40.3	684.0	41.7
CHL-813	Open	1115.3	1,891.9	0.0	3007.2	35.5
CRP-009	Open	597.2	8,930.1	290.8	9818.1	58.5
CRP-020	Open	103.7	3,115.4	35.7	3254.8	16.7
CRP-021	Open	78.8	3,994.2	521.9	4594.9	25.7
CRP-022	Open	236.1	6,664.6	249.3	7150.0	35.1
CWW-818	Open	188.5	1,379.6	207.0	1775.1	24.5
EAF-810	Open	26.7	220.2	0.0	246.9	12.2
FRC-804	Open	392.6	912.4	0.0	1305.0	61.6
FRC-805	Open	2032.8	7333.6	0.0	9366.4	46.3
ISL-001	Open	929.1	7748.5	0.0	8677.6	47.3
ISL-003	Open	1018.0	8641.4	0.0	9659.4	60.0
ISL-004	Open	1610.6	12414.7	29.1	14054.4	64.5
ISL-005	Open	684.9	6473.1	0.0	7158.0	47.6
ISL-006	Open	1082.8	6849.8	0.0	7932.6	57.0
ISL-835	Open	524.4	5712.0	0.0	6236.4	51.8
ISL-843	Open	300.6	2678.8	0.0	2979.4	26.5
MGL-801	Open	2636.1	7272.6	0.0	9908.7	45.0
MGL-804	Open	423.3	3204.5	0.0	3627.8	17.4
MGL-806	Open	132.8	1273.8	0.0	1406.6	1.9
MNC-818	Open	126.8	2693.9	0.0	2820.7	9.0
ONL-820	Open	492.2	3627.1	0.0	4119.3	37.9
ONL-821	Open	43.5	42.9	0.0	86.4	10.6
RTH-803	Open					1.6

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Actual Cutblock Area
Cutblock Number		m3	m3	m3	m3	ha
RTH-904	Open	348.1	470.0	41.2	859.3	7.9
RTH-905	Open	172.9	1916.2	0.0	2089.1	48.2
RTH-906	Open	570.5	1748.8	444.6	2763.9	25.3
SGL-801	Open	26.2	100.1	0.0	126.3	2.7
SLC-001	Open	1660.2	6452.9	62.4	8175.5	49.6
SLC-002	Open	1662.9	6260.2	0.0	7923.1	57.4
SLC-003	Open	235.8	3507.6	171.2	3914.6	30.9
SLC-004	Open	1424.9	5710.6	0.0	7135.5	36.7
SLC-005	Open	497.4	1998.0	0.0	2495.4	13.9
SLC-006	Open	1112.8	3784.1	0.0	4896.9	28.7
SLC-007	Open	1070.9	5803.4	0.0	6874.3	43.9
SLC-802	Open	29.8	95.5	0.0	125.3	4.2
SRL-001	Open	2256.9	9457.5	386.8	12101.2	75.2
SRL-101	Open	3382.9	3632.9	12.5	7028.3	46.5
SRL-802	Open	5.0	701.5	0.0	706.5	6.6
SRL-814	Open	300.1	809.6	0.0	1109.7	11.4
SRL-851	Open	1226.6	4115.7	0.0	5342.3	42.6
SRL-852	Open	973.3	5706.0	0.0	6679.3	76.1
STR-804	Open	31.3	0.0	0.0	31.3	1.5
STR-851	Open	121.7	654.4	0.0	776.1	6.8
UPD-001	Open	931.8	17742.9	29.8	18704.5	81.5
UPD-002	Open	600.5	10214.3	88.1	10902.9	62.2
UPD-003	Open	595.4	7272.2	148.3	8015.9	38.0
UPD-004	Open	960.1	7622.8	0.0	8582.9	46.6
UPD-005	Open	1178.3	5833.9	21.5	7033.7	33.4
VLR-016	Open	1644.6	7679.5	0.0	9324.1	63.0
VLR-101	Open	633.1	4334.7	0.0	4967.8	28.8
VLR-102	Open	139.5	1335.6	0.0	1475.1	5.1
VLR-103	Open	133.3	928.8	0.0	1062.1	7.9
VLR-105	Open	927.2	7495.1	0.0	8422.3	44.7
VLR-106	Open	232.3	2830.0	0.0	3062.3	18.8
VLR-107	Open	252.0	2561.5	0.0	2813.5	15.1
VLR-212	Open	1717.5	16530.7	6.1	18254.3	70.3
VMR-804	Open					16.1
VMR-807	Open					43.5
VMR-809	Open					8.3
VMR-809	Open					3.4
VMR-819	Open					22.2
VMR-834	Open					10.8
WEF-020	Open	903.6	5211.6	0.0	6115.2	20.9
WEF-021	Open	1220.0	6195.7	0.0	7415.7	26.9
WJL-101	Open	801.1	3504.8	496.5	4802.4	43.1
WJL-102	Open	732.3	2370.5	213.7	3316.5	15.4
WJL-103	Open	796.9	5377.2	504.0	6678.1	23.3
WJL-801	Open	510.9	1581.0	226.8	2318.7	30.9

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Actual Cutblock Area
Cutblock Number		m3	m3	m3	m3	ha
WJL-802	Open	81.0	614.0	0.0	695.0	3.3
WNL-804	Open	0.0	230.6	0.0	230.6	44.8
WNL-809	Open	485.6	2182.4	0.0	2668.0	46.1
TOTALS		52,821	319,503	4,865	377,189	2,591.9

Table A2.5 Hardwood volume and planned cutblock areas from Crown land within FMU 14.

	Crown Land Type	Balsam Poplar	Trembling Aspen	White Birch	Hardwood TOTAL	Planned Cutblock Area ¹
Cutblock Number		m3	m3	m3	m3	ha
14402902-04	Open	1728.3	442.4	6.8	2177.5	28.1
14402902-06	Open	796.9	309.5	0.0	1106.4	45.4
14402902-07	Open	896.0	606.3	0.0	1502.3	29.3
41-25-31-SW	Open	467.8	1716.4	0.0	2184.2	
42-27-28	Open	41.1	431.7	0.0	472.8	
43-26-2-SW	Open	30.9	974.7	0.0	1005.6	
43-26-30	Open	224.5	1519.3	0.0	1743.8	
43-29-21-NW	Open	22.0	239.9	7.9	269.8	
43-29-8-NE	Open	283.4	6379.9	1007.8	7671.1	
ANT-004	Open	1299.7	2940.7	192.8	4433.2	25.1
ANT-005	Open	685.6	1198.3	244.3	2128.2	8.9
ANT-007	Open	1174.2	1447.9	1379.2	4001.3	23.0
ANT-008	Open	684.4	1023.1	733.9	2441.4	26.8
ANT-009	Open	1011.1	1557.6	103.6	2672.3	41.3
CRL-009	Open	2134.0	8328.3	25.1	10487.4	45.9
CRL-010	Open	3152.7	9169.8	367.4	12689.9	57.5
CRL-011	Open	1940.6	7572.7	349.1	9862.4	39.7
CRL-012	Open	2862.5	13760.2	77.1	16699.8	77.4
CRL-013	Open	1218.4	7719.0	39.8	8977.2	73.5
CRL-014	Open	1604.3	1404.3	83.8	3092.4	26.4
HRT-011	Open	361.8	1170.1	0.0	1531.9	15.3
HRT-012	Open	1153.4	1804.4	0.0	2957.8	50.1
HRT-050	Open	1044.1	796.2	0.0	1840.3	13.5
HRT-051	Open	812.5	678.3	0.0	1490.8	10.2
RCK-107	Open	583.5	8835.3	184.7	9603.5	56.5
TOTALS		26,214	82,026	4,803	113,043	693.9

¹ – TPAs on Crown Land have blank cells

APPENDIX III – QUOTA HOLDER VOLUMES AND STUMPAGE

Table A3.1 Quota Holder Volume Summary by Quarter for 2000-2001. (shaded areas indicate F-40 not completed)

May 1, 2000 to April 30, 2001

FMU 13 Quota Holder Name	Holder No.	Quota No.	Allowable Cut/00		Over/Undercut 99		Jun-30 2000		Sep-30 2000		Dec-31 2000		Apr-30 2001		TOTAL m3	
			SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD
Angus, Len & Bill	M-2427R	156	167.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
BASARABA, Les	M-2428GV	269	0.0	1,000.0	0.0	980.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	600.0	0.0	600.0
Bielek, Peter	M-2429SR	154	0.0	191.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Bresky, Herb & Sons	MM-2441SR	185	1,819.2	10,000.0	1,774.2	155.2	0.0	0.0	0.0	0.0	0.0	0.0	1,786.8	155.2	1,786.8	155.2
Cords, Tom & Don	M-2430GV	158	104.9	0.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	107.5	0.0	107.5	0.0
Dubek, Metro M.	M-2431GV	159	232.2	0.0	35.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dudar Forest Products	M-2432GV	281					0.0	0.0	0.0	0.0					0.0	0.0
Dudar, Harold	M-2433GV	160	630.1	0.0	630.1	0.0	0.0	0.0	0.0	0.0					0.0	0.0
EAGLE, Stuart	M-2432SR	163		1,004.3		(76.7)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	619.4	0.0	619.4
Fullerton, William	M-2435SR	165	329.8	1,355.2	0.4	705.4	0.0	0.0	0.0	0.0	0.0	100.0	141.5	346.4	141.5	446.4
GURICA, Ernie	M-2436GV	267	0.0	1,000.0	0.0	394.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	892.5	0.0	892.5
Halabisky, Walter	M-2437G	167	197.8	0.0	197.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	406.9	0.0	406.9	0.0
Harapiak, Stanley	M-2438GV	169	407.9	0.0	407.9		0.0	0.0	0.0	0.0	75.0	0.0	393.7	0.0	468.7	0.0
Hay, Robert	M-2439SR	171	1,898.1	36.4	0.0	24.6	0.0	0.0	37.4	0.0	485.7	0.0	1,339.6	0.0	1,862.7	0.0
Intermountain Logging	MM-2440SR	202	84.1	3,923.1	84.1	3,923.1	0.0	0.0	0.0	1,775.2	164.5	1,412.5	0.0	(111.1)	164.5	3,076.6
Kotyk Lumber Ltd.	MM-2449SR	152(D)	3,879.4	2,091.4	2,304.2	1,571.4	0.0	0.0	0.0	0.0	0.0	0.0	4,807.5	1,378.0	4,807.5	1,378.0
Pachkowski, Ted	M-2442G	186	113.9	0.0	34.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	141.5	0.0	141.5	0.0
Penner Bros. Logging	MM-2443GV	272	0.0	3,000.0	0.0	1,276.6	0.0	0.0	0.0	0.0	0.0	2,216.1	0.0	847.9	0.0	3,064.0
Perchaluk, John & Sons	M-2444R	188	637.1	29.3	(20.4)	21.1	0.0	0.0	0.0	0.0	0.0	0.0	478.5	21.1	478.5	21.1
Pine Falls Paper	MM-2455GV	149	10,108.4	232.9	8,904.2	176.4	0.0	0.0	3,957.4	0.0	4,946.8	0.0	0.0	409.3	8,904.2	409.3
FMU 13	Holder	Quota	Allowable Cut/00		Over/Undercut 99		Jun-30 2000		Sep-30 2000		Dec-31 2000		Apr-30 2001		TOTAL m3	

Quota Holder Name	No.	No.	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD
Pine Falls Paper	MM2459GV	149	20,000.0	0.0	20,000.0	0.0	0.0	0.0	0.0	0.0	16,114.6	0.0	8,963.9	0.0	25,078.5	0.0
Poyser, David	M-2445R	191	498.5	201.2	98.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	132.5	192.0	132.5	192.0
Puchailo, Danny	M-2446G	194	497.4	0.0	68.2		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Riehl's Lumber & Logging	MM-2447SR	198		10,288.4		156.6	0.0	0.0	0.0	0.0	0.0	300.0	0.0	3,670.8	0.0	3,970.8
Roblin Forest Products Ltd.	MM-2448R	199	24,153.9	2,039.5	686.8	1,450.3	0.0	0.0	3,532.5	0.0	10,274.9	0.0	13,725.4	2,467.6	27,532.8	2,467.6
Soloway, Harvey Lee	M-2456SR	175	0.0	0.0	0.0	113.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.5	0.0	112.5

FMU 13	Holder	Quota	Allowable Cut/00		Over/Undercut 99		Jun-30 2000		Sep-30 2000		Dec-31 2000		Apr-30 2001		TOTAL m3	
Quota Holder Name	No.	No.	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD
Spruce Products Ltd.	MM-2450SR	206(D)	97,603.6	470.6	28,893.5	0.0	0.0	0.0	12,039.5	0.0	41,748.8	0.0	60,811.9	470.6	114,600.2	470.6
Spruce Products Ltd.							0.0	0.0	0.0	750.0	0.0	5,406.8	0.0	7,427.3	0.0	13,584.1
Stratuliak, Nestor	M-2451GV	211	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
THOMAS, Robert	M-2452SR	271	0.0	2,000.0	0.0	(53.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	655.4	0.0	655.4
Trembach, Gerald	M-2453SR	212	0.0	63.3	0.0	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zander, Anne	NM-2452SR	218	75.1	39.3	75.1	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Zaretsky/Brown	M-2457R	164	342.2	1,299.9	(6.7)	83.7	0.0	0.0	0.0	0.0	0.0	0.0	292.5	83.7	292.5	83.7
FMU 13 TOTAL			163,780.7	40,266.2	64,171.4	10,914.3	0.0	0.0	19,566.8	2,525.2	73,810.3	9,435.4	93,529.7	20,238.6	186,906.8	32,199.2

FMU 11 Quota Holder Name	Holder No.	Quota No.	Allowable Cut/00		Over/Undercut 99		Jun-30 2000		Sep-30 2000		Dec-31 2000		Apr-30 2001		TOTAL m3	
			SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD
Burke, Frank T.	M-2400SR	9	63.0		63.0		0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	100.0	0.0
Cocks, Earl	M-2401SR	11	80.0		77.0		0.0	0.0	0.0	0.0	137.0	0.0	0.0	0.0	137.0	0.0
Graham, Malcolm	M-2402SR	265		2,000.0		2,000.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2,906.9	0.0	2,906.9
Pine Falls Paper Co. Ltd.	M-2403SR	149	848.0		848.5		0.0	0.0	0.0	0.0	876.0	0.0	0.0	0.0	876.0	0.0
Prairie Forest Prod.	M-2404SR	192	210.0		210.0		0.0	0.0	0.0	0.0	0.0	0.0	486.0	0.0	486.0	0.0
Spruce Products Ltd.	M-2405SR	206	975.0		(77.0)		0.0	0.0	0.0	0.0	298.8	0.0	131.5	0.0	430.3	0.0
Zander, Stuart	M-2406SR	217	36.0	17.0	13.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	39.0	28.0	39.0	28.0
FMU 11 TOTAL			2,212.0	2,017.0			0.0	0.0	0.0	0.0	1,311.8	0.0	756.5	2,934.9	2,068.3	2,934.9

Louisiana-Pacific Canada	Holder No.	Quota No.	Allowable Cut/00		Over/Undercut 99		Jun-30 2000		Sep-30 2000		Dec-31 2000		Apr-30 2001		TOTAL m3	
			SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD
FMU 10							0.0	0.0	0.0	604.5	0.0	9,748.8	0.0	2,854.6	0.0	13,207.9
FMU 11							0.0	0.0	0.0	294.0	0.0	2,216.9	0.0	7,120.4	0.0	9,631.3
FMU 13							0.0	0.0	0.0	59,424.4	0.0	200,898.7	0.0	86,474.6	0.0	346,797.7
Louisiana-Pacific TOTAL							0.0	0.0	0.0	60,322.9	0.0	212,864.4	0.0	96,449.6	0.0	369,636.9

Tolko - FMU 13	Holder No.	Quota No.	Allowable Cut/00		Over/Undercut 99		Jun-30 2000		Sep-30 2000		Dec-31 2000		Apr-30 2001		TOTAL m3	
			SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD	SWD	HWD
Tolko Manitoba Inc.							0.0	0.0	10,960.0	0.0	22,796.7	0.0	21,459.3	0.0	55,216.0	0.0

Table A3.2 Fees collected in 2000-2001 for LP and Quota Holders

Date	Volume Manufactured (m³)	Stumpage Dues	Stand Management and Forest Renewal Charge (FRC)	Forest Protection Charge (FPC)	Late Filing Penalties	TOTAL
May 30 - Jun 30/00	1,431.4	\$ 1,257.83	\$ 381.56	\$ 243.35		\$ 1,882.74
Jul 1 - Sep 30/00	61,869.2	\$ 33,540.36	\$ 27,753.12	\$ 10,346.94		\$ 71,640.42
Oct 1 - Dec 31/00	147,633.3	\$118,574.55	\$ 96,456.70	\$ 36,431.56		\$ 251,462.81
Jan 1 - Apr 30/01	187,147.6	\$151,492.77	\$ 145,491.96	\$ 20,667.51		\$ 317,652.24
HARDWOOD TOTAL	398,081.6	\$304,865.51	\$ 270,083.34	\$ 67,689.36	\$ -	\$ 642,638.21
May 30 - Jun 30/00	1,136.2	\$ 3,978.94	\$ 6,177.46	\$ 231.82	\$ 394.64	\$ 10,782.86
Jul 1 - Sep 30/00	22,293.7	\$ 58,659.58	\$ 86,286.71	\$ 3,254.47		\$ 148,200.76
Oct 1 - Dec 31/00	94,079.9	\$273,245.53	\$ 424,225.24	\$ 15,746.36		\$ 713,217.13
Jan 1 - Apr 30/01	94,994.6	\$276,366.71	\$ 429,070.98	\$ 15,926.25		\$ 721,363.94
SOFTWOOD TOTAL	212,504.3	\$612,250.76	\$ 945,760.39	\$ 35,158.90	\$ 394.64	\$1,593,564.69
COMBINED TOTAL	610,585.9	\$917,116.27	\$1,215,843.73	\$102,848.26	\$ 394.64	\$2,236,202.90

APPENDIX IV – RENEWAL DETAILS

Table A4.1 Site preparation and scarification summary by treatment block.

FMU	Operating Area	Block Number	Prescription Treatment	Area Prepared (ha)
13	Cowan West	133424S1-22	Ripper Tooth Plow	14.2
13	Cowan West	133424S1-28	Ripper Tooth Plow	29.7
13	Cowan West	CWW-818	Ripper Tooth Plow	22.7
13	Four Corners	FRC-804	Ripper Tooth Plow	22.7
13	Four Corners	FRC-805	Ripper Tooth Plow	20.7
13	Island Lake	ISL-001	Ripper Tooth Plow	40.1
13	Island Lake	ISL-003	Ripper Tooth Plow	48.7
13	Island Lake	ISL-004	Ripper Tooth Plow	59.7
13	Island Lake	ISL-005	Ripper Tooth Plow	42.9
13	Island Lake	ISL-006	Ripper Tooth Plow	51.9
13	Island Lake	ISL-843	Ripper Tooth Plow	22.7
13	Route H	132923S2-08	Ripper Tooth Plow	27.3
13	Route H	RTH-905	Ripper Tooth Plow	43.6
13	Singuish Lake	SGL-801	Ripper Tooth Plow	1.7
13	Vimy Ridge	VM-11	Ripper Tooth Plow	6.3
13	Vimy Ridge	VMR-804	Ripper Tooth Plow	31.9
13	Vimy Ridge	VMR-807	Ripper Tooth Plow	40.4
13	Vimy Ridge	VMR-809	Ripper Tooth Plow	9.9
13	Vimy Ridge	VMR-819	Ripper Tooth Plow	44.8
13	Vimy Ridge	VMR-834	Ripper Tooth Plow	8.7
13	Wine Lake	WNL-804	Ripper Tooth Plow	26.7
13	Wine Lake	WNL-809	Ripper Tooth Plow	29.7
				647
13	Cryderman's Pit	13352402-02	Barrels and Chains	48.9
13	River Hill	13312302-01	Barrels and Chains	9.4
13	River Hill	13312302-04	Barrels and Chains	17.7
13	River Hill	13312302-07	Barrels and Chains	38.0
13	River Hill	13312302-08	Barrels and Chains	13.0
13	West Favel	133425s3-02	Barrels and Chains	6.8
13	Onion Lake	133225s1-02	Barrels and Chains	15.2
13	Onion Lake	133225s1-13	Barrels and Chains	10.5
				159.5
13	Watjask Lake	13302901-10	Powered Disc Trencher	48.9
13	Upper Dam	13292601-01	Powered Disc Trencher	25.6
13	Upper Dam	13292601-02	Powered Disc Trencher	29.7
13	Upper Dam	13292602-10	Powered Disc Trencher	36.0
13	Upper Dam	13282501-06	Powered Disc Trencher	35.1
13	Upper Dam	13292601-06	Powered Disc Trencher	29.3
13	Upper Dam	13292601-05	Powered Disc Trencher	20.6
13	Cowan West	133424s1-30	Powered Disc Trencher	1.4
11	Cowan East	113423L1-01	Powered Disc Trencher	8.8
13	East Favel	Demo Site	Powered Disc Trencher	0.8
Summer Total				236.2

FMU	Operating Area	Block Number	Prescription Treatment	Area Prepared (ha)
13	Cache Lake	CHL-802	Powered Disc Trencher	24.9
13	Cache Lake	CHL-804	Powered Disc Trencher	27.0
13	Cache Lake	CHL-806	Powered Disc Trencher	33.1
13	Island Lake	ISL-835	Powered Disc Trencher	43.1
13	Sarah Lake	SRL-851	Powered Disc Trencher	38.0
13	Sarah Lake	SRL-852	Powered Disc Trencher	51.9
13	Upper Dam	UPD-002	Powered Disc Trencher	29.0
13	Upper Dam	UPD-004	Powered Disc Trencher	22.0
13	Upper Dam	UPD-005	Powered Disc Trencher	25.3
13	Watjask Lake	WJL-101	Powered Disc Trencher	18.0
13	Watjask Lake	WJL-102	Powered Disc Trencher	9.6
Fall Total				274.7
GRAND TOTAL				1,317.3

Table A4.2 Snow cache details.

Cache Site	Black Spruce		White Spruce		Total	
	Seedlings	#Boxes	Seedlings	# Boxes	Seedlings	# Boxes
Vimy Ridge	90,000	250	-	-	90,000	250
Valley River	20,160	56	110,880	308	131,040	364
Angling Lake	15,120	42	74,880	208	90,000	250
East Favel	29,880	83	-	-	29,880	83
Route H	129,960	361	60,120	167	190,080	528
Wine Lake	29,880	83	174,960	486	204,840	569
Four Corners	85,680	238	154,080	428	239,760	666
Cowan West	129,960	361	-	-	129,960	361
Totals	530,640	1,474	574,920	1,597	1,105,560	3,071

Table A4.3 Seedling shipping schedule.

Stock Shipped for Snow Caching February/March 2000

Species	Zone	Stock	Total
White Spruce	13.4	BR G+2	11,500
White Spruce	13.4	BR 2+2	312,000
Black Spruce	11.4	BR G+2	204,390
White Spruce	13.4	Multipot 3	246,600
Black Spruce	11.4	Multipot 6	105,840

Stock Shipped Spring 2000 (Overwinter Stock)

Species	Zone	Stock	Total
White Spruce	13.4	Styro 410	44,640
White Spruce	13.4	Multipot 6	15,120
White Spruce	13.4	Multipot 3	46,440
Jack Pine	4.4	Styro 410	27,660
Jack Pine	4.4	Multipot 6	101,160
Black Spruce	11.4	BR G+2	130,245

White Spruce	13.4	Brinkman	102,000
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Stock Shipped Summer 2000 (Current Crop)

Species	Zone	Stock	Total
Black Spruce	11.4	Multipot 6	506,250
Black Spruce	11.4	Styro 410	101,300
White Spruce	13.4	Multipot 6	161,775
White Spruce	13.4	Multipot 3	93,150
White Spruce	13.4	Styro 410	107,400

Summary All Shipping for 2000

Species	Zone	Stock	Total
Black Spruce	11.4	MP #6	612,090
Black Spruce	11.4	Styro 410	101,300
Black Spruce	11.4	BR G+2	334,635
Total All Black Spruce			1,048,025
White Spruce	13.4	MP #6	176,895
White Spruce	13.4	MP #3	386,190
White Spruce	13.4	Styro 410	152,040
White Spruce	13.4	BR G+2/2+2	323,500
White Spruce	13.4	"Brinkman"	102,000
Total All White Spruce			1,140,625
Jack Pine	4.4	MP #6	101,160
Jack Pine	4.4	Styro 410	27,660
Total All Jack Pine			128,820

Total All Seedlings			2,317,470
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Table A4.4 Seedlings planted in 2000 by treatment block and tree species.

Operating Area	Number	Planting Dates	Species	Stock Type	of Seedlings	Quality	WS	BS	JP
LLR	132926S1-02	May 9th -11th	WS/Cntr	MP #3	22,942	95.1%	22,942		
			BS/Br	G + 2	4,012	90.2%		4,012	
			Subtotal		26,954				
LLR	132926S1-01	May 10th-14th	WS/Cntr	MP #3	18,292	95.0%	18,292		
			BS/Br	G + 2	6,429	100.0%		6,429	
			Subtotal		24,721				
LLR	JC-97-01	May 11th-18th	WS/Cntr	MP #3	25,833	96.2%	25,833		
			BS/Br	G + 2	33,713	93.3%		33,713	
			Subtotal		59,546				
WNL	132927S2-02	May 18th-25th	WS/Cntr	MP #3	73,440	96.1%	73,440		
			BS/Br	G + 2	10,674	96.0%		10,674	
			Subtotal		84,114				
WNL	132927S2-01	May 23rd-26th	WS/Cntr	MP #3	31,911	97.9%	31,911		
			BS/Br	G + 2	5,979	92.9%		5,979	
			Subtotal		37,890				
VLR	13292602-12	May 23rd-June 1st	WS/Cntr	MP #3	53,011	96.3%	53,011		
			BS/Br	G + 2	4,565	92.0%		4,565	
			Subtotal		57,576				
ARL	132827S1-02	May 27th	WS/Cntr	MP #3	8,674	95.2%	8,674		
			BS/Br	G + 2	1,094	95.0%		1,094	
			Subtotal		9,768				
SRL	13322802-02	May 29th-June 1st	WS/Cntr	Brinkman	35,200	95.4%	35,200		
			WS/Cntr	SaskFor 410	1,724	95.4%	1,724		
			BS/Br	G + 2	2,109	90.0%		2,109	
			Subtotal		39,033				
SRL	13322802-08	June 1st	WS/Cntr	SaskFor 410	5,720	95.8%	5,720		
			BS/Br	G + 2	460	100.0%		460	
			Subtotal		6,180				
SRL	133228S3-07	June 1st - 6th	WS/Cntr	SaskFor 410	41,383	95.9%	41,383		
			BS/Br	G + 2	11,065	92.6%		11,065	
			Subtotal		52,448				
RTH	132923s2-09	May 7th-9th	WS/Br	2 + 2	101,635	97.6%	101,635		
			BS/Br	G + 2	4,655	97.6%		4,655	
			Subtotal		106,290				

Operating Area	Number	Planting Dates	Species	Stock Type	of Seedlings	Quality	WS	BS	JP
RTH	132923s2-07	May 8th-10th	WS/Br	2 + 2	40,760	95.9%	40,760		
			WS/Cntr	MP #3	6,480	95.4%	6,480		
			BS/Br	G + 2	19,195	95.9%		19,195	
			Subtotal		66,435				
RTH	132923s2-08	May 9th- 10th	WS/Br	2 + 2	670	96.7%	670		
			BS/Br	G + 2	8,130	96.7%		8,130	
			Subtotal		8,800				
RTH	132923s2-02	May 10th and 30th	WS/Br	2 + 2	435	96.0%	435		
			WS/Cntr	MP #3	10,170	95.8%	10,170		
			BS/Br	G + 2	10,455	96.0%		10,455	
			Subtotal		21,060				
VMR	VM-11	May 12th- 13th	BS/Cntr	MP #6	32,640	96.3%		32,640	
			BS/Br	G + 2	27,265	94.8%		27,265	
			BS/Cntr	MP #6	70,740	95.3%		70,740	
Subtotal		98,005							
VMR	VM-13	May 20th and June 6th	WS/Cntr	MP #3	5,050	95.0%	5,050		
			BS/Br	G + 2	20,895	92.5%		20,895	
			BS/Cntr	MP #6	2,460	95.0%		2,460	
			Subtotal		28,405				
VMR	VM-20	June 4th- 6th	WS/Cntr	MP #3	13,645	95.4%	13,645		
			BS/Br	G + 2	36,745	95.7%		36,745	
			Subtotal		50,390				
EAF	133425s2-10	May 12th- 13th	BS/Br	G + 2	46,535	94.5%		46,535	
FRC	133229s1-03	May 14th- 16th	WS/Br	2 + 2	46,945	95.3%	46,945		
			BS/Br	G + 2	5,385	95.3%		5,385	
			Subtotal		52,330				
FRC	133229s1-06	May 14th - 15th	WS/Br	2 + 2	56,675	94.4%	56,675		
			BS/Br	G + 2	825	94.4%		825	
			Subtotal		57,500				
FRC	133229s1-02	May 14th- 19th	WS/Br	G + 2	45,675	96.2%	45,675		
			WS/Br	2 + 2	14,970	96.2%	14,970		
			BS/Br	G + 2	14,120	96.2%		14,120	
			Subtotal		74,765				
FRC	113229s2-01	May 16th- 19th	WS/Br	G + 2	29,705	96.4%	29,705		
			WS/Br	2 + 2	12,975	96.4%	12,975		

Operating Area	Number	Planting Dates	Species	Stock Type	of Seedlings	Quality	WS	BS	JP
			BS/Br	G + 2	2,160			2,160	
		Subtotal			44,840				
EBT	133023s1-05	May 23rd	WS/Cntr	MP #3	20,560	97.5%	20,560		
			BS/Br	G + 2	11,120	97.3%		11,120	
		Subtotal			31,680				
ISL	132925s1-34	May 24th- June 2nd	JP/Cntr	MP6 / 410	95,350	96.6%			95,350
			WS/Cntr	MP6	175	96.6%	175		
			BS/Br	G + 2	12,180	96.6%		12,180	
		Subtotal			107,705				
ISL	132925s1-36	May 31st- June 2nd	JP/Cntr	MP6 /410	33,265	96.3%			33,265
			WS/Cntr	MP6	31,925	96.3%	31,925		
			BS/Br	G + 2	16,095	96.3%		16,095	
		Subtotal			81,285				
SGL	132924s3-01	May 30th and June 3rd	WS/Cntr	MP6	15,280	96.8%	15,280		
			BS/Br	G + 2	6,210	96.9%		6,210	
		Subtotal			21,490				
RTH	RTH-801	June 3rd	WS/Cntr	MP #3	3,125	100.0%	3,125		
	RTH-803	June 3rd	BS/Br	G + 2	2,715	97.5%		2,715	
CWW	133424s1-35	June 6th	WS/Cntr	MP #3	1,005	95.0%	1,005		
			BS/Br	G + 2	7,795	94.8%		7,795	
		Subtotal			8,800				
CWW	133424s1-11	July 17th-July 20th	BS/Cntr	410	10,765	97.0%		10,765	
			BS/Cntr	MP6	21,900	97.0%		21,900	
		Subtotal			32,665				
CWW	133424s1-05	July 20th	BS/Cntr	MP6	9,815	95.0%		9,815	
CWW	133424s1-12	July 20th	BS/Cntr	MP6	1,700	100.0%		1,700	
CWW	13342401-01	July 20th	BS/Cntr	MP6	790	95.0%		790	
CWW	133424s1-20	July 17th- July 18th	BS/Cntr	410	34,020	95.0%		34,020	
CWW	133424s1-23	July 17th- July 18th	BS/Cntr	410	44,490	95.0%		44,490	
			BS/Cntr	MP6	12,035	95.0%		12,035	
		Subtotal			56,525				
CWW	133424s1-30	July 18th- July 19th	BS/Cntr	MP6	34,435	95.2%		34,435	

Operating Area	Number	Planting Dates	Species	Stock Type	of Seedlings	Quality	WS	BS	JP
<i>CWW</i>	133424s1-35	July 18th- July 20th	BS/Cntr	410	8,720	95.0%		8,720	
			BS/Cntr	MP6	58,390	95.0%		58,390	
		Subtotal			67,110				
<i>CWE</i>	113623s1-01	July 20th	BS/Cntr	MP6	4,950	93.1%		4,950	
<i>CWE</i>	113623s3-05	July 20th	BS/Cntr	MP6	1,995	95.4%		1,995	
<i>CWE</i>	113623s2-05	July 20th	BS/Cntr	MP6	1,125	95.2%		1,125	
<i>SLC</i>	BE-96-01	July 20th	BS/Cntr	MP6	3,825	94.4%		3,825	
<i>SLC</i>	BE-96-04	July 20th	BS/Cntr	MP6	10,050	93.2%		10,050	
<i>CWE</i>	113423L1-01	July 20th - July 22nd	BS/Cntr	MP6	15,630	95.0%		15,630	
<i>RVH</i>	13312302-01	July 22nd	WS/Cntr	MP6	19,920	97.0%	19,920		
			BS/Cntr	410	5,990	97.0%		5,990	
		Subtotal			25,910				
<i>RVH</i>	13312302-04	July 22nd	WS/Cntr	MP6	12,050	95.0%	12,050		
			BS/Cntr	410	17,855	95.0%		17,855	
		Subtotal			29,905				
<i>RVH</i>	13312302-08	July 22nd	WS/Cntr	410	23,700	95.4%	23,700		
			BS/Cntr	MP6	375	95.4%		375	
		Subtotal			24,075				
<i>RVH</i>	13312302-07	July 22nd - July 25th	WS/Cntr	410	72,260	96.8%	72,260		
			BS/Cntr	MP6	7,860	96.8%		7,860	
		Subtotal			80,120				
<i>CRP</i>	13352402-02	July 23rd - July 25th	WS/Cntr	410	14,165	97.1%	14,165		
			WS/Cntr	MP6	53,785	97.1%	53,785		
			BS/Cntr	MP6	30,410	97.1%		30,410	
		Subtotal			98,360				
<i>TEL</i>	WC-96-02	July 24th	BS/Cntr	MP6	27,425	96.7%		27,425	
<i>TEL</i>	WC-96-06	July 24th	BS/Cntr	MP6	14,850	96.7%		14,850	
<i>SRL</i>	133328s1-03	July 24th	BS/Cntr	MP6	9,240	96.8%		9,240	
<i>ONL</i>	133225s1-13	July 25th - July 27th	BS/Cntr	MP6	56,475	96.9%		56,475	

Operating Area	Number	Planting Dates	Species	Stock Type	of Seedlings	Quality	WS	BS	JP
<i>ONL</i>	133225s1-02	July 27th	BS/Cntr	MP6	14,265	96.7%		14,265	
<i>ONL</i>	133225s1-08	July 27th	BS/Cntr	MP6	2,100	100.0%		2,100	
<i>ONL</i>	133225s1-10	July 27th	BS/Cntr	MP6	10,785	97.1%		10,785	
<i>WEF</i>	133425s3-02	July 27th	BS/Cntr	MP6	18,375	99.2%		18,375	
<i>EAF</i>	Demo Site	July 27th	BS/Cntr	MP6	2,280	95.2%		2,280	
<i>RTH</i>	132923s2-07	July 27th	BS/Cntr	MP6	3,990	97.2%		3,990	
<i>ISL</i>	IL-96-04	July 27th	BS/Cntr	MP6	4,050	100.0%		4,050	
<i>WJL</i>	13302901-10	July 28th- July 29th	WS/Cntr	410	56,905	96.3%	56,905		
			WS/Cntr	MP6	32,645	96.3%	32,645		
		Subtotal			89,550				
<i>WJL</i>	13302901-07	July 29th	BS/Cntr	MP6	3,945	100.0%		3,945	
<i>UPD</i>	13292601-02	July 29th - July 30th	WS/Cntr	410	30,595	96.7%	30,595		
			WS/Cntr	MP3	2,175	96.7%	2,175		
			BS/Cntr	MP6	6,870	96.7%		6,870	
		Subtotal			39,640				
<i>UPD</i>	13292601-01	July 29th - July 30th	WS/Cntr	410	21,785	96.0%	21,785		
			WS/Cntr	MP3	9,275	96.0%	9,275		
			BS/Cntr	MP6	4,450	96.0%		4,450	
		Subtotal			35,510				
<i>UPD</i>	13282501-06	July 29th - July 30th	WS/Cntr	410	780	96.9%	780		
			WS/Cntr	MP3	54,600	96.9%	54,600		
			BS/Cntr	MP6	10,665	96.9%		10,665	
		Subtotal			66,045				
<i>RTW</i>	13292601-05	July 30th	BS/Cntr	MP6	1,920	100.0%		1,920	
	Pretty Valley	July 30th	WS/Cntr	410	13,580	95.4%	13,580		
	Landings		BS/Cntr	MP6	1,350	95.4%		1,350	
		Subtotal			14,930				
TOTALS					2,291,405		1,194,210	968,580	128,615
					Average	96.0%			

Table A4.5 Regeneration survey results.

Operating Area	Block Number	Block Area (ha)	% Stocking			stems/ha			Renewal Standard	Avg Hwd Height (m)
			Softwood	Hardwood	Total	Softwood	Hardwood	Total		
			Stocking	Stocking	Stocking	Density	Density	Density		
WJL	13302901-96-C2	14	0	100	100	0	26,500	26,500	H	1.4
MJL	13312901-96-14	21	17	98	100	267	35,867	36,133	H	1.7
MJL	13312901-96-11	34	8	96	96	59	23,059	23,118	H	1.6
MJL	13312901-96-15	17	7	83	83	0	17,400	17,400	H	1.9
ISL	IL-96-26	48	53	59	86	4172.4	2,448	6,620	M	1.4
CWE	11352302-96-04	17	0	94	94	0	21,692	21,692	H	1.8
CRP	13352502-96-C1	22	0	92	92	0	20,875	20,875	H	1.5
CRP	13352502-96-02	61	11	95	95	172.4	23,069	23,241	H	1.8
BGC	13292703-96-C1	37	39	96	98	1357.1	24,250	25,607	H	1.7
RTW	13342701-96-02	40	27	73	86	2080	16,640	18,720	H	1.6
RTW	13342701-96-01	25	11	91	91	2333.3	16,444	18,778	H	1.6
SRL	13322805-96-C1	44	16	92	94	333.3	24,000	24,333	H	1.7
SRL	300 meter permit	29	9	95	95	190.5	22,476	22,667	H	1.7
UPD	13282603-96-01	20	71	89	95	6933.3	26,533	33,467	H	1.6
UPD	13282603-96-03	9	84	80	100	22167	13,500	35,667	H	1.5
UPD	13282603-96-04	18	50	85	91	3231	25,769	29,000	H	1.4
UPD	13282603-96-05	18	69	89	95	3067	44,067	47,133	H	1.7
UPD	13282603-96-06	12	77	82	90	13667	15,583	29,250	H	1.4
FRC	13322902-96-01	41	0	91	91	0	20,800	20,800	H	2.0
Total		527		Average	93%		Average	25,316		

Note: Cryderman's Pit 13352502-96-C1 - Low total stocking can be explained by the expansion of a gravel pit within the block boundary. With plots landing in the gravel pit removed from calculation:

Total Stocking = 92.3% (Total of 11 void plots within pit boundary)
 Total Density = 20,875 stems/ha

Table A4.6 Plantation survival assessments.

Operating Area	Block Number	# ha	# plots	Survival %						Nat. Softwood (stems/ha)					Nat. Hardwood (stems/ha)			Competition Indices				
				1	2	3	4	Total	5	Average Vigour	Survival %	# ha live trees	missed spots (#/ha)	WS	BS	JP	TL		BF	TA	BA	WB
CWW	133424S1-05	31.0	23	77	0	0	0	77	0	1.00	100.0	670	0	691					4,673	373	100	3
CWW	133424S1-35	52.0	43	354	16	2	3	375	7	0.99	99.0	1,730	33	65					484	51	47	1
CWW	133425S1-23	44.0	40	309	24	4	7	344	1	0.98	98.0	1,685	5	45					875	110	35	0.25
CWW	113623S1-01	3.0	4	21	3	2	8	34	0	0.76	76.0	1,300	0			700						0
CWW	133424S1-11	36.0	31	166	8	0	2	176	8	0.99	95.0	1,123	52	84		503			1,594	123	342	2
CWE	113523S1-01	13.6	18	25	0	0	0	25	0	1.00	100.0	278	0		2,447		8,741					1.30
CWW	133424S1-30	25.0	22	159	8	0	0	167	6	1.00	97.0	1,518	0						936	682		0.00
CWW	113423L1-01	9.9	19	123	4	0	4	131	2	0.97	95.5	1,337	21	63					600	916	95	0.00
CWW	133424S1-20	30.0	27	214	10	1	2	227	3	99.10	98.0	1,667	7	30		163			867	533	82	2.00
ONL	133225S1-10	26.0	23	74	3	2	2	81	0	0.98	98.0	687	0		374				1,704	635		0.20
ONL	133225S1-13	54.0	45	299	10	12	12	333	0	0.96	96.0	1,427	0		4	27			298			0.51
ONL	1332501-02	27.0	22	52	1	1	4	58	0	0.93	93.1	491	0		46							0.00
VMR	13322301-04	53.0	37	217	24	0	5	246	18	0.98	98.0	1,303	97	151		22			757	486	146	0.74
VMR	133223S1-05	27.5	28	151	10	0	1	162	31	0.99	99.4	1,150	221	7				364	243	650	71	0.93
VMR	133223S1-03	42.0	31	167	13	4	4	188	11	0.98	97.9	1,187	71	39		7		523	181	310	52	0.60
VMR	VM-44	15.7	17	62	8	2	2	74	0	0.97	97.3	847	0			35		24	612		424	0.80
VMR	VM-20	35.0	38	273	45	7	7	332	0	0.98	97.9	1,711	0		58	5		21	21			0.10
VMR	VM-11	16.6	20	168	8	2	1	179	0	0.99	99.4	1,780	0		10							0.00
VMR	VM-22	7.8	14	60	6	1	1	68	0	0.99	98.5	957	0		43	686			214	86	29	1.03
VMR	VM-13	56.0	33	311	33	16	15	375	0	0.96	96.0	2,182	0		109	152			255		133	0.60
VMR	VM-16	58.0	59	263	30	2	8	303	12	0.97	97.4	1,000	41		417	949			231	10		0.80
VMR	VM-10	62.0	60	450	43	20	9	522	10	0.98	98.3	1,710	33		60	10		3	10	23		0.42
VMR	133223S1-01	35.0	29	199	3	0	0	202	12	1.00	100.0	1,393	83	14				103	1,510	628	435	1.80

Operating Area	Block Number	# ha	# plots	Survival %						Average Vigour	Survival %	# ha live trees	missed spots (#/ha)	Nat. Softwood (stems/ha)					Nat. Hardwood (stems/ha)			Competition Indices
				1	2	3	4	Total	5					WS	BS	JP	TL	BF	TA	BA	WB	
VMR	133223S1-02	22.0	20	101	10	7	0	118	8	1.00	100.0	1,180	80						1,280	200	400	0.60
VLR	13292602-12	34.0	33	95	24	8	1	128	1	0.99	99.2	770	6						1,782			0.00
UPD	13292601-02	40.0	32	213	22	17	4	256	0	0.98	98.4	1,575	0						1,644	6		0.70
UPD	13292601-01	31.0	22	175	8	4	4	191	0	0.98	97.9	1,700	0						455			0.82
UPD	13292601-06	37.0	33	267	17	7	4	295	0	0.99	98.6	1,764	0						103	30		0.61
ISL	132925S1-31	37.0	34	161	12	0	0	173	11	1.00	100.0	1,018	65	147		771	12		1,900	353		0.82
ISL	IL-96-27	68.0	57	361	41	4	1	407	11	1.00	99.8	1,425	39	221		2,218			702	523		0.54
ISL	132925S1-36	46.0	39	307	36	8	0	351	5	1.00	100.0	1,800	26	21		62			528	108		0.40
ISL	IL-96-04	17.5	16	70	1	0	1	72	12	0.99	98.6	888	150		313	225			75	1,338		0.31
ISL	IL-97-01	48.0	40	209	15	16	0	240	5	1.00	100.0	1,200	25		85	580			1,740	870		0.50
ISL	IL-97-02	42.0	35	129	11	3	1	144	14	0.99	99.3	817	80		34		11		497	954		0.80
ISL	132925S1-34	64.0	49	360	43	0	0	403	5	1.00	100.0	1,645	20	33		114			233	678		0.70
JFL	13272401-02	23.0	20	0	0	0	0	0	0	0.00	0.0	-	0						7,590	300		0.00
DFR	13282401-96-01	32.0	25	40	0	0	0	40	0	1.00	100.0	320	0	32	16	8		8	4,208	1,304		0.76
SRL	WC-97-01	56.0	47	217	11	1	2	231	0	0.99	99.1	974	0	4	9				838	140		1.34
SRL	133328S1-02	29.0	20	80	3	0	2	85	25	0.98	97.6	830	250						1,650	1,410	60	1.10
SRL	13322803-05	55.0	51	193	0	0	0	193	6	1.00	100.0	757	24	12					5,894	1,600	133	No info
SRL	133228S3-07	36.0	31	220	32	1	6	259	7	0.98	97.7	1,632	45						226	1,368		0.60
FRC	133229S1-02	55.0	42	174	48	9	10	241	20	0.96	95.9	1,100	95	24	10		10		386	2,076		0.93
SRL	133228S3-01	69.0	44	252	5	0	1	258	18	1.00	99.6	1,168	82						3,086	2,818	14	no info
FRC	133229S1-03	53.0	40	137	47	17	8	209	0	0.96	96.2	1,005	0						205			1.13
FRC	133229S1-06	49.0	31	86	67	11	3	167	2	0.98	98.2	1,058	13						697	736		1.20
SRL	13322802-02	41.0	33	253	20	1	0	274	13	1.00	100.0	1,661	79		49				3,230	12		0.80
SRL	SRL-808	8.4	11	61	9	0	0	70	4	1.00	100.0	1,273	73	18						4,291		1.00
SRL	133328S1-01	45.0	44	166	9	1	1	177	10	0.99	99.4	800	45	64					932	1,805		0.80

Operating Area	Block Number	# ha	# plots	Survival %						Average Vigour	Survival %	# ha live trees	missed spots (#/ha)	Nat. Softwood (stems/ha)					Nat. Hardwood (stems/ha)			Competition Indices
				1	2	3	4	Total	5					WS	BS	JP	TL	BF	TA	BA	WB	
TEL	WC-97-04	28.0	24	91	1	1		93	9	1.00	100.0	775	75						3,942	2,383		1.40
TEL	WC-96-07	40.0	38	155	13	0	2	170	2	0.99	98.8	884	11		447		47		3,700	190		1.30
TEL	133227S3-01	56.0	44	202	26	5	6	239	17	0.97	97.5	1,059	77	123					3,155	1,582	205	No info
TEL	133227S3-02	36.0	27	165	14	4	0	183	14	1.00	100.0	1,356	104	104				7	4,696	1,030	185	1.33
TEL	133227S3-03	20.0	17	64	2	0	0	66	23	1.00	100.0	776	271	24					1,424	2,153		1.12
TEL	133227S3-04	12.6	14	33	4	2	0	39	9	1.00	100.0	557	129	157				14	614	1,014	71	1.14
SNL	13282601-05	40.0	39	177	5	0	0	182	10	1.00	100.0	933	51	15					3,297	472	5	1.40
SNL	13282601-04	28.0	20	141	3	0	0	144	4	1.00	100.0	1,440	40	60					3,050	1,040	310	1.30
SNL	13282601-06	58.0	46	246	13	7	1	267	0	1.00	99.6	1,157	0	4					3,839	122	91	1.19
SLC	132725S1-12	44.0	40	121	19	6	1	147	29	0.99	99.3	730	145	115					1,800	650	65	0.90
SLC	132725S1-11	45.0	30	124	8	5	2	139	0	0.99	98.6	913	0	53	7		140		1,300	1,207	320	1.01
EBT	SG-97-30	44.0	32	135	34	10	5	184	5	0.97	97.3	1,119	31		69	13			75	31		0.94
EBT	133023S1-05	25.0	24	136	15	1	3	155	4	0.98	98.1	1,267	33	308		42	8	542	1,025	542	850	0.60
EBT	SG-97-28	69.0	53	271	22	3	7	303	16	0.98	97.7	1,117	60	42				38	76	94	8	No info
RTH	132923S2-02	12.7	17	105	28	4	12	149	3	0.92	91.9	1,612	35						553	12		0.50
RTH	132923S2-07	50.0	42	202	45	14	6	267	31	0.98	97.8	1,243	148	10					710			0.50
RTH	132923S2-08	11.7	12	66	17	9	1	93	0	0.99	98.9	1,533	0						683	117		0.70
CWC	13332301-02	16.0	15	84	6	1	2	93	0	0.98	97.8	1,213	0						3,253	2,387	267	2.20
CWC	13332301-03	14.5	16	98	5	7	0	110	0	1.00	100.0	1,375	0						4,338	25	1,275	2.30
CWC	13332301-04	13.2	16	72	16	8	0	96	0	1.00	100.0	1,200	0		13				1,950	350	425	1.63
EAF	133425S1-10	22.0	21	80	18	4	5	107	1	0.95	95.3	971	10	10					324	229		0.23
WEF	133425S3-02	12.0	15	95	13	2	2	112	9	0.98	98.2	1,467	120	40	800	27	13		480	120		0.30
WEF	133425S1-05	41.2	29	69	58	15	7	149	19	0.95	95.3	979	131	21		193	7		1,607	2,283		1.20
EAF	13342501-07	25.0	20	77	12	3	0	92	0	1.00	100.0	920	0					20	1,290	30		1.80
EAF	13342501-05	23.0	22	82	2	1	1	86	0	0.99	98.8	773	0						2,255	291		1.60

Operating Area	Block Number	# ha	# plots	Survival %						Average Vigour	Survival %	# ha live trees	missed spots (#/ha)	Nat. Softwood (stems/ha)					Nat. Hardwood (stems/ha)			Competition Indices
				1	2	3	4	Total	5					WS	BS	JP	TL	BF	TA	BA	WB	
EAF	13342604-04	28.0	28	116	2	0	0	118	0	1.00	100.0	843	0		7				1,657	2,236		2.14
WEF	13342604-05	26.0	21	116	2	2	0	120	0	1.00	100.0	1,143	0		10				1,762	1,048		1.60
WEF	13342604-96-01	28.0	26	69	10	4	0	83	0	1.00	100.0	638	0		46				3,339	346		1.70
WEF	13342604-96-02	29.0	27	125	10	2	0	137	0	1.00	100.0	1,015	0		30	200			1,393	644		1.93
CRP	13352402-02	63.0	49	359	9	2	3	373	0	0.99	99.2	1,510	0						2,739		86	1.70
WJL	13302901-10	72.0	54	300	21	4	20	345	8	0.94	94.2	1,204	30					15	1,819	37		1.00
WJL	13302901-07	2.7	11	39	2	2	2	45	1	0.96	95.6	782	18	18					2,309	709	36	1.30
SGL	SG-97-21	30.0	25	122	13	8	0	143	0	1.00	100.0	1,144	0			88		56	440	72		3.00
SGL	SG-97-22	38.0	35	129	18	2	1	150	0	0.99	99.3	851	0		57	154			11	143		0.80
SGL	SG-97-24	55.0	48	222	16	3	7	248	0	0.97	97.2	1,004	0			83		54	25	179	92	0.50
RVH	13312302-04	18.7	16	94	10	1	4	109	7	0.96	96.3	1,313	88						13	3,238	150	No info
RVH	13312302-07	45.0	37	245	36	1	11	293	24	0.96	96.2	1,524	130	22						5,708	38	No info
RVH	13312302-01	10.0	15	109	20	0	3	132	3	0.98	97.7	1,720	40	13				27		3,840	13	No info
RVH	13312302-08	13.2	16	107	6	0	4	117	3	0.97	96.6	1,413	38	38				25		3,600	138	No info
Total		3,088.5	2,660																			

APPENDIX V-STAND MANAGEMENT FUND

Table A5.1 Stand Management Fund Bank Ledger from April 30, 2000 to April 30,2001

	Date	Deposit			Total	Interest	Withdrawal	Balance
		QH Hardwood	QH Softwood	LP Hardwood				
Carry over from 1999/2000	30-Apr-00							\$710,268.93
Interest earned	1-May-00					\$2,323.24		\$712,592.17
Interest earned	1-Jun-00					\$2,557.64		\$715,149.81
Jan 1-April 30/00 LP requirements	14-Jun-00			\$82,607.10	\$82,607.10			\$797,756.91
Jan 1-April 30/00 QH requirements	14-Jun-00	\$18,987.21	\$402,659.83		\$421,647.04			\$1,219,403.95
Interest earned	4-Jul-00					\$3,701.94		\$1,223,105.89
Jan 1-April 30/00 QH requirements	5-Jul-00	\$14.45	\$84,715.61		\$84,730.06			\$1,307,835.95
Interest earned	1-Aug-00					\$4,955.29		\$1,312,791.24
May 1-June 30/00QHrequirements	14-Aug-00	\$381.56	\$6,177.46		\$6,559.02			\$1,319,350.26
Interest earned	1-Sep-00					\$5,031.94		\$1,324,382.20
Seasonal employment grant	10-Oct-00			\$3,432.00	\$3,432.00			\$1,327,814.20
Tolko Q4-99/00 supplement	10-Oct-00		\$7,478.22		\$7,478.22			\$1,335,292.42
July 1-Sept 30/2000 LP requirements	25-Oct-00			\$27,145.27	\$27,145.27			\$1,362,437.69
Seasonal employment grant	25-Oct-00			\$2,400.00	\$2,400.00			\$1,364,837.69
Interest earned	2-Oct-00					\$4,898.40		\$1,369,736.09
July 1-Sep 30/2000-QH requirements	23-Nov-00	\$607.85	\$36,090.09		\$36,697.94			\$1,406,434.03
July 1-Sep 30/2000-Tolko requirements	23-Nov-00		\$50,196.62		\$50,196.62			\$1,456,630.65
Interest earned	1-Nov-00					\$5,134.89		\$1,461,765.54
Q1,2,3/2000 LP Costs withdrawal	23-Nov-01						\$1,171,155.28	\$290,610.26
Interest earned	1-Dec-00					\$4,005.02		\$294,615.28
Oct-Dec 31/2000- QH requirements	24-Jan-01	\$647.66	\$317,307.66		\$317,955.32			\$612,570.60
Oct-Dec 31/2000- Tolko requirements	24-Jan-01		\$51,726.70		\$51,726.70			\$664,297.30
Oct-Dec 31/2000- LP requirements	24-Jan-01			\$95,809.04	\$95,809.04			\$760,106.34
Q4, 2000 LP Costs withdrawal	24-Jan-01						\$307,710.26	\$452,396.08
Oct-Dec 31/2000- Tolko requirements	29-Jan-01		\$52,682.14		\$52,682.14			\$505,078.22
Oct-Dec 31/2000-Tolko requirements	6-Feb-01		\$2,508.74		\$2,508.74			\$507,586.96
Interest earned	2-Jan-01					\$1,126.00		\$508,712.96
MB third party harvesting payment	26-Feb-01		\$11,224.74		\$11,224.74			\$519,937.70

	Date	Deposit			Total	Interest	Withdrawal	Balance
		QH Hardwood	QH Softwood	LP Hardwood				
Interest earned	1-Feb-01				\$1,286.70		\$521,224.40	
Interest earned	1-Mar-01				\$1,665.20		\$522,889.60	
Q1-2001 LP Costs withdrawal	23-Apr-01					\$283,066.22	\$239,823.38	
Interest earned	2-Apr-01				\$1,708.45		\$241,531.83	
Carry over to 2001/2002							\$241,531.83	

As requested by MB Conservation – separate Hardwood and Softwood accounts were established as of April 6, 2001

Reforestation- Hardwood	Date	Deposit			Total	Interest	Withdrawal	Balance
		QH Hardwood	LP Hardwood					
Beginning Balance	6-Apr-01						\$-	
Top-up Province, 2001 Jan1-Mar31-estimate	6-Apr-01	\$9,600.00		\$9,600.00			\$9,600.00	
Carry over to 2001/2002							\$9,600.00	

Reforestation- Softwood	Date	Deposit			Total	Interest	Withdrawal	Balance
		QH Softwood	LP Softwood					
Beginning Balance	6-Apr-01						\$-	
Top-up Province, 2001 Jan1-Mar 31-estimate	6-Apr-01	\$46,315.14		\$46,315.14			\$46,315.14	
Interest earned	9-Apr-01				\$0.79		\$46,315.93	
Carry over to 2001/2002							\$46,315.93	

TableA5.2 Stand management fund withdrawal summary for 2000-2001.

	Jan - March 2000	April - June 2000	July - Sept 2000	Oct - Dec 2000	Jan - March 2001	April - June 2001	Total Costs	Hardwood Portion	Softwood Portion
PSP	\$11,197.64	\$66,251.69	\$145,584.38	\$86,536.64	\$37,601.37	\$30,026.57	\$377,198.29	\$ 188,599.15	\$ 188,599.14
Site Preparation/ Scarification	\$50,946.12	\$67,125.37	\$42,311.14	\$51,311.92	\$128,253.58	\$73,817.11	\$413,765.24	\$ -	\$ 413,765.24
Seedling storage/seeds	(\$10,567.43)	\$471.31	\$0.00	\$28,619.29	\$12,685.42	\$32,642.77	\$63,851.36		\$63,851.36
PHS	(\$343.00)	\$30,045.89	\$77,761.66	\$1,860.97	\$314.00	\$31,162.14	\$140,801.66	\$ 98,561.16	\$ 42,240.50
Tree Plant	\$0.00	\$258,555.29	\$187,963.22	\$9,099.08	\$9,219.12	\$127,195.33	\$592,032.04	\$ -	\$ 592,032.04
Tree Improvement	\$12,949.10	\$40.95	\$45.30	\$17,003.64	\$15,000.00	\$29,855.00	\$74,893.99	\$ -	\$ 74,893.99
Aerial Photographs	\$0.00	\$40.45	\$0.00	\$0.00	\$0.00	\$977.10	\$1,017.55	\$ 712.28	\$ 305.27
Snow Cache	\$4,982.09	\$8,844.48	\$240.00	\$351.98	\$10,421.64	\$10,457.53	\$35,297.72	\$ -	\$ 35,297.72
Surveys	\$0.00	\$188.60	\$10,762.89	\$22,893.85	\$51.91	\$6,013.51	\$39,910.76	\$ 39,783.54	\$ 127.22
Research/ Development	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$4,300.00	\$4,300.00	\$ 4,300.00	\$ -
Administration	\$65,209.85	\$52,130.55	\$88,417.74	\$90,032.89	\$83,349.86	\$83,329.06	\$462,469.95	\$ 231,234.98	\$ 231,234.97
Admin - Audit reconciliation	50/50 split Swd/Hwd				(\$13,830.68)		(\$13,830.68)	(\$6,915.34)	(\$6,915.34)
<i>TOTAL</i>	\$134,374.37	\$483,694.58	\$553,086.33	\$307,710.26	\$283,066.22	\$429,776.12	\$2,191,707.88	\$556,275.77	\$1,635,432.11

APPENDIX VI – STREAM CROSSINGS

Table A6.1 Proposed and actual stream crossings in 2000-2001.

CROSSING NAME	TYPE OF CROSSING		INSTALLE D Y/N	REMOVED Y/N	COMMENTS
	PROPOSED	ACTUAL			
13302301-C3	Snow and Ice		no		
133124S1-C1	Snow and Ice	culvert		no	
133124S1-C2	Snow and Ice	culvert		no	
133224VM-C1	Snow and Ice		no		
ARL-C01	Snow and Ice	Snow & Ice	yes	yes	
ARL-C02	Snow and Ice	Snow & Ice	yes	yes	
CRP-C08	Culverts	culvert	yes	no	
CWC-C01	Snow and Ice		no		
CWW-C05	Snow and Ice		no		
ISL-C01	Culverts	culvert	yes	no	
ISL-C02	Culverts	culvert	yes	no	
MGL-C01	Snow and Ice		no		
SRL-C01	Snow and Ice		no		will cross in 2001-2002
SRL-C02	Snow and Ice		no		will cross in 2001-2002
SRL-C03	Snow and Ice		no		will cross in 2001-2002
SRL-C04	Snow and Ice	Snow & Ice	yes	yes	to be crossed again in winter 2001-2002
TEL-C01	Culverts		no		
UPD-C01	Temporary Log Bridges	rail car	yes	yes	
UPD-C02	Temporary Log Bridges	rail car	yes	yes	
UPD-C03	Culverts	culvert	yes	yes	
UPD-C04	Culverts	culvert	yes	yes	
UPD-C05	Temporary Log Bridges	log bridge	yes	yes	
UPD-C06	Culverts	culvert	yes	yes	
VMR-C01	Snow and Ice		no		
WEF-C01	Snow and Ice	Snow & Ice	yes	yes	to be crossed again in winter 2001-2002
WNL-C01	Culverts	culvert	yes	yes	left in for future use
WNL-C02	Culverts	culvert	yes	yes	left in for future use
WNL-C03	Culverts	culvert	yes	yes	left in for future use
WNL-C04	Culverts	culvert	yes	yes	left in for future use
WNL-C05	Culverts		no		