



# Doman-Western Lumber Ltd.

## Tree Farm Licence 19 **2000** ANNUAL REPORT



The forest operations in Tree Farm Licence 19 are under an Environmental Management System (EMS) registered as conforming to ISO 14001 standards as issued by QMI, Registration No. 009680



# Western Forest Products Limited

## Tree Farm Licence 19

Tahsis Tree Farm Licence 19 held by Doman-Western Lumber Ltd. and managed by Western Forest Products Limited (WFP) was originally granted to Tahsis Company Ltd. on December 23, 1954.

In 1954, under Management Plan No 1 the licence area was 161 612 hectares and the company was authorized to harvest 283 170 cubic metres of timber per year. By 1996 the licence area had been increased to 192 551 hectares. With improved utilization standards, updated inventory and productivity estimates and an expanded timber harvesting land base, the allowable annual cut (AAC) was increased to 978 000 cubic metres. The AAC includes an annual Small Business Forest Enterprise Program harvest allocation of 45 868 cubic metres.

This Annual Report records accomplishments and data for TFL 19 for the year 2000. For further information on WFP's Sustainable Forest Management visit our website at [www.westernforest.com](http://www.westernforest.com).



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## PROJECT MAP



## SUMMARY OF ACTIVITIES AND ACCOMPLISHMENTS – 2000

Depletion	Scaled Volume	906 073	m <sup>3</sup>
	Volume Charged to Annual Allowable Cut	926 916	m <sup>3</sup>
	Area Logged (Western Forest Products)	1 007.5	ha
	Area Logged (SBFEP)	102.2	ha
Reforestation	Silviculture Prescriptions	1 712.5	ha
	Site Preparation	13.4	ha
	Seedlings Planted	858 364	trees
	Seedlings Fertilized	740 494	trees
	Area Planted	992.6	ha
	Stocking Surveys	1 201.2	ha
	Plantation Survival Assessments	122.4	ha
	Free Growing Surveys	2 159.2	ha
Stand Management	Juvenile Spacing	256.4	ha
	Brushing and Weeding	45.7	ha
	Pruning	232.5	ha
	Broadcast Fertilization	952.7	ha
Inventory	Cutting Permit Cruising	1 774	plots
	Residue Assessment	261	plots
Engineering	Roads Built	75.3	km
	Roads Rebuilt	32.8	km
	Roads Maintained	551.0	km
	Roads Deactivated	48.5	km
	Site Stabilization	15.5	ha
Protection	Accidental Fires	0	
Contracting	Contractor Obligation	432 650	m <sup>3</sup>
	Contracted	493 240	m <sup>3</sup>
	Compliance	114.0	%
Minor Products	Shake and Shingle	2 670	m <sup>3</sup>
	Cedar Cants	31.8	m <sup>3</sup>
	Yew Bark	0	kg
Employment	Direct Employment	152 049	person -days

## 1.0 INTRODUCTION

### 1.1 Statement of Stewardship

Tahsis Tree Farm Licence 19 is held by Doman – Western Lumber Ltd. and managed by Western Forest Products Limited (WFP). The company is committed to sustainable forest management as outlined in its policies and management plans. The company's sustainable forest management is guided by three overarching principles:

- Our operations must be economically viable
- Our actions must be socially beneficial to local, regional and First Nations communities
- Our actions must be environmentally appropriate.

Forestry and milling activities supported by operations in TFL 19 sustain more than 600 direct jobs on Vancouver Island and are critical to the local economies of Gold River, Tahsis, and Zeballos. Campbell River and Comox Valley communities are also directly affected. Western Forest Products works with First Nations groups whose traditional territories lie within TFL 19 to create economic activities and build capacity for forest management.

Over the last 48 years the licensee has logged just over 39 000 hectares (ha). Planting (including fill planting) has occurred on 42 042 ha. There is currently no backlog of not satisfactorily restocked (NSR) area on the TFL. More than 9400 ha of second growth stands have been juvenile spaced, 6285 ha fertilized and 778 ha pruned. WFP maintains 19 trail and recreation sites on both private and public lands within the TFL.



*Local Scouts enjoy lunch at the Star Lake recreation site near Gold River following the planting of 500 trees in nearby Block K506. This project was part of the Trees For Canada planting program.*

Western Forest Products is committed to sustainably managing the TFL lands in a spirit of cooperation with government agencies, First Nations, communities, its employees and the public.

## 1.2 Corporate Highlights

- Western Forest Products' parent company, Doman Industries Limited, had an improved financial situation in 2000. The year 2000 started out with stable lumber prices while pulp price increases continued their robust and consistent upward trend. By midyear, however, lumber markets had weakened dramatically as a result of an oversupply in North America. Demand and prices in Japan had also weakened.
- The company took extensive downtime and production curtailments in both its sawmill and logging operations in the third quarter of 2000. The results improved significantly in the fourth quarter as the solid wood segment resumed production at more normal levels. Sales increased to \$955 million from \$873 million last year. Net loss for 2000 was \$26.5 million compared to a loss of \$57 million in 1999.
- Operationally, both pulpmills had record production in 2000 with Squamish pulpmill producing 265 545 tonnes and the Port Alice sulphite pulpmill, 158 805 tonnes.
- Lumber sales declined to \$418 million on production of 680 million board feet, well below mill capacity. Pulp sales were up dramatically to \$382 million from \$262 million earlier, and log sales increased by \$34 million to \$126 million.
- Timber harvest for the year was again in an undercut position with a total of 3.6 million m<sup>3</sup> of recorded AAC or 89% of the available harvest volume. Stumpage payments increased slightly to \$86.7 million or an average of \$25.28 per cubic metre, exactly the same as in 1999.
- The government introduced a pilot stumpage program, referred to as Market Pricing System (MPS) for coastal hemlock cutting permits. It was estimated that the company had a \$4 million saving from this change during the year. Further stumpage reforms are expected during 2001.



*The Gold River Forest Operation shop crew congratulates Duane Cyron for achieving Mechanic trade qualification following successful completion of his apprenticeship program.*

### 1.3 Company Highlights

- The underharvest situation in the company's various tenures was partly addressed through the allocation of a 115 000m<sup>3</sup> of non-replaceable forest licence to the Oweekeno First Nation and the confirmation to allocate 303,000 m<sup>3</sup> of underharvested AAC in TFL 6 for a First Nations licence. The current underharvest is in excess of 2 million m<sup>3</sup> over the past five years.
  - A total of 273 kilometres of road was constructed and 109 km deactivated, 75 km which was permanent. The company maintained a total of 2386 kilometres of road in the company's 30 logging operations.
  - The unresolved Central Coast land use situation and continued problems in the market place along with slow progress at the Central Coast LRMP table, resulted in the company joining voluntarily with other licensees in the Coast Forest Conservation Initiative. This initiative is a collaborative effort involving WFP, Weyerhaeuser, Canfor and Norske Skog working with several international and local environmental groups on a conflict free approach to jointly design an ecosystem based forest management model. By year end, considerable progress had been made and government had endorsed a plan for interim decisions at the Central Coast LRMP table by the end of March, 2001.
  - The major forest policy review undertaken by the provincial government in 1999 reported out. While many public hearings were conducted and an extensive report written, the only evident policy change was the introduction of the MPS stumpage pilot.
  - The company had an excellent year again with respect to Forest Practices Code compliance, with only 3 minor violations recorded out of a total of 669 inspections of company operations for a year end 99% compliance record.
  - An assessment of the company's forestry practices and tenures on northern Vancouver Island was completed by SGS Forestry as part of a Forest Stewardship Council certification project. The assessment identified that the company had passed 179 out of 201 indicators. The outstanding requirements are a significant challenge and relate to ecological and biological diversity issues. A follow-up assessment of work completed during the year still showed major outstanding requirements by year-end.
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- During the year, 4277 hectares were logged, of which 86% was in old growth forests older than 250 years of age. The silviculture system applied was primarily clearcut with reserve on 87% of the cutting areas. There was only a very small amount of heli-logging during the year on 157 ha or 3.7% of logged area. No commercial thinning was undertaken. On average, 276 trees per hectare were logged.
- The company was successful in achieving ISO 14001 Certification on all of its coastal forestry operations. The certificate was issued by the Quality Management Institute for the company's Environmental Management System (EMAS) under registration number 009680. Eight environmental programs were established under the EMAS and progress was made in all activities.
- Avoidable residue from logging operations totalled 13.8 m<sup>3</sup> per hectare with total residue of 33.1 m<sup>3</sup> per hectare or about 96% utilization of total stand volume.
- A total of 3.9 million seedlings were planted during the year on 4152 hectares. The company produced 2.6 million seedlings at its Saanich Forestry Centre Nursery. Regen surveys confirmed 79 hectares satisfactorily naturally regenerated. A total of 5206 ha of second growth were declared free growing and 1465 ha of second growth areas were brushed.
- Forest Renewal BC expenditures totalled \$11.8 million with 717 hectares spaced, 774 hectares pruned and 1316 hectares fertilized.
- There were also extensive FRBC supported watershed restoration projects completed during the year. A total of 22,500 person days of work were created through FRBC programs.
- A total of 1.6 million salmon fry were released from the four company sponsored, volunteer run hatcheries. Tours of company forestry operations attracted 1,243 participants.



*WFP shop crew in the Zeballos Forest operation completed a major rebuild of one of the company's Hayes HDX logging trucks in their shop. Maintenance crews are an essential ingredient for a successful logging operation.*

## 1.4 Specific TFL 19 Highlights

- The draft Management Plan 9 was prepared in 2000 and publicly reviewed at meetings of stakeholders and First Nations. A total of 17 sessions, including several open houses, were held in the Nootka Region area and involved 168 people



*Darren Dean, the company's new Operations Forester at Zeballos, reviews maps at the new Management Plan public review Open House at the community hall in Zeballos. A total of 167 people attended the 17 sessions for the Draft Management Plan.*

- The companies environmental management system (EMAS) was fully implemented and all company and contractor operations achieved ISO 14001 certification (registration No. 09680) in April, 2000.



*All of TFL 19 forestry operations were officially ISO certified by the Quality Management Institute in April. Peter Johnson of QMI and Vic Woods, WFP Vice President and John McLaughlan of Frank Beban Logging were presented with a formal certificate for the successful completion of the ISO 14001 registration.*

- An 800 ha aerial fertilization project was completed in the lower Gold and Ucona valleys. This Forest Renewal B.C. funded project was the largest aerial fertilization program completed in the TFL since the early 1980's.
- The Vancouver Island Land Use Plan was announced and steps taken to implement parts of the plan during the year. Operational plans have been revised to achieve compliance with the objectives of the higher-level plan.
- The Antler Lake Recreation Area was improved, with picnic areas, trails, outhouses, and new access completed. The site was renamed the Laurent Maynard Memorial Picnic Site and Trail, in memory of a local resident who lost his life in an industrial accident.
- As part of the company's watershed restoration program approximately 1300 meters and 1100 meters of new side channel habitat were built off of the main Oktwanch and Zeballos rivers respectively. Returning salmon used the new habitat for spawning and rearing almost immediately after the channels were opened.

- Mt. Leighton Forest Services FRBC spacing and pruning crew completed their second year accident free (no medical, first aid, or time loss days), an outstanding accomplishment. The crew completed 92.6 ha of spacing and 60 ha of pruning in 2000.
  - Approval to harvest Block K516 was given. This block is 247 ha in size and is managed as a unit encompassing a partial cut harvesting system (totalling 60 ha in the first pass). This block was designed with visual quality, and wildlife & riparian areas being given high priority.
  - WFP was part of a Millennium Project initiated by the Village of Gold River. The project provided employment for local citizens to construct a viewpoint of the Gold River Canyon, located about 5 km from the village on the pulp mill road.
  - The TFL 19 Recreation Features Inventory, and the Visual Landscape Inventory were updated in preparation for the new Management Plan. The updated inventories will be used in future planning and management activities for the TFL.
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## **2.0 MANAGEMENT AND OBLIGATION PERFORMANCE**

### **2.1 Volume**

The scaled production for the year was 906 073 m<sup>3</sup>. Volumes by timber mark and operation are summarized in Appendix I. The volume charged to the allowable cut was 926 916 m<sup>3</sup>. This includes the scaled production and the residue survey volumes (Appendix II).

### **2.2 Area**

The Company harvested timber from 1007.5 ha during the year. Appendix III summarizes the depletion by Operation. Road construction activities converted 75.3 ha from productive forest land to non-productive forest land. Road rehabilitation activities brought 3.1 ha back into productive forest land.

### **2.3 Contractor Compliance**

Harvesting and forest management activities on TFL 19 during the year employed contractors and Company personnel. The volume harvested by full and phase contractors totalled 493 240m<sup>3</sup>. The Contractor Clause Performance for harvesting was 114 per cent (Appendix VI). Appendix VII lists the phase and full-harvesting contractors. Appendix VIII lists all contractors employed in harvesting, silviculture, and resources management on the TFL.

### **2.4 Planning**

#### **2.4.1 Land and Resource Management Plans**

WFP staff participated in the provincial Special Management Zone working group. Several meetings and workshops were held and the draft report implementing Special Management Zones was completed. This report includes recommendations for improving the delivery of Special Management Zones throughout the province.

#### **2.4.2 Landscape Unit Plans**

No landscape unit planning took place in TFL 19 in 2000. The release of the Landscape Unit Planning guidebook has given clearer direction of how landscape unit planning will proceed and WFP has begun working on developing Landscape Unit Plans in other tenures.

General information regarding the landscape units found within TFL 19 and the proposed timeline to complete the priority biodiversity objective are listed in Table 1.

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Table 1 - Landscape Units

Landscape Unit	BEO	Gross LU Area (ha)	LU Area within TFL (ha)	Legal Establishment	Priority
Gold	High	90 527	52 378	August 2002	Medium
Tlupana	Intermediate	43 375	43 143	September 2002	Medium
Burman	Low	46 222	27 971	September 2002	Medium
Kleeptee	Low	15 704	14 768	September 2002	Medium
Tahsis	Low	42 324	29 693	September 2002	Medium
Zeballos	Low	19 237	19 237	September 2002	Medium
Port Eliza	Low	34 409	5 827	September 2002	Low

### 2.4.3 Management Plan

The draft management plan 9 (MP9) was submitted to the Regional Manager for comment and was reviewed with stakeholder groups, First Nations and the public at a series of meetings and open houses held throughout the Nootka Region. The 20-year development plan was prepared and will be used to guide the first 20 years of the timber supply analysis. The information package for the timber supply analysis was prepared and submitted for MOF approval. Total cost amounted to \$98,933.

### 2.4.4 Forest Development Planning

The Gold River Forest Operation and Nootka Contract Operation 1999 Forest Development Plan was approved in May of 2000. The Zeballos 1999 Forest Operation Forest Development Plan was approved in late 1999 for an eighteen-month period. Work has been initiated for the preparation of the 2001 plan for all operations. Cost of preparing the Forest Development Plans was \$39,893.

### 2.4.5 Silviculture and Harvest Planning

#### 2.4.5.1 Cutting Permits and Cutting Permit Cruising

The number of active Cutting Permits in TFL 19 increased from 79 permits in 1999 to 92 permits in 2000. Table 2 lists the active Cutting Permits, expiration dates, and locations.

A total of 1,774 cruise plots were established in TFL 19. Cruising costs totalled \$191,758 or \$108.09/plot. Cutting permits and cutting permit cruising costs totalled \$207,404.

Table 2 - Active Cutting Permits

CP	Expiry Date	Location	CP	Expiry Date	Location
1	Feb 28/00	Gold River	13	Aug 31/01	Houston
14	Mar 15/00	Nesook	23	Apr 30/01	Head Bay
21	Apr 30/01	Gold River	61	Sep 30/01	Head Bay
22	Feb 29/01	Nesook	62	Jun 26/01	Jacklah
28	Apr 30/01	Gold River	65	Oct 31/01	McCurdy
32	Jan 31/02	Gold River	67	May 22/01	Head Bay
33	Jul 31/01	Nesook	68	Aug 20/01	Head Bay
34	Dec 19/00	Gold River	70	Jul 27/01	HB/Houston
35	Nov 17/00	Gold River	71	Sept 2/00	Head Bay
36	Dec 12/01	Gold River	73	Jun 5/00	McCurdy
37	Oct 15/01	Nesook	75	Feb 5/00	Head Bay
38	Nov 28/00	Gold River	76	Jul 31/00	McCurdy
39	May 12/01	Nesook	77	Oct 24/00	Head Bay
40	Mar 31/01	Gold River	78	Jun 16/00	Houston
41	Feb 3/01	Nesook	79	Jan 8/01	Jacklah
43	Sep 22/01	Nesook	700	May 26/01	Head Bay
44	Apr 30/01	Gold River	701	May 11/01	E. Tahsis/Tsowwin
45	Jul 15/01	Nesook	702	Apr 6/01	Head Bay
46	Aug 29/01	Gold River	703	Apr 22/01	Silverado
47	Mar 12/01	Nesook	704	Oct 13/01	Houston
48	Jan 18/02	Nesook	705	Nov 23/01	Houston/Silverado
49	May 22/01	Gold River	706	Jan 19/02	West Tahsis
80	Jan 31/02	Nesook	708	Dec 2/00	Silverado
81	Dec 6/01	Gold River/Nesook	709	Jun 22/01	McCurdy
82	Jan 21/01	Nesook	711	Apr 6/01	Silverado
83	Aug 18/01	Gold River/Nesook	713	Aug 11/01	McCurdy
84	Feb 15/02	Nesook	716	Apr 13/01	Head Bay/Houston
85	May 20/01	Gold River/Nesook	717	Jan 13/02	Silverado/Jacklah
86	Jul 6/01	Gold River	718	Dec 12/01	Port Eliza
87	Aug 2/01	Gold River	720	Oct 12/02	Silverado/Jacklah
88	Sep 16/01	Nesook	721	Nov 26/02	Jacklah
89	Dec 12/01	GR/Nesook/HB	722	Sep 22/02	Jacklah
90	Feb 23/00	Gold River	30	Aug 31/00	Zeballos
90A	Dec 14/00	Nesook	53	Sep 5/01	Zeballos
91	Apr 16/01	Nesook	55	Jan 1/00	Zeballos
92	Feb 16/01	Nesook	56	Sep 30/01	Zeballos
93	Feb 02/02	Gold River	57	Nov 30/01	Zeballos
94	Sep 18/02	Gold River	58	Jun 14/02	Zeballos
95	Mar 05/02	Gold River	59	Jun 22/02	Zeballos
96	May 07/02	GR/Nesook/Head Bay	400	Dec 10/02	Zeballos
97	Sep 26/02	Nesook/Zeballos/HB	401	Jan 01/03	Zeballos
98	Jun 11/02	Gold River	99A	Jun 10/03	Salvage/GR/NS/ZB
600	Jan 13/02	Gold River/Nesook	99B	Jun 11/03	Salvage/GR/NS/ZB
601	Sep 17/02	Gold River/Nesook			
602	Oct 11/02	Gold River/Nesook			
603	Nov 26/02	Gold River/Nesook			
604	Nov 13/02	GR/Nesook/Head Bay			
606	Oct 31/02	Nesook			
714	Mar 4/01	Nesook/HB/Tahsis			

### 2.4.5.2 Road Permits

The Company maintained 10 Road Permits in 2000, as listed in Table 3, throughout TFL 19 Operations.

Table 3 - Road Permits by Operation

Road Permit	Operation	Road Permit	Operation
RO6780	Gold River	RO6865	Tsowwin
RO6863	Nesook	RO6866	West Tahsis
RO6860	Houston	RO8905	Silverado
RO7430	Jacklah	RO6868	Zeballos
RO6861	McCurdy		
RO6864	Head Bay		

### 2.4.5.3 Silviculture Prescriptions

Sixty-three silviculture prescriptions were submitted to the Ministry of Forests in the year (Table 4). The total area for which new silviculture prescriptions were submitted was 1 712.5 ha. Average block size including reserve was 26.9 ha on the submitted prescriptions. Reserve area averaged 14.9 per cent of the blocks.

Amendments to silviculture prescriptions reflecting new information or objectives continue to occupy significant amounts of staff time. Forestry costs for new silvicultural prescriptions and amendments to previously submitted prescriptions totalled \$87,145. Total cost for silviculture prescriptions, planning and record keeping amounted to \$132,867.

Table 4 - Silviculture Prescription Statistics by Operation

Operation	Submitted SPs (#)	Total Area (ha)	Average Block Size (ha)	Minimum Block Size (ha)	Maximum Block Size (ha)	Average Reserve (%)
GRFO/GRCO	31	984.7	31.7	7.1	247.8	16.4
NCA	23	514.7	22.4	4.9	43.7	13.2
Zeballos	9	213.1	26.7	5.1	44.1	15.0
<b>TOTAL TFL 19</b>	<b>63</b>	<b>1 712.5</b>	<b>26.9</b>	<b>4.9</b>	<b>247.8</b>	<b>14.9</b>

## 2.5 Public Involvement

### 2.5.1 Forest Development Plan

Previously approved Forest Development Plans for all operations extended through the year 2000. As a result no public viewings were held. Amendments to approved Forest Development Plans were referred to First Nations, government agencies and other stakeholders as required.

Table 5 - Public Reviews

Operation	Plan	Location	Attendance	Written Responses
Nootka Region	TFL 19 Management Plan 9	Campbell River Municipal Council	15	
		Campbell River WFP Office	1	
		Campbell River Ramada Inn	10	
		Gold River Recreation Centre	17	
		Gold River WFP Union Committee	11	
		Gold River Nootka Resource Board	13	
		Gold River Municipal Council	8	
		Tahsis Recreation Centre	24	2
		Tahsis Municipal Council	7	
		Zeballos Library	2	
		Zeballos WFP Union Com.	12	
		Zeballos Municipal Council	7	
		Zeballos Community Centre.	9	2
		Kyuquot Band Council	4	
		Tsaxana Mowachaht/Muchalaht First Nations	10	
		Oclugie Tribal Council	8	
		Ehattesaht Band Council	10	
<b>TOTAL</b>		<b>17</b>	<b>168</b>	<b>4</b>

### 2.5.2 Management Plan

In September, 2000 the draft Management Plan 9 for TFL 19 was reviewed with stakeholders and First Nations and several open houses held. WFP representatives made a ½ hour presentation at each session to a number of stakeholders and First Nation groups as part of the TFL 19 Draft Management Plan 9 review. The presentation outlined TFL 19 employment, stumpage payments, management plan highlights and other policies and plans associated with the draft Management Plan. A total of 168 persons attended the reviews held in Campbell River, Gold River Zeballos, Oclugie, Kyuquot and Tsaxana (Table 5).



*Every five years a new Management Plan and AAC determination is required for TFL 19. In late fall, a tour of senior Ministry of Forests staff, including the Deputy Chief Forester and Western Forest Products foresters, was conducted in the TFL. The tour visited Zeballos Lake, a complex development area near the community of Zeballos.*

### 2.5.3 Forest Education and Public Relations

The in-school forestry education program continued. Grades three and five students from Ray Watkins Elementary School (Gold River) and Captain Meares School (Tahsis) each received nine forestry modules with the Zeballos Elementary Secondary School receiving four modules.

Western Forest Products Limited continued to raise the profile of forest stewardship in Coastal British Columbia with school and public tours throughout the year. Members of the public showed great interest in seeing forest operations and silviculture operations up close without being filtered through the media.

Gold River Forest Operation hosted twelve tours for the general public and three tours for school groups during the year for a total of 117 participants. In addition a classroom presentation was given to the Little Dinosaurs pre-school students. The annual Gold River spouses tour had 12 enthusiastic participants. Nootka Contract Operation provided a school tour to twelve students from Captain Meares School (Tahsis). To promote awareness during

Occupational Health and Safety Week Zeballos Forest Operation hosted a picnic for 85 employees and family members. The Gold River Forest Operation hosted 150 employees at a breakfast/lunch. Gold River Forest Operation staff and summer students entered a float into the Gold River Days parade. Forest education costs totalled \$44,879.



*Each year the company sponsors a poster and essay contest on a forestry related theme at the Ray Watkins school in Gold River. Zoe Alstrup was the winner of the 2000 National Forest Week poster contest. Six students from the school won helicopter rides as part of the contest.*



*Marie Robertson, Operations Forester for the Gold River forest operation, explains how to count tree rings in Block K94 to a local kindergarten class as part of a forestry tour.*

## **2.6 Inventories and Mapping**

### **2.6.1 Geographic Information System (GIS) and Electronic Mapping**

Five GIS stations were used for corporate resource inventory mapping and analysis. WFP continues to use Pamap as its GIS system of choice; however the use of ArcView, Microstation GeoGraphics, FME and World Construction Set are being utilized to perform a multitude of analysis and data processing tasks.

Microstation (CAD) systems are utilized for operational mapping. Currently, there are three full time CAD operators in the Nootka Regional Office. The integration of digital data to and from the mapping contractor has greatly improved efficiencies within the mapping department.

Prorated TFL 19 GIS costs totalled \$92,741.

### **2.6.2 Forest Inventory**

Digital files now in the corporate GIS are undergoing updates to reflect past forestry activities. It is expected that the TFL will be updated to January 1, 2001 by March 2001. This update will incorporate changes to forest cover, roads and logging history that occurred during 2000. Silviculture history was restructured within the GIS to allow each silviculture activity to be stored separately. This allows for easier tracking of the different activities on-going in the TFL and removes the need to generalize the data.

Cost for forest inventory and GIS mapping revision work totalled \$18,722.

### **2.6.3 Ecosystems**

Terrestrial ecosystem mapping (TEM) for TFL 19 was completed in 2000. This mapping project began in 1999 and methodology was adapted from the methods outlined in Standard for Terrestrial Ecosystem Mapping in British Columbia (RIC1998). Field work for earlier TEM portions of the study was carried out in 1995. Additional polygon checks in other portions of the study area were done in 1999. The survey intensity level is R (reconnaissance-level).

Total cost for ecosystem work completed in the TFL was \$92,278

### **2.6.4 Geotechnical Analyses**

Engineering consultants completed geotechnical analyses of cutblocks and road construction projects throughout TFL 19. Geotechnical assessments are completed in areas where indicated by terrain stability class and engineered to protect sensitive areas. Table 6 presents a summary of analyses by Operation. Costs for geotechnical analyses are included in logging costs.

Table 6 - Geotechnical Analyses

Operation	Geotechnical Firm	Areas	Roads
GRFO	Thurber Engineering	28	1
NCA	Thurber Engineering	26	
Zeballos	Thurber Engineering	6	2
	Arbour Tech		1
	Aztec GeoScience	13	3
<b>TOTAL</b>		<b>73</b>	<b>7</b>

### 2.6.5 Integrated Resource Management Inventories

Numerous inventories of non-timber forest resources were implemented during the year. Except where indicated, costs for these inventories to the Forestry Department totalled \$189,558. Reimbursements from Forest Renewal BC amounted to \$157,526.

### 2.6.6 Archaeology

Archaeological Impact Assessments are conducted on all blocks that have been identified on the archaeological overview assessment as having moderate to high use potential or where features of cultural significance have been identified during layout and planning phases. Arcas Consulting, Coast Forest Management and Tatchu assessed 52 blocks of potential archaeological significance. All defined archaeological resources were conserved in the final engineering of the areas.

### 2.6.7 Streams

Stream classification and inventories completed for the Forest Development Plan are reviewed and fine-tuned during block layout. Consultants were employed in six blocks (four in Gold River Forest Operation and 2 in Zeballos Forest Operation) where the presence of fish was uncertain. Based on the findings of the stream surveys, riparian areas were engineered to conserve valued resources.

The company in cooperation with MOELP completed a fish inventory to Resource Inventory Committee standards in Tlupana River, Conuma River and Kleeptee Creek watersheds. This is the second year of a three-year program to inventory the major watersheds within TFL 19.

Stream inventory costs totalled \$33,988.

### 2.6.8 Coastal Watershed Assessments

Coastal Watershed Assessments (CWAPs) were updated at Houston River (Nootka Contract Operation), three watersheds in Gold River Forest Operation and three watersheds in Zeballos Forest Operation. The CWAPs examine the potential cumulative effects of past and proposed harvesting activities on watersheds. CWAP findings were incorporated into all planning processes as appropriate. The total cost of the CWAP work was \$134,455.

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### **2.6.9 Wildlife**

A wildlife habitat capability suitability project continued in its second year in the TFL. This project utilized newly classified ecosystem information to predict habitat capability/suitability for black bear, black-tailed deer, roosevelt elk and marbled murrelet. Both map and ratings tables were produced for this project.

A goshawk inventory continued in its third year in 2000. The inventory is to be continued in 2001 to assess goshawk territory re-occupancy, breeding distribution and nest habitat suitability, and to assess the effectiveness of current inventory methodology. Total costs were \$126,994.

### **2.6.10 Visual Impact Assessments**

Western Forest Products' personnel undertook visual impact assessments on 32 areas covering 766 ha in Gold River Forest Operation and Nootka Contract Operation. The Company assesses visual quality concerns in all cutblocks that have an impact on publicly visible landscapes.

### **2.6.11 Recreation Inventory**

The recreation feature, recreation opportunity spectrum and visual landscape inventories for lands in the TFL were updated to current MOF standards. The updated inventories will be used in future planning and management activities. Total costs were \$27,244.

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### 3.0 MANAGEMENT OBJECTIVE ACHIEVEMENTS

#### 3.1 Management and Utilization of Timber Resources

##### 3.1.1 Harvesting Methods

Five logging systems were used in TFL 19 in 2000 including grapple, super-snorkel, tower, hoe-forward and heli-logging. The grapple cable system was the most common in all operations harvesting 44 per cent of the volume.

For the first time in two years heli-logging was utilized in all operations accounting for 18 per cent of volume harvested in the TFL.



*Ray McLeod, machine operator, undertaking log yarding in Block J16 with a super-snorkel machine. This line loader is used to yard wood along road right of ways and is the most economical method of delivering logs to the roadside. WFP first developed this technology in its Port McNeil operation.*

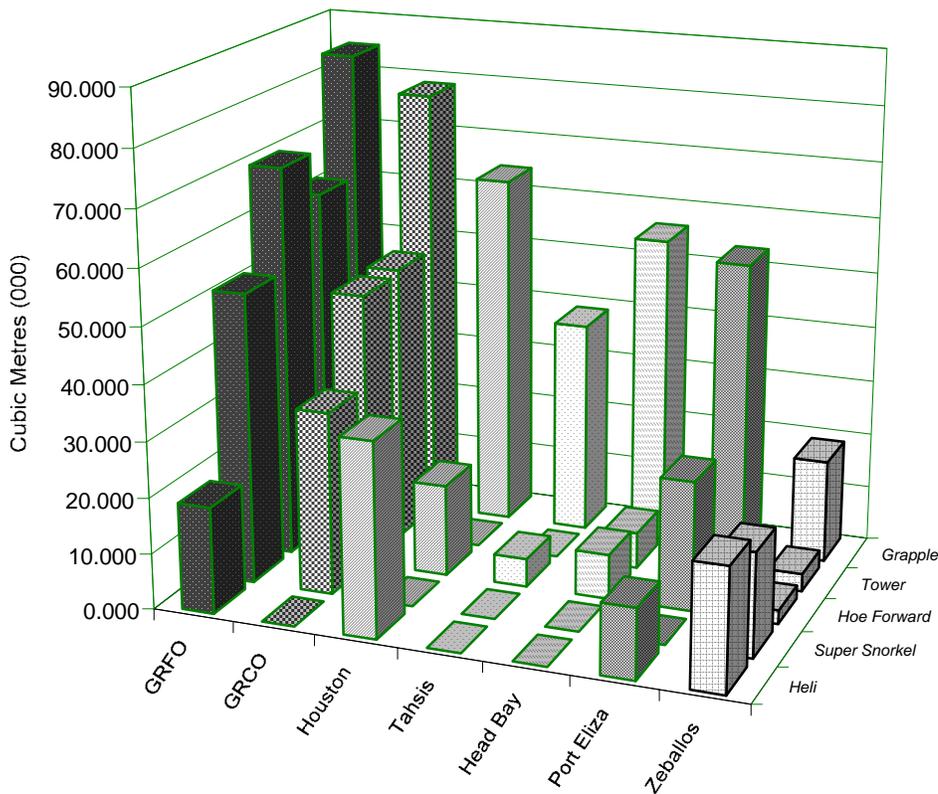


Figure 1 - Logging Volumes by Harvest System and Operation

### 3.1.2 Silviculture Systems

Company foresters prescribed the patch clearcut silviculture system with modifications for protection, utilization and conservation of timber and non-timber resources throughout all operations. Patch clearcut with reserve for wildlife, streams, and other resources is the dominant system (table 7). Forty-two per cent of the blocks engineered in the year,

and seventy-seven per cent of those harvested included one or more reserve(s).

Of the harvested blocks, an average of 14 per cent of the area was under reserve.



*Block A19, a retention block in the Silverado drainage, was logged during the year. This block was designated as a "retention" silviculture system with 16% of trees left for wildlife and other purposes inside the block.*

*Table 7 - Silviculture Systems*

System ENGINEERED BLOCKS	Blocks Engineered (#)	Average Block Size (ha)	Minimum Block Size (ha)	Maximum Block Size (ha)
Clearcut	35	18.4	3.0	43.3
Clearcut with Reserves	24	31.0	5.3	55.3
Retention	1	23.7	23.7	23.7
TOTAL	60	24.4	3.0	55.3
System HARVESTED BLOCKS	Blocks Harvested (#)	Average Block Size (ha)	Minimum Block Size (ha)	Maximum Block Size (ha)
Clearcut	8	15.9	0.5	24.6
Clearcut with Reserve	27	10.3	0.4	37.5
TOTAL	35	13.1	0.4	37.5

Potential for harvesting larger blocks was investigated to create disturbance patterns that better mimic a range of natural disturbance patterns and to reduce development costs.



*Block Q75, near the Head Bay road, between Gold River and Tahsis, was felled and grapple yarding undertaken by Frank Beban Logging Ltd., a full phase contractor in the TFL. Reserves retained in the block will sustain biodiversity and reduce visual quality impacts on the adjacent landscape.*

### **3.1.3 Felling, Bucking, and Utilization Specifications**

#### **3.1.3.1 Specifications**

Utilization standards in cutting permits outline the obligatory and optional specifications for harvesting. Obligatory minimum standards in TFL 19 include the following:

- a. maximum stump height of 30 cm on the uphill side;
- b. all coniferous trees containing X grade logs or better will be utilized to a top diameter of 15 cm inside bark (mature) or 10 cm (immature);
- c. all conifer logs exceeding 3 m in length which contain X grade logs or better will be removed (logs or parts of logs less than 3 m in length and broken at ends are classed as breakage); and
- d. logs will not be bucked or trimmed in a manner that reduces grade.

These obligations apply to all living and dead trees that meet the standards. These standards will be met to minimize waste unless unsafe to do so. Utilization of Y grade logs is optional. Compliance with felling, bucking, and utilization standards is assessed using residue survey data.

#### **3.1.3.2 Residue Assessments**

The Ministry of Forests continued the respite from the former zero tolerance policy. Blocks with less than 35 m<sup>3</sup>/ha or 10 m<sup>3</sup>/ha residue level benchmarks for mature or immature stands, respectively, were not subject to penalty billing. Billing is applied only to volumes above the minimum. Avoidable residue volumes remained low in TFL19 averaging 14.1 m<sup>3</sup>/ha.

Western Forest Products continues to survey and report residue volumes on a calendar year basis for all cutblocks where logging was completed during the year. The official Ministry of Forests residue volume used for the Annual Allowable Cut depletion is determined by summing the volumes from the Scale and Royalty invoices billed during the calendar year. As a result, 2000 depletion includes residue volumes from 1999 as determined by the billing date. The Annual Allowable Cut depletion for waste was 20 843 m<sup>3</sup> (Appendix II). For 2000, the avoidable waste totalled 11 619.6 m<sup>3</sup> (Table 8). About ninety percent of the logged area was less than the minimums for all blocks surveyed in 2000.

Total costs of residue assessments were \$40,861.

Table 8 - Residue Assessment Survey Summary

LOCATION	SURVEY AREA	AAC DEPLETION		AVOIDABLE WASTE		BILLABLE WASTE		NUMBER OF PLOTS				
	Net (ha)	m <sup>3</sup> /ha	m <sup>3</sup>	m <sup>3</sup> /ha	m <sup>3</sup>	m <sup>3</sup> /ha	m <sup>3</sup>	Slash	Road Side	Piles	Other	Total
Gold River	554.0	20.4	11296.9	9.1	5044.7	1.3	721.3	63	39	16	9	127
Houston	157.4	71.0	11180.5	32.4	5104.8	25.8	4073	43	26	7	4	80
Head Bay	112.3	22.3	2503.5	13.1	1470.1	0	0	17	32	3	2	54
<b>TOTAL</b>	<b>823.7</b>	<b>30.3</b>	<b>24980.9</b>	<b>14.1</b>	<b>11619.6</b>	<b>5.8</b>	<b>4794</b>	<b>123</b>	<b>97</b>	<b>26</b>	<b>15</b>	<b>261</b>

**3.1.3.3 Minor Products**

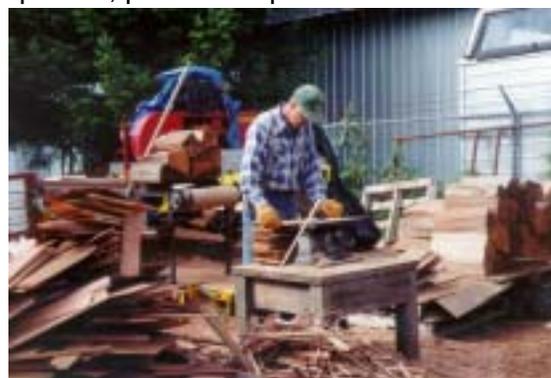
Minor products including cedar shake and shingle and yellow cedar cant timber volumes were harvested from TFL 19. Salvage timber totalled 2670 m<sup>3</sup> of shake and shingle wood from all three operations and 31.8 m<sup>3</sup> cedar cants from Zeballos Forest Operation (Appendix XI). The administration cost incurred was \$14,990.



Quality western red-cedar minor products are produced from logging residue by independent contractors in TFL 19. During the year a total of 2670m<sup>3</sup> of minor products were produced. Shake blocks are loaded in the woods and delivered for scaling at the Zeballos operation office.

**3.1.4 Harvest Profile**

An obligation of the Management Plan 8 is the comparison of the timber harvest by inventory height class compared to the inventory profile. During the year, the largest portion of timber was harvested from Height Class 5, and at 46 per cent of all timber harvested, was well above its inventory profile of 34 per cent. A total of 39 per cent was harvested from height class 4, which comprised of 38 percent of the inventory profile. A total of 8 per cent originated from Height Class 3; this Height Class comprises 9 per cent of the inventory profile. Height class 2, which comprises only 1 per cent of the inventory component, provided 1 per cent of the harvest. There was no harvest of Height Class 7, which has an inventory profile of 2 per cent. (Appendix IX). Some mixed immature/mature blocks were harvested in 2000, concentrating more harvest in the lower Height Classes.



Brian Green, a local entrepreneur purchases low grade cedar logs to manufacture into 18 inch shingle blocks and shingles in an intensive secondary manufacturing enterprise at the Gold River Industrial Park.

Of the total harvest, 89 per cent was from the conventional operability land base, 8 per cent was from the heli land base, and 3 per cent was from the inoperable category (Appendix IX).

### 3.1.5 Allowable Annual Cut and Cut Control Performance

The Allowable Annual Cut for TFL 19 in 2000 was 932 132 m<sup>3</sup>. This includes an annual undercut carry-over from the previous period of 35 581 m<sup>3</sup> (Appendix IV). In the year, the chargeable cut was 891 335 m<sup>3</sup> including scaled production and recognized residue survey volumes. After four years of the Current Cut Control Period, 59 per cent of the five year Allowable Cut has been utilized (Appendix IV).



*Cedar poles are an important minor forest product in TFL 19. Poles are pre-logged from planned harvest areas using an excavator with a high-lead cable yarding system. Graham Jacques, forestry crewman in the Gold River Forest Operation, stands beside the cedar poles in Block J84.*

The Historical Cut Control Performance is included in Appendix V. Since the establishment of the Tree Farm Licence in 1954, the Allowable Cut Available to the Licensee totalled 34 524 779 m<sup>3</sup>. In that period, the Chargeable Cut was 32 629 200 m<sup>3</sup> or 95 percent of the available volume.

### 3.1.6 Small Business Forest Enterprise Program

The TFL 19 Small Business Forest Enterprise Program (SBFEP) has been in place since 1988. To date, 573 350 m<sup>3</sup> of wood has been allocated to the SBFEP (Appendix X). To the end of 2000 the scaled volume under the program was 502 943 m<sup>3</sup> and the residue volume totalled 9540 m<sup>3</sup>. In 2000 Mokko Manufacturing logged 60.5 ha and Green River Timber logged 41.7 ha.

## 3.2 Protection and Conservation Measures

Western Forest Products protected and conserved resource values throughout its area of operation during the year. The following report include 26 engineered blocks and 19 harvested blocks. Blocks for which amendments were submitted and blocks in which harvesting was not completed are not included. The Company reviews every cut block to ensure that legal and forest stewardship commitments are recognized and accommodated in harvest planning.

Table 9 - Protection and Conservation Measures

Number of Blocks Requiring Special Consideration	TOTAL	Visual Quality	Soil Stability	Cultural Heritage	Fish Habitat	Wildlife Habitat	Windthrow	Caves
Blocks Engineered	26	9	6	5	4	1	1	0
Blocks Harvested	19	3	5	3	6	2	0	0

### 3.2.1 Visual Quality

Visual quality was addressed for all cutblocks proposed in scenic areas. Nine of the 60 blocks engineered during the year required special engineering to conserve visual landscape resources (Table 9). Three of the 35 blocks harvested during the year had been similarly modified. Modifications included movement of back lines and locating reserves to minimize the visual impacts of harvesting. Areas where visual qualities are of concern were identified in the current Forest Development Plan.

### 3.2.2 Soil Stability Maintenance

#### 3.2.2.1 Conservation

Soil stability was addressed through engineering, harvesting, road building, and erosion control measures implemented throughout the year. Of the engineered blocks, 6 included additional soil conservation plans beyond Company Standard Operating Procedures. Of the harvested blocks, 5 received additional soil stability considerations (Table 9).

#### 3.2.2.2 Operational Site Stabilization Program

Revegetation progressed with harvesting and road building operations throughout the TFL. Grass seeding was completed within acceptable biological windows.

Operational site stabilization costs were \$13,037.

#### 3.2.2.3 Watershed Restoration Program

Backlog road deactivation funded through the Watershed Restoration Program was successfully completed in the Muchalat Lake watershed. Work was underway in the Upper Gold, Upana and Tsowwin watersheds. Road and fish habitat inventories have been completed for the Upper Gold, the Gold Valley, and the Spud Valley. Inventories were underway at year-end for the remainder of Nootka Island. Program costs including implementation and administration were \$711,110 and were fully recovered (Table 10).

Table 10 - Watershed Restoration Summary

2000 Project Progress				
Watershed	Level II	Road Deactivation	Fish Habitat Restoration (km)	Spending
Muchalat Lake (Oktwanch	Completed	-	1.3	234 210
Muchalat Lake	Completed	1.8 km		52 800
Tsowwin	Completed	4.6 km		68 700
Upana	Completed	8.6 km		180 400
Zeballos River	N/A	-	1.1	175 000
<b>TOTAL</b>		<b>15.0 km</b>	<b>2.4</b>	<b>\$ 711 110</b>

### 3.2.2.4 Water Quality

Data from the hydrological monitoring station at Leigh Creek continued gathering data to establish pre-harvest baseline information. The Leigh Creek watershed drains into the Conuma River Fish Hatchery. Development in the basin that effects the watershed will commence in 2005. Base line data from the monitoring station will be compared to post harvest data to determine if there have been any changes in turbidity and hydrological flow associated with road construction and harvesting.

### 3.2.3 Recreation Resources

#### 3.2.3.1 Public Recreation Sites

Western Forest Products maintained recreation sites co-operatively with the Ministry of Forests throughout TFL 19. Overnight facilities were maintained at Muchalat Lake, Cougar Creek, and Leiner River. The Company has also enhanced many day-use areas including fresh and salt-water fishing, caving, forest education walks, hiking, hunting, and landscape viewpoints. Total costs were \$157,627 and total credits \$ 147,607.



*On beautiful Tlupana Inlet, near the popular Cougar Creek campsite an eagle picks up a cod during an early fall morning.*

Specific improvements implemented by the Company included the following:

- At the Muchalat Lake site, repaired the dock mooring to better anchor dock. Retrieved picnic tables displaced by storms and replaced the outhouse structure.



*The company participated in a tourism project to establish a parking area, bridge and trail system adjacent to the highway near the Gold River canyon and waterfalls south of town. This Millennium project was sponsored and led by the Gold River community and First Nations, with support from the federal government, FRBC and WFP.*

### 3.2.3.2 Recreation Use

A Visitors Guide was produced for the Nootka Region and about 5000 guides were distributed to the public. The Company continued to promote the resources of TFL 19 for recreation use through signage, advertisements, and visitor maps. Estimates of annual use are presented in Table 11. These estimates are based on site monitoring, reports from site maintenance workers, and information from the tourism industry.

*Table 11 - Recreation Use Estimates*

Activity	User Days By Operation			Total
	Gold River	Nootka Contract	Zeballos	
Beach Use	200	200	60	460
WFP Sites and Trails	52 500	5 400	40	57 940
Hunting	5 000	2 100	250	7 350
Fishing (Freshwater)	2 000	100	200	2 300
Fishing (Saltwater)	45 000	11 500	2500	59 000
Firewood Cutting	800	500	150	1 450
Food Gathering	50	50	10	110
Kayaking	500	6 000	300	6 800
Auto Touring	1 000	1 300	200	2 500
Hiking and Caving	2 400	2 500	500	5 400
<b>TOTAL</b>	<b>109 450</b>	<b>29 650</b>	<b>4210</b>	<b>143 310</b>

### **3.2.4 Cultural Heritage Resources**

Five of the blocks engineered, and three of the blocks harvested in the year were modified for archaeological values (Table 9), based on inventories completed.

### **3.2.5 Fish Habitat**

#### **3.2.5.1 Conservation**

Modifications in 4 engineered blocks and in 6 harvested blocks reflected findings of stream classification inventories (Table 9).

#### **3.2.5.2 Salmonid Enhancement Program**

Western Forest Products assisted with the rebuilding of the Zeballos Hatchery after the old building collapsed forcing the early release of salmon fry in 2000. The new building is specifically designed for incubation and rearing of fish.

Western Forest Products also assisted the Gold River Chinook Project by providing helicopter transportation for brood stock and fry to the Burman River. Costs to the Forestry Department for the program were \$4,497.



*Volunteers in the Zeballos community and company employees have been active in salmon enhancement for a number of years. As part of an upgrade program, the company worked closely with the community to construct a new salmon hatchery near the Zeballos office to help rebuild local stocks.*

### **3.2.6 Wildlife Habitat**

Two harvested blocks and one engineered block were modified to conserve wildlife values (Table 9). Additional habitat was maintained through modifications for other resource values such as spacing, pruning and fertilization.

Roosevelt elk have expanded their range into areas not traditionally occupied by elk. Herds move into areas following harvesting. The elk take advantage of the increased browse availability in new cutblocks.

The first Wildlife Habitat Area (WHA) under the Forest Practices Code was established around the Knoll Cave located near Tahsis. The WHA was established to protect habitat for the Keen's Long Eared Myotis, a rare species of bat. The site encompasses the complete life cycle of the bat, from maternity colonies and roosting sites to foraging areas and movement corridors.

### 3.3 Integration of Harvesting Activities

Timber development within TFL 19 has also created access for other commercial and recreational users. Due to provisions in the Forest Practices Code Act, Western Forest Products is required to deactivate roads following harvesting. Where possible, access is maintained while achieving forest site productivity and erosion control objectives. A summary of other stakeholders is included in Table 12.

The Company forwards to the Mowachaht/Muchalaht First Nations, information regarding culturally significant areas and culturally modified trees for their review and comments.

Harvesting proceeds when a mutually agreeable plan is developed.

*Table 12 - Summary of Commercial Stakeholders*

Commercial Stakeholders	#	Commercial Stakeholders	#
Trappers	12	Guide Outfitters	15
Mushroom Pickers*	27	Oyster Farms	2
Kayak Operations	6	Fishing Guides *	30
Marina	5	Caving	2
Mining Exploration	1	Fishing Camps*	12
Mining Claims	385	Salal Pickers	2

\* Estimated numbers

### 3.4 Forest Fire Management

#### 3.4.1 Prevention

Fire Preparedness Plans were updated and submitted by April 1, to fulfill annual obligations. Ground and aerial patrols were undertaken during times of upper moderate, high, and extreme fire-weather hazard ratings. Patrols focused on areas with lightning strikes, active work areas, and recreation sites. Weather stations were monitored during the fire season and throughout the slash pile-burning program in October and November.

None of the logging operations were shut down for fire weather conditions in 2000.

Fire Management Costs amounted to \$2,027.

#### 3.4.2 Suppression

There were no fires reported in the TFL 19 in the year 2000.

#### 3.4.3 Fuel Management

Piling and burning roadside slash accumulations concurrent with area cleanup reduced fuel and fire hazards.

### 3.5 Forest Health Management

Forest health costs for disease, insect, and ungulate management, and abiotic factors totalled \$103,547.

#### 3.5.1 Disease Management

Forestry personnel routinely monitor forest health informally in conjunction with silviculture and adjacency (green-up) surveys.

*Phellinus weirii* root rot was detected in two blocks in the Gold River Forest Operation. The root rot centres on the site will be planted with western redcedar; a species less affected by, or tolerant of *Phellinus weirii*.

Western white pine putatively resistant to white pine blister rust was planted throughout the Coastal Western Hemlock dry maritime zone, near Gold River. A minor component of white pine is scattered throughout the blocks where it is ecologically suited to increase stand diversity. This species is very valuable, both economically and environmentally. Western white pine out-produces other species on poor, dry sites, and is useful in areas prone to *Phellinus weirii* and ungulate browse.

#### 3.5.2 Insect Management

White pine weevil damage occurred on 60 ha. Sitka spruce, putatively resistant to *Pissodes strobi*, was planted throughout blocks where it is ecologically suited. Sitka spruce is a valuable species and has shown superior growth rates on many sites in the Gold River area. Casual observations indicate that elk generally avoid browsing on sitka spruce.

#### 3.5.3 Ungulate Management

In areas with high Roosevelt elk and black-tailed deer populations, seedlings were protected from browse and trampling with Tree Cone seedling protectors. On average, the seedling protectors are removed four years following establishment, when the seedlings are large enough to withstand browsing. Protectors require maintenance every one to two years. Tree Cones were established on browse-prone species on 24 ha in areas of heavy ungulate concentration, and were maintained on an additional 60 ha.



*Sitka spruce weevil (Pissodes strobi) is a serious insect problem in coastal forests affecting terminal shoots on young spruce. The company has worked for many years to develop weevil-resistant Sitka spruce selections. A new orchard is now being established at the Saanich Forestry Centre to produce weevil-resistant seedlings for operational planting.*



*Plastic cones were added in Block K23 to protect the newly planted Douglas-fir and western red-cedar seedlings from browsing by elk. Sitka spruce and grand fir, not normally browsed by elk, were also planted.*

### **3.5.4 Abiotic Factors**

Measures to reduce blowdown on areas assessed to be susceptible to blowdown included feathering cutblock edges, changing cutblock design, harvesting to wind-firm buffers, and aerial pruning. Blowdown specialists conduct assessments prior to harvest in areas that may be prone to blowdown. Several harvested blocks were modified to reduce windthrow. There were no recorded windthrow losses in 2000 (Appendix XXII).

## **3.6 Silviculture**

### **3.6.1 Reforestation**

#### ***3.6.1.1 Tree Improvement and Orchard Consolidation***

Western Forest Products owns seed orchards licensed by the Ministry of Forests to produce high quality seed and stockings. These orchards are located at the Saanich Forestry Centre and the Lost Lake Field Operation on south Vancouver Island.

Two western red cedar orchards, two western hemlock orchards, and two coastal Douglas-fir orchards yielded seed for more than 8.8 million seedlings in 2000. Other mature licensed orchards were not managed due to large seed inventories on hand from past crops.

To improve the quality of seed obtained from the mature low-elevation western hemlock orchard at Lost Lake, low breeding value individuals were removed. Supplemental mass pollination, an excellent cone set, and good harvest management resulted in a bumper crop for more than 6.9 million plantables (Appendix XXI). This is Western Forest Products' first significant high-gain crop in hemlock. Average volume gain from this crop is projected to exceed 9 per cent at rotation. Funds from the Operational Tree Improvement Program (Forest Renewal BC via the Forest Genetics Council) assisted in delivering the gain. These two seedlots are suitable for reforestation throughout TFL 19 to elevations of 600 m. A small custom seedlot was developed in the high elevation hemlock orchard at Lost Lake. The 74,000 potential plantables from this control pollination crop are suitable for reforestation throughout TFL 19 in the elevation band from 122 m to 722 m.

The coastal Douglas-fir seed extracted from 24 hl of cones is projected to yield 0.4 million seedlings (Appendix XXI). The bulk of the crop resulted from supplemental mass pollination, funded in part by the Operational Tree Improvement Program. This seed is suitable for use in TFL 19 to elevations of 700 m.

The red cedar orchards at Lost Lake provided seed for an estimated 1.4 million plantables (Appendix XXI). Yields were extremely low in both orchard crops; seeds per cone were in the order of 25% of historical average yields in orchard 128. The cause of the low seed yield is

under investigation. Gain associated with the seed harvested from the tops of trees is estimated at 5 per cent at rotation, based on DNA analysis results that confirmed high out-crossing. The seed produced from both orchards is suitable for use throughout TFL 19 to elevations of 640 m with the custom lots to elevations of 730 m.

Cuttings from the yellow cypress clonal hedges at the Saanich Forestry Centre yielded cuttings for 252 thousand stecklings. Of these, about 30% have an average projected gain in volume at rotation exceeding 5 per cent.

No wild stock seed collections were made within TFL 19 during the year. To cover projected seed needs in western white pine, 3.5 kg of Doreena origin seed which shows blister rust resistance was purchased. Additionally, three separate lots of Noble fir (775 m, 975 m, and 660 m) were purchased for a total of 10 kg of seed.

Intense planting activity occurred at Saanich Forestry Centre in the fall of 2000. This continued the consolidation of orchards to the Saanich site. Four new orchards were established and the bulk of a fifth orchard was planted:

- The new western red cedar low elevation orchard contains 509 trees. The estimated average gain in volume at rotation from seed produced in this orchard is 8 per cent. Seed from this orchard can be used in all Vancouver Island tenures and all Mainland tenures south of 52°50', to elevations of 600 m.



*Paul Bertorelli, Melanie Turgeon and Georgina Dampier, harvest yellow cedar cuttings from the hedge orchards at Saanich Forestry Centre. These cuttings are used to produce rooted stecklings for operational planting.*

This orchard was designed to test alternate methods of pollen management for increased out-crossing.

All low elevation western red cedar in test was grafted at Saanich Forestry Centre in early 2000 under an Operational Tree Improvement Program project funded by Forest Renewal BC through the Forest Genetics Council. This material will be used to replace low-gain individuals with high-gain individuals when test results become available. The purpose of this project is to realize the gains from the progeny-testing program at the earliest possible date. Through this effort, an orchard with estimated gain of 12 per cent is anticipated by the year 2007.

- The new western red cedar Queen Charlotte Islands orchard contains 160 trees. The design of the orchard facilitates early roguing with four trees planted near each final orchard position. Only the best as proven by progeny results will remain post-roguing. Seed from this orchard can be used in all Maritime zones from 49°46' north to the Alaska Panhandle to elevations of 650 m.
- The new western hemlock high elevation orchard contains 275 trees. All trees in the orchard are in test, and additional trees in test may be added to the orchard to provide a significant quality boost in seed produced from the post-rogue orchard. Seed from this orchard is appropriate for all coastal maritime lands south of 53°31' for the elevation band from 400 m to 1000 m.
- The Sitka spruce weevil resistant orchard now contains 330 trees, up from about 100 trees at the beginning of 2000. Weevil-resistance of this orchard is currently (from early test results) estimated to average 6, or 60 trees out of 1000 planted with this stock on average would be attacked in a given year in a high weevil hazard area. Seed from this orchard is appropriate for all coastal maritime tenures north of 53°42' and to elevations of 400 m, with testing in place to extend the elevation range.

Repair and maintenance of the vandalized western hemlock orchard continued at Saanich Forestry Centre. Copies of all stock in the orchard were grafted to replace the damaged trees in the event efforts fail. Surplus copies of some clones received from the Cowichan Lake Research Station were planted in the orchard. Funding for the repair was received in part from Forest Renewal BC.

Western Forest Products personnel implemented the Sitka spruce breeding program at field trial locations. This project, funded by Forest Renewal BC through the Forest Genetics Council Operational Tree Improvement Program, yielded control-cross seed for further testing of weevil resistance, and significant amounts of surplus seed for operational reforestation purposes. Our share of the surplus control-cross seed should deliver more than 80,000 highly weevil-resistant Sitka spruce plantables for the 2003 spring planting program.

Results of more than a decade of yellow cypress field trials are paying back with the establishment of high-gain hedge orchards at Saanich Forestry Centre. As more data becomes available, new selections will be added to the orchards. Rejuvenation of selected hedges continued with funding from the Operational Tree Improvement Program. A crop failure in the third rejuvenation resulted in a setback; this rejuvenation will be repeated in 2001.

Effort will be made to rejuvenate and bulk-up all clones with projected gain at rotation exceeding 12 per cent. To date, more than 11,000 ramets representing some 200 tested

clones with projected gain at rotation greater than 5 per cent are located in hedge orchards at Saanich Forestry Centre. As their size and productivity increases, lower value clones will be removed from the orchards.

The prorated share of the costs of tree improvement and orchard consolidation to TFL 19 for the year was \$118,521. The prorated share of reimbursements from the Operational Tree Improvement Program was \$21,868.

### **3.6.1.2 Site Preparation**

Site preparation was implemented to improve regeneration efforts by increasing the availability and distribution of planting spots. Costs for all site preparation in the TFL totalled \$41,929.

#### **3.6.1.2.1 Broadcast Burning**

No broadcast burning was undertaken in the TFL in 2000. At the time of hazard abatement burning, throughout the 1970s, annual broadcast burning was at 450 ha per year on average. In the 1980s this had dropped to 50 ha per year. In the current decade, annual broadcast burning in TFL 19 has averaged below 20 ha per year. Changes in harvesting practices have reduced the availability of this significant silvicultural tool.



*Loader operator Doug Edwards piles slash to create plantable spots along roads in Zeballos Forest Operation. To meet the strict Forest Practices Code and silviculture standards, the company undertakes this work in areas of high slash.*

#### **3.6.1.2.2 Pile Burning**

Slash was piled in areas of heavy accumulations along roadsides. A total of 7.7 ha of piles were burned in the TFL. In Gold River Forest Operation, 6.9 ha of roadside piles were burned in 33 harvest blocks. Nootka Contract Administration burned 0.7 ha in 4 harvest blocks, and Zeballos Operation burned 0.1 ha in 1 harvest block (Appendix XI). Piling and burning reduced the amount of slash and increased the number of plantable spots for increased regeneration.

#### **3.6.1.2.3 Mechanical Site Preparation**

An additional 5.7 ha of productive forest site was created for conifer regeneration by rehabilitating permanently deactivated spurs in the Gold River Forest Operation (Appendix XI).

### 3.6.1.3 *Planting*

A total of 858,364 seedlings were planted throughout TFL 19. Original plantations encompassed 815.5 ha (Appendix XI). As well, 155.0 ha of previous plantation area required additional planting to meet the required stocking standards and 22.1 ha of roadside areas were planted following pile burning. Original and roadside plantings were credited to the Regeneration Balance (Appendix XII). Approximately 28 million seedlings have been planted in TFL 19 since 1954 (Appendix XIII).



*In Block Q28, exceptional regeneration establishment difficulties are evident due to surface water problems, residual salmonberry and elk impacts. Management strategies to successfully regenerate include brush control, seedling protection and planting species tolerant of flood conditions.*

Fertilization at time of planting improved the growth of conifers in areas of high brush hazard. Gold River Forest Operation fertilized 471,000 seedlings; Nootka Contract Administration fertilized 250,200 seedlings, and Zeballos forest Operations fertilized 19,294 seedlings at time of planting, for a total of 740,494 seedlings fertilized.

Western hemlock was planted most abundantly in 2000, followed by Western red cedar, amabilis Fir and Douglas-fir. These four species accounted for 88 per cent of the planting program. In addition, yellow cedar, Sitka spruce, western white pine, grand fir, noble fir and mountain hemlock were planted, establishing diverse second-growth forests.

Costs for the planting program were \$1,007,155 including stock purchase, inspection, planting, and program co-ordination. Average costs were \$1,014 per ha, or \$1.17 per seedling, down considerably from the \$1.82/seedling in 1999.

### 3.6.1.4 *Planting Survival Assessments*

Plantation survival assessments are designed to assess survival soon after planting. The first year is the most difficult for the newly planted seedlings and survival surveys provide early indications of potential problems. Gold River Forest Operation conducted survival assessments on 122.4 ha. Average one-year survival was approximately 95 per cent (Appendix XI). Nootka Contract Administration and Zeballos Forest Operation have a modified program, doing a full-blown stocking survey two years following planting. The results of these assessments are summarized in the following section.

Costs of planting survival assessments were \$7,720.

### **3.6.1.5 Stocking Surveys**

Stocking surveys of enhanced regeneration took place in all Operations (Appendix XI). Gold River Forest Operation assessed 708.5 ha of which 566.2 ha were satisfactorily regenerated. Nootka Contract Administration assessed 360.1 ha of which 276.2 ha met stocking standards. Zeballos Forest Operation assessed 132.6 ha of which 100 per cent were satisfactorily restocked. Areas that did not meet the stocking standard were debited to the Regeneration Balance (Appendix XII). Areas not satisfactorily restocked were slated for replant unless natural regeneration was colonizing the site in sufficient numbers, spaced adequately and of the appropriate species to ensure that silviculture prescription requirements would be met within one or two years.

Costs for implementing stocking surveys totalled \$60,621, an average of \$50 per ha.

### **3.6.1.6 Free Growing Surveys**

Gold River Forest Operation conducted free growing surveys on 657.2 ha in 2000. Of this area 339.8 ha met free growing standards (Appendix XI). Nootka Contract Administration assessed 1,301.1 ha, of which 568.8 met free growing standards, and Zeballos Forest Operation completed 200.9 ha, of which 174.7 ha met free growing standards.

Costs for free growing surveys were \$49,475 or \$23 per ha. Forest Renewal BC reimbursed the Company for surveys of backlog areas.

### **3.6.1.7 Green-up Surveys**

Green-up adjacency survey programs were implemented to ensure that adjacency requirements in the Forest Practices Code are followed for blocks slated for harvest on the Forest Development Plans in all Operations. Green-up surveys were conducted on a total of 2008.4 ha in TFL 19. Gold River Forest Operation surveyed 1977.3 ha, of which 1090.9 ha were greened up, and Zeballos Forest Operation surveyed 31.1 ha, of which 17.8 ha were greened-up. Costs for green-up surveys were \$9,883.

## **3.6.2 Stand Management**

### **3.6.2.1 Brushing and Weeding**

Gold River Forest Operation mechanically treated 7.7 ha to reduce seedling competition by salmonberry adjacent to riparian areas. Nootka Contract Administration mechanically treated 38.0 ha. Manual brushing being more labour intensive than chemical brushing increased employment.

The Pest Management Plan for the Nootka Region Operations approved on October 18<sup>th</sup>, 2000 is valid from March 2001 to March 2006.

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Costs for brushing and weeding were \$39,348 or \$861 per ha. The Company funded the entire brushing and weeding program.

### **3.6.2.2 Juvenile Spacing**

First Nations contractors completed 92.8 ha at Gold River and 52.0 ha at the Zeballos Forest Operations. The Nootka Contract Administration spaced 111.6 ha.

The spaced stands were in areas designated as industry outstanding (logged prior to 1987) with the exception of Gold River where 17% or 15.1 ha was in appraisal blocks. Funding was provided by Forest Renewal BC (Appendix XI). Costs for spacing were \$474,708 or \$1,851 per ha.



*Aerial fertilization was undertaken in U22 area by Western Aerial application and pilot Make Tams. The project area in the background was part of 800 hectares fertilized during the year, one of the largest programs since the early 1980's. A total of 435 kilograms of urea per hectare were applied.*

### **3.6.2.3 Pruning**

First Nations contractors completed 60.3 ha in the Gold River Forest Operation. Zeballos Forest Operation had the First Nations complete 3.8 ha of a total 31.8 ha pruned. The Nootka Contract Administration pruned 140.4 ha.

Costs for pruning were \$440,032 or \$1,893 per ha. Funding was provided by Forest Renewal B.C. (Appendix X1).

### **3.6.2.4 Fertilization**

An extensive 862.1 ha aerial broadcast fertilization program was completed in Gold River Forest Operation. Zeballos Forest Operation fertilized individual trees on 90.6 ha. to enhance growth and reduce the time period to achieve green up.

Costs for the program were \$287,660 or \$302 per ha. Forest Renewal BC reimbursed all costs for the aerial fertilization.



*In the Conuma River watershed in Block Q76 a pilot for Sunwest Helicopters undertakes aerial pruning of old growth treetops to reduce blowdown risk. This practice is becoming standard to protect leave strips.*

### 3.7 Roads and Bridges

#### 3.7.1 Construction

Road construction continued in 2000 with a total of 75.3 km of new road and 32.8 km of rebuilt road (Table 13). Ten bridges were constructed.

*Table 13 - Road and Bridge Construction Summary*

Operation	New Roads (km)	Rebuilt Roads (km)	Bridges (#)
Gold River Operation	30.3	32.0	1
Gold River Contract Operation	10.3	0	0
Houston Contract	5.4	0	1
Tahsis Contract	2.6	0	2
Port Eliza (Jacklah)	7.8	0	0
Head Bay Contract	6.5	0	4
Zeballos	12.4	0.8	2
<b>TOTAL</b>	<b>75.3</b>	<b>32.8</b>	<b>10</b>

#### 3.7.2 Maintenance

The Operations maintained 551 km of road in TFL 19. Appendix XI provides a summary by Operation.



*John Mangles, a driller/blaster in TFL 19 explains road building practices during a field tour for employee spouses in the Gold River Operation.*

### 3.7.3 Current Deactivation

Road deactivation is completed to maintain site stability and increase forest productivity. Level of deactivation (temporary, semi-permanent, and permanent) is determined prior to harvesting and outlined in the block silviculture prescription. A total of 28.8 km was seasonally deactivated in the TFL. Semi-permanent deactivation of 13.8 km of road and permanent deactivation of 5.9 km of road brought the road deactivation total to 48.5 km. Appendix XI summarizes the road deactivation program by type and Operation.

Road deactivation costs are included in harvesting costs.



*Near Block B102A on P-29 road, a Hitachi EX300 excavator works removing an old bridge as part of road deactivation. The company spent \$711,110 on road deactivation in the TFL during the year.*

## 3.8 Employment and Economic Opportunities

### 3.8.1 Direct Employment

Direct employment generated by TFL 19 activities in 2000 totalled 2,616 persons employed for 152,049 person-days (Appendix XV-A). Company-wide, 674,371 person-days were worked equivalent to over 3,700 full-time positions based on 180 days per full-time equivalent (Appendix XV - B).

#### 3.8.1.1 Planning and Development

Planning and development relating to TFL 19 occurred at each of the Operations and at the Company's corporate office in Vancouver. Engineering and road construction employed 147 people for an estimated 12,690 person-days. Contractors were responsible for just under 50 per cent of the operational person-days in planning and road construction (Appendix XV-A).

The mapping department in Vancouver provided planning and development support at the Operations. The Company moved towards independent internal mapping with the operations changing to the new corporate design specs for Forest Development Plans and operational mapping.

#### 3.8.1.2 Harvesting

Nearly all direct harvesting employees, both contract and Company, resided on Vancouver Island, and the majority resided in the vicinity of the TFL. Work completed by contract

employees comprised 55 per cent of the harvesting person-days. Harvesting person-days totalled 55,956 (Appendix XV-A).

### **3.8.1.3 Transportation**

Transportation of logs from the log dump sites to processing facilities and log trade markets occurred by barge and boom. Log transportation generated 6,293 person-days of employment.

### **3.8.1.4 Processing**

Ten processing facilities owned by Doman Industries received logs from TFL 19, and surplus logs were traded and sold. For purposes of analysis, it was assumed that employment was generated within the vicinity of the processing facility. Facilities included the Tahsis, Cowichan Bay, Silvertree, Saltair, Vancouver and Nanaimo Sawmills, the Port Alice and Squamish Pulp Mills, Nanaimo Log Merchandising, and Log Trading and Sales.

Prorated direct employment based on wood flow and consumption estimates totalled 1,672 people employed for 65,804 person-days (Appendix XV-A).

### **3.8.1.5 Silviculture and Integrated Resource Management**

Basic and enhanced silviculture and integrated resource management projects employed 271 people throughout TFL 19. Of these, over 63 per cent were contract employees. A total of 8,409 person-days of employment were generated in Silviculture and Integrated Resource Management (Appendix XV-A).

A prorated share of employment at the Saanich Forestry Centre was included for TFL 19. Fifty-nine Company employees amassed 1,189 person-days of employment. The corporate office in Vancouver contributed 35 people for 793 person-days attributable to TFL 19.

### **3.8.1.6 Administration**

Administrative employment occurred locally with the Regional staff, and in Vancouver, at the Company's corporate office. The prorated share of administrative employment included 41 Company personnel working 2,738 person-days in the year and seven contract employees working 159 person-days at a cost of \$ 427,869.

## **3.8.2 Indirect Employment**

Tree Farm Licence 19 supported indirect employment in the local communities of Gold River, Zeballos, and Tahsis, as well as in Campbell River and the Comox Valley. In the vicinity of the processing facilities supplied by TFL 19, significant amounts of indirect employment were also

sustained. Additional indirect and induced employment were supported province-wide through purchase of services and supplies.

The ratio of direct employment to indirect and induced employment used in this analysis is 1:2 (based on the conservative Price-Waterhouse model). For every employee directly employed by TFL 19 activities, two additional people are indirectly

employed through private and public sector agencies. The estimated indirect employment generated by TFL 19 in 2000 was 304,098 person-days. Based on an average of 180 days per full-time equivalent position, over 1,689 full-time positions were indirectly generated in the TFL.



*The First Nations people of Nootka Sound were renowned for their use of cedar in basket making and distinctive clothing. These two women producing beautiful woven baskets in the early 1900's.*

### **3.8.3 First Nations Employment and Initiatives**

The Company has a strong history of First Nations' involvement in Tree Farm Licence 19 activities. Spacing and pruning contracts in Gold River Forest Operation and spacing contracts in Zeballos Forest Operation were direct awarded to local First Nations silviculture crews.

WFP has an annual goal of achieving a minimum of 20 per cent First Nations employment in silviculture contracting. In TFL 19 in 2000, the goal was met and exceeded with 34 per cent First Nations silviculture contracting; a total of 2,378 person-days out of the total 6,942 contractor person-days worked (Appendix XV - C). Company-wide, the rate of First Nations employment matched that of TFL 19 at 24 percent, or 120% of the goal (Appendix XV - C).

An estimated eleven of the Company's local logging employees are First Nations.

### **3.9 Performance Monitoring**

During the year, 152 harvest inspections were undertaken as part of Compliance and Enforcement activities in TFL 19. Of the total, 145 inspections (95%) confirmed full compliance with all requirements of the Forest Act and the Forest Practices Code.

Company employees and contractors were given Environmental Management training as part of the ISO 14001 certification process.

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Nootka Region staff continued to meet with Ministry of Forests personnel to discuss forestry and compliance and enforcement issues and to promote co-operation between the two agencies.

The companies environmental management system (EMS) was fully implemented and all company and contractor operations achieved ISO 14001 certification (registration No. 09680) in April, 2000. Internal audits to measure our compliance with the environmental management system standard continued throughout the year.

A MOF inventory audit for TFL 19 was completed in December, 2000. The audit results for the mature component of the inventory suggest that the inventory is acceptable. Results for the immature component of the inventory suggested that the site index and species composition assignment in young stands may not be accurate.

Starting in 2001 the inventory will be updated to the new Vegetation Resource Inventory Standard.

Total cost for performance monitoring was \$3,519.

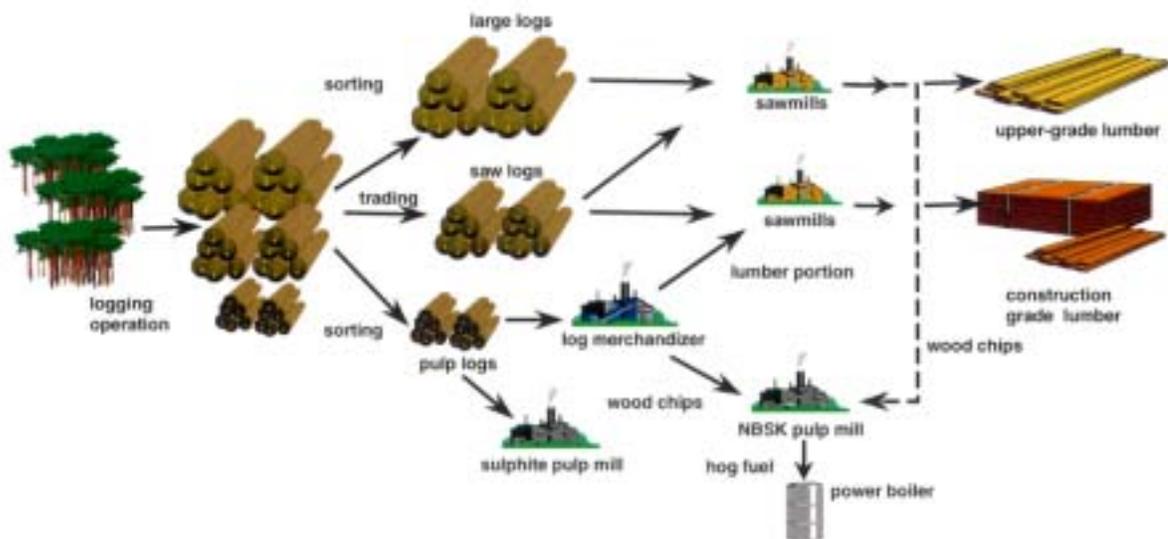
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## 4.0 TIMBER PROCESSING

Approximately 765 000 cubic metres of logs from TFL 19 were processed in Doman Industries' manufacturing facilities. As well, log trades and sales consumed 141,000 cubic metres from the TFL. Estimates of log flow and utilization are summarized in Appendix XVI and Table 14.

Table 14 - TFL 19 Log Processing Volume

Primary Processing Facility	Log Volume (m <sup>3</sup> )	Portion of 2000 Processing (%)
Cowichan Sawmill	42 000	12
Silvertree Sawmill	105 000	27
Vancouver Sawmill	53 000	21
Tahsis Sawmill	232 000	70
Saltair Sawmill	39 000	9
Nanaimo Sawmill	63 000	12
Nanaimo Log Merchandizer	51 000	7
Port Alice Pulp Mill	180 000	19
Log trades/sales	141 000	17
<b>TOTAL</b>	<b>906,000</b>	



## 5.0 RESEARCH

Western Forest Products continued to research a variety of forestry issues in 2000. Data collections and reports completed in the year are noted in the following sections. All active projects in TFL 19, including those not scheduled in the year, are listed in Appendix XVIII.

Forestry Department research costs for TFL 19 totalled \$25,518 including the prorated share of the Saanich Forestry Centre's tree improvement research program. Reimbursements were received from Forest Renewal BC via the Science Council and the Multiyear Agreement, and totalled \$8,032.

### 5.1 Silviculture and Stand Management Research

Foliage sampling from the fertilization trials established in 1999 revealed that in some cases nutrient levels improved significantly through fertilization. Selected stands may be followed with further fertilization research.

A stock size fertilization trial, established in 1996 to examine the efficacy of fertilizing amabilis fir, was measured after five growing seasons. As with many fertilizer-at-time-of-planting trials, fertilization was shown to benefit seedlings. Differences between stock types were also noteworthy; 1+0 stock responded to fertilizer much more than 2+0 stock.

The findings of the Salal Cedar Hemlock Integrated Research Program (SCHIRP) apply to TFL 19 sites as well. Western Forest Products continued its participation in this program on northern Vancouver Island tenures, where trials indicate that early fertilization of salal-dominated sites improves the growth performance of second-growth stands.



*At Saanich Forestry Centre, Cathy Brown grafts Western red-cedar selections for an 800 unit rouging trial as part of the Forest Genetics Council Operational Tree Improvement Program.*

### 5.2 Genetics Research

Measurements of the yellow cypress clonal field trials continued in 2000. The best performers are selected for inclusion in hedge orchards. WFP anticipates all cypress stock for planting in TFL 19 will exceed wild stock volume performance by 12 per cent by 2005.

### 5.3 Growth and Yield Monitoring

The status of the growth and yield program in TFL 19 is under review. Plans were developed in 2000 to continue monitoring these plots.



## 6.0 GOALS AND INITIATIVES

The licensee manages TFL 19 according to objectives outlined in applicable higher level plans, including the Management Plan. Appendix XIX outlines the commitments and outstanding issues with regard to the Management Plan.

The major goals in TFL 19 identified for 2001 are as follows:

- Management Plan 9 including the 20-Year Plan and Timber Supply Analysis will be completed in 2001 and approved by the Chief Forester
  - Maintain internal audits and third party review for ISO 14001 registration.
  - Initiate a program to update the TFL 19 timber inventory to the new Vegetation Resource Inventory Standard. The re-inventory will take two years to complete.
  - Continue developing a map based wildlife management strategy for TFL 19.
  - The Company will work with MOF staff to initiate Landscape Unit Planning for all landscape units within TFL 19.
  - Increase the First Nation contractors involvement in silviculture projects.
  - Continue work on the Total Resource Plan for Zeballos Lake and complete detailed engineering study of the Zeballos Lake mainline.
  - Conduct additional tours to increase public awareness of the company's management activities.
  - Continue FRBC watershed restoration projects, enhanced projects, backlog reforestation and resource inventory projects.
  - Capacity building with First Nations will continue.
  - Monitor and participate in the Nuchatlaht treaty process, currently at the AIP stage.
  - Address the cut control issues in TFL 19
  - Modify the annual reporting formats to ensure measures of sustainability are incorporated.
-

## 7.0 ADMINISTRATION

The costs of supervision and overhead relating to specific operational projects are included in the reported project costs. However, many administrative costs are broadly defined as general management and overhead. These include Company prorated charges to the Forestry Department for rentals, services, salaries and expenses to perform administrative functions. Total costs for administration were \$427,869.



*On Tulpana Inlet, a series of small cutblocks with a linear layout reflect sensitivity to visual concerns and the need to maintain an economically viable harvesting pattern.*

## 8.0 FINANCIAL STATEMENTS

### 8.1 Forest Management Costs

The following summary presents all TFL 19 forest management costs incurred or expended by Western Forest Products and other agencies at the field level. Planning, supervision, and overhead costs directly related to programs as well as program application costs are included before credits or reimbursements. A prorated share of head office forestry department and Saanich Forestry Centre costs are included as well.

*Table 15 - Forest Management Costs*

Program	Section	Section Cost (\$)	Sub-Total (\$)
Planning	Higher Level Planning	175 651	555 815
	Forest Development Planning	39 893	
	Cutting Permits and CP Cruising	207 404	
	Silviculture Prescriptions, Planning and Record Keeping	132 867	
Public Involvement	Forest Education	44 879	44 879
Inventories and Mapping	Geographic Information System	92 741	393 299
	Forest Inventory	18 722	
	Ecosystems	92 278	
	Integrated Resource Management	189 558	
Utilization	Residue Assessments	40 861	55 851
	Minor Products	14 990	
	Commercial Thinning		
Conservation and Protection	Operational Site Stabilization	147 492	418 760
	Recreation Resources	157 677	
	Salmon Enhancement Program	4 497	
	Fire Management	2 027	
	Forest Health	103 547	
	Audits	3 519	
Silviculture	Tree Improvement and Orchard Consolidation	118 521	2 537 058
	Site Preparation	41 929	
	Planting	1 007 155	
	Stocking Surveys	60 621	
	Survival Assessments	7 720	
	Free Growing Surveys	49 475	
	Green-up Surveys	9 883	
	Juvenile Spacing	474 708	
	Brushing & Weeding	39 348	
	Pruning	440 032	
	Fertilization	287 666	
Research	Research	25 518	25 518
Administration	Administration	427 869	427 869
<b>TOTAL</b>			<b>4 459 049</b>

## 8.2 Forest Management Reimbursements

The company received funding from government agencies for silvicultural enhancement, integrated resource management, research and tree improvement, and salmonid enhancement projects. A summary of the reimbursements received is presented in Table 16.

Table 16 - Reimbursement Summary

Program		TFL 6	TFL 19	TFL 25
Forest Renewal BC	MYA* Backlog Forestry	Surveys	11 795	2 959
		Planting	13 100	410
		Brushing	302 183	559
		Site Rehabilitation	32 776	5 954
	MYA Enhanced Forestry	Juvenile Spacing	174 115	469 612
		Pruning	796 141	439 660
		Fertilization	45 357	233 241
		Research		5 219
	MYA Operational Inventory	Ecosystems		92 278
		Cultural Heritage		24 277
		Streams	79 166	32 333
		Timber	270 326	406 329
		Wildlife	19 480	125 193
	MYA Public Relations	Recreation	21 197	128 014
		Public Relations	4 413	1 449
	MYA Administration	Administration	129 997	71 130
	Forest Genetics Council	Operational Tree Improvement Program	38 982	21 868
				11 409
	Science Council	Research	71 099	2813
	Ministry Contracts	Silviculture Planning	14 998	
Recreation			19 594	
Department of Fisheries and Oceans	Salmonid Enhancement Program	15 000		
South Moresby Forest Replacement Fund	Juvenile Spacing		149,885	
	Integrated Resources Management			
	Research		40 000	
<b>TOTAL</b>		<b>2 040 125</b>	<b>1 649 328</b>	<b>1 616 692</b>

\*MYA – Multi-Year Agreement

APPENDIX I

TREE FARM LICENCE 19  
2000 Scaled Production

*Cubic Metres*

Operation	Mark	Volume	Total
Gold River Forest Operation	19/22	240	
	19/32	-1	
	19/33	99	
	19/35	-15	
	19/36	6 780	
	19/38	44	
	19/39	7 054	
	19/40	27 435	
	19/41	3 316	
	19/43	49	
	19/45	3 124	
	19/47	54 592	
	19/48	10	
	19/49	25 437	
	19/600	14 295	
	19/601	8 883	
	19/602	3 368	
	19/80	47 050	
	19/81	12 641	
	19/82	4 998	
	19/83	35 760	
	19/84	8 236	
	19/85	39 034	
	19/86	4 018	
	19/93	14 358	
	19/94	4 203	
	19/95	23 354	
	19/98	4 922	
	19/99B	3 618	
	19/99	1 480	
	AZ002	2 828	
T0472B	2 241		
T0472C	3 066		
			366 477
Gold River Contract			
	19/46	-46	
	19/49	27 071	
	19/600	2 653	
	19/901	2 145	
	19/80	7 173	
	19/81	2 655	
	19/83	12 650	
	19/84	11 346	
	19/87	6 130	
	19/88	8 780	
	19/89	33 941	
	19/91	-71	
	19/92	6 548	
	19/98	10 705	
			131 681

Operation	Mark	Volume	Total
Head Bay	19/716	10 066	
	19/89	34 039	
	19/96	22 664	
	19/97	7 467	
			74 236
Jacklah	19/62	12 645	
	19/717	34 339	
	19/718	30 713	
	19/720	6 259	
	19/722	6 595	
	NBFDK	116	
			90 667
Houston	19/13	921	
	19/70	17 152	
	19/704	6 901	
	19/705	14 284	
	19/709	2 231	
	19/713	1 283	
	T0397B	2 253	
			45 024
Silverado	19/703	7 327	
	19/705	18 536	
	19/717	44 474	
	19/720	7 719	
	19/73	206	
			78 262
Tahsis	19/706	246	
	19/714	22 996	
	19/89	30 399	
	NBKFM	262	
			53 904
Zeballos	19/30	15 441	
	19/51	1 445	
	19/55	704	
	19/56	16 731	
	19/57	16 234	
	19/59	7 312	
	19/97	2 202	
	19/99A	1 301	
	T0627B	4 453	
Total Company Tenures			15 149
Total Crown			890 924
<b>Grand Total</b>			<b>906 073</b>

APPENDIX II

TREE FARM LICENCE 19  
2000 Volume Charged to Allowable Cut

*Cubic Metres*

Mark	Crown Grant	Licences	Crown	TOTAL
19/13			921	921
19/22			240	240
19/30			15 441	15 441
19/32			-1	-1
19/33			99	99
19/35			-15	-15
19/36			6 780	6 780
19/39			7 054	7 054
19/40			27 435	27 435
19/41			3 316	3 316
19/43			49	49
19/45			3 124	3 124
19/46			-46	-46
19/47			54 592	54 592
19/48			10	10
19/49			52 508	52 508
19/51			1 445	1 445
19/55			704	704
19/56			16 731	16 731
19/57			16 234	16 234
19/59			7 312	7 312
19/600			16 949	16 949
19/601			11 028	11 028
19/602			3 368	3 368
19/62			12 645	12 645
19/70			17 152	17 152
19/73			206	206
19/80			54 223	54 223
19/81			15 295	15 295
19/82			4 998	4 998
19/83			48 411	48 411
19/84			19 583	19 583
19/85			39 034	39 034
19/86			4 018	4 018
19/87			6 130	6 130
19/88			8 780	8 780
19/89			98 379	98 379
19/91		-71		-71
19/92			6 548	6 548
19/93			14 358	14 358
19/94			4 203	4 203
19/95			23 354	23 354
19/96			22 664	22 664
19/97			9 669	9 669
19/98			15 627	15 627
19/99			1 480	1 480
19/99A			1 301	1 301
19/99B			3 618	3 618
19/703			7 327	7 327
19/704			6 901	6 901
19/705			32 820	32 820
19/706			246	246
19/709			2 231	2 231
19/713			1 283	1 283
19/714			22 996	22 996
19/716			10 066	10 066

Mark	Crown Grant	Licences	Crown	TOTAL
19/717			78 813	78 813
19/718			30 713	30 713
19/720			13 978	13 978
19/722			6 595	6 595
AZ002	2 828			2 829
NBFDK	116			116
NBKFM	262			262
T0397B		2 253		2 253
T0472B		2 241		2 241
T0472C		3 066		3 066
T0627B		4 453		4 453
<b>Grand Total</b>	<b>3207</b>	<b>11 942</b>	<b>890 924</b>	<b>906 073</b>
Residue				
Recognized residue survey volumes associated with 2000 MOF S&R invoices				20 843
<b>Total Chargeable</b>				<b>926 916.1</b>

APPENDIX III

TREE FARM LICENCE 19  
Area Denuded – 2000

*Hectares*

OPERATION	CROWN GRANT	CROWN / LICENCE	TOTAL
Gold River Forest Operation	3.0	541.7	544.7
Nootka Contract Operation	0	379.7	379.7
Zeballos Forest Operation	0	83.1	83.1
<b>TOTAL WFP</b>	<b>3.0</b>	<b>1004.5</b>	<b>1007.5</b>
SBFEP	0	102.2	102.2
<b>TOTAL TFL 19</b>	<b>3.0</b>	<b>1106.7</b>	<b>1109.7</b>

APPENDIX IV

**TREE FARM LICENCE 19  
Current Cut Control Period  
Annual Allowable Cut**

*Cubic Metres*

Year	Allowable Cut Available to Licencee <sup>1</sup>	Chargeable Cut <sup>2</sup>
1997	932 132	825 328
1998	932 132	509 018
1999	932 132	522 615
2000	932 132	891 335
2001		
<b>TOTAL</b>	<b>3 728 528</b>	<b>2 748 296</b>

<sup>1</sup> THE ALLOWABLE CUT AVAILABLE TO LICENCEE FOR 1997 AND 1998 WAS PREVIOUSLY ADJUSTED TO REFLECT THE 5 PER CENT TAKE-BACK EFFECTIVE DECEMBER 22, 1997 WITH THE DOMAN PURCHASE OF THE PACIFIC LICENCES. AN AGREEMENT WAS MADE TO REPEAL THE REDUCTION, RETURNING THE CUT AVAILABLE TO 932 132.

<sup>2</sup> THE CUMULATIVE VOLUME CHARGED BY THE END OF THE FOURTH YEAR OF THE CUT CONTROL PERIOD IS 2 748 296 M<sup>3</sup> OR 59 PER CENT OF THE FIVE-YEAR ALLOWABLE CUT. THE FIVE YEAR CHARGEABLE CUT INCLUDES AN ANNUAL UNDERCUT OF 35 581 M<sup>3</sup> FROM THE 1992 TO 1996 CUT CONTROL PERIOD. THE 1997 TO 2000 CHARGEABLE CUTS HAVE BEEN ADJUSTED. THIS REFLECTS THE APPROVAL BY THE VANCOUVER REGION MANAGER OF THE MINISTRY OF FORESTS ON AUGUST 27, 1998 OF A TOTAL CARRY FORWARD OF 177 906 M<sup>3</sup>.

APPENDIX V

**TREE FARM LICENCE 19  
Historical Cut Control Performance  
1951 - 2000**

*Cubic Metres*

Period	Allowable Cut Available to Licencee	Chargeable Cut
1954/55 – 1956	566 336	601 910
1957 – 1961	1 551 762	1 694 946
1962 – 1966	1 993 506	1 861 360
1967 – 1971	3 296 078	3 393 928
1972 – 1976	4 275 840	4 043 233
1977 – 1981	4 820 935	4 714 734
1982 – 1986	4 901 672	4 472 702
1987 – 1991	4 729 462	4 730 242
1992 – 1996	4 660 660	4 367 849
1997 - 2000 <sup>1</sup>	3 728 528	2 748 296 <sup>2</sup>
<b>TOTAL</b>	<b>34 524 779</b>	<b>32 629 200</b>

<sup>1</sup> COMPLETED PORTION OF THE 1997 - 2001 CUT CONTROL PERIOD.

<sup>2</sup> INCLUDES CARRY-FORWARD ADJUSTMENTS FROM PREVIOUS PERIOD TO END OF CURRENT YEAR.

APPENDIX VI

**TREE FARM LICENCE 19  
Coastal Contractor Clause Performance Report**

*Calendar Year 2000*

REFERENCE	DESCRIPTION		SOURCE
1)	TOTAL AAC OF TFL APPROVED BY CHIEF FORESTER (CF) THAT IS AVAILABLE TO LICENCEE	932 132 M <sup>3</sup>	CF'S APPROVAL LETTER FOR MANAGEMENT AND WORKING PLAN
2)	AAC ATTRIBUTABLE TO SCHEDULE "B" LANDS THAT IS AVAILABLE TO LICENCEE	890 186 M <sup>3</sup>	DERIVED FROM THE APPROVED MWP
3)	VOLUME OF TIMBER HARVESTED	906 073 M <sup>3</sup>	OBTAINED FROM THE REGIONAL TIMBER OFFICER OF DISTRICT MANAGER; THE TOTAL VOLUME OF TIMBER THAT IS BILLED TO THE LICENCEE UNDER THE LICENCE DURING THE CALENDAR YEAR (SECTION 49.1 OF FOREST ACT)
4)	HARVESTED VOLUME ATTRIBUTED TO SCHEDULE "B" LANDS	865 300 M <sup>3</sup>	CALCULATED: (#2/#1) X #3
5)	TOTAL VOLUME CONTRACTED UNDER FULL AND PHASE CONTRACTS	493 240 M <sup>3</sup>	LICENCEE RECORDS
6)	TOTAL VOLUME CONTRACTED EXPRESSED AS A PER CENT OF COMPLIANCE REQUIRED	114.0 %	CALCULATED: (#5/(#4 X 0.5)) X 100

LICENCEE NAME: WESTERN FOREST PRODUCTS LIMITED  
 COMPLETED BY: WILLIAM DUMONT, R.P.F.  
 DATE REPORT COMPLETED: MAY 22, 2001

APPENDIX VII

TREE FARM LICENCE 19  
Phase and Full Contractors - 2000

Contractor	Phase
Frank Beban Logging Ltd.	Full Yarding Heli yarding Falling Loading Hauling
Cypress Creek Logging Ltd.	Falling Loading Yarding
Friell Lake Logging Ltd.	Full Heli Yarding
Lemon Point Logging (1990) Ltd.	Falling Loading Yarding
Russell & Lilly Limited	Full
Spirit Lake Timber Limited	Falling Hauling Loading Yarding
Stan McLean Trucking Ltd.	Hauling
Totem Bar Contracting Ltd.	Road
Westside Roadbuilding Ltd.	Road
Upland Excavating Ltd.	Road

APPENDIX VIII

TREE FARM LICENCE 19  
CONTRACTORS - 2000

Name	Work	Operation
A.H. Jackson Corporation	Hauling	Gold River
Access Forest Management	Engineering, Cruising, Silviculture	Zeballos
Accurate Locations Surveys	Site Surveys	Zeballos
All-Brawn Industries	Shake/Shingle Cutters	Zeballos
Aquaterra	FRBC	Nootka Region
Arbour Tech	Terrain Assessments	Zeballos
Arcas Consulting Archaeologists	Archaeological Assessments	Gold River, NCA
Aztec GeoScience	Terrain Assessments	Gold River, Zeballos
B.A. Blackwell and Associates	Fertilization Trial	Nootka Region
B.A.T. Construction	Blasting/Scaling	Gold River
B.C. Conservation Foundation	Goshawk Inventory	Nootka Region
B.S. For. Service Mgt. Ltd.	Silviculture	NCA, Zeballos
Frank Beban Logging Ltd.	Full Phase Logging	Gold River, NCA
Black Creek Mechanical	Vehicle Maintenance	NCA
Bruce Contracting	Excavator, Deactivation	Gold River
Butch Carroll Trucking	Hauling	Gold River
Cala Creek Contracting	Trucking	Gold River
Calverley Forestry Services	Silviculture	NCA
Cave Management Services	Cave Assessments	NCA
Chapman GeoScience	CWAP	Zeballos
Chinga Ventures	Full-Phase Logging	Gold River
Coast Forest Management	Silv., Eng., Cruising, Archaeological Assess.	Gold River, Zeballos
Coastal Business Services	Engineering/Clerical/Silviculture	Gold River
Conuma Excavating	Road Maintenance, FRBC Recreation	Nootka Region, Gold River
Cutting Edge Forestry	Silviculture	NCA
Cypress Creek Logging	Falling, Yarding, Loading	Gold River
D.R. Clough Consulting	Stream Classification	Gold River
Diamond Tree Services	Silviculture	NCA
Dobson Engineering	Watershed Assessment	Gold River, NCA
Donner Lake Logging	Cedar Poling	Gold River, NCA
Doulyn's Contracting	Deactivation, FRBC WRP/Recreation	Nootka Region, Gold River
DR Systems	Silviculture Data Management	Gold River, NCA, Zeballos
Ed MacDonald	Seedling Assessment	Gold River
Ekeroth Forestry Contracting	Silviculture	NCA
Eureka Excavating	Road Building - Rock Hammer	NCA
Extreme Forestry	Silviculture	Gold River, Zeballos
Fieber Rock Engineering	Engineering	Gold River
Fishfor Contracting	Fish Surveys	Zeballos
French Creek Contracting	FRBC Coordinator	Nootka Region
Friell Lake Logging	Full Phase Logging	Houston
Geosoft Systems Inc.	Digital Mapping	Zeballos
Glen Wilson	FRBC Coordinator	Nootka Region
Gold River Contracting	Construction	Gold River
Gold River Futures Society	FRBC Recreation Site Construction	Nootka Region
Gold River Marine Service	Marine Repairs	Gold River
Gold River Rainbow Services	Trucking	Gold River, NCA
Golder and Associates	Terrain , Windthrow Assessments	NR, GR, NCA, Zeballos
Gurney Contracting	Excavator/Deactivation, WRP/Recreation	Nootka Region, GR, NCA
Greg O'Neil	Rock Scaling	Gold River
H.W.Argent P.Eng	Engineering, Bridge Designs	Zeballos
Hang'N Creek Contracting	Excavator, Deactivation	Gold River
Harvest Moon Adventure	Shake/Shingle Cutting	Zeballos
House of Caves	Cave/Karst Assessment	Gold River
Howard Larsen	FRBC Stream Assessments	Nootka Region
Island Green For. Services Ltd.	Silviculture/NFO Training	Zeballos
Islands West Scaling	Residue Surveys	Gold River
J. Termuende Hydrological	Hydrological Assessments	Gold River

Name	Work	Operation
Jack and Son's Silviculture	Silviculture, Creek Cleaning	Zeballos
Kelsey Forest Engineering	Engineering, Forestry	NCA
Ken's Contracting	Shop Foreman	Gold River
Lemon Point Logging	Falling, Yarding, Loading	Gold River
M&L Holdings	Tree Planting	NCA
Mt. Leighton	Silviculture/Creek Cleaning	Gold River
Melinda Dennison	Office Support	Gold River
Nootka Sound Service	Freight delivery	NCA
North Mountain Helicopters	Aerial Fertilization	Gold River
Northwest Hydraulic Consultants	WRP Site Supervision	Gold River
NTS Trucking	Trucking	Gold River
Pacific Phytometric Consultants	Workshop	Gold River
Partners in Grime	Janitorial	Zeballos
Peter Bruce & Associates	Fisheries Assessments	NCA
Piteau Associates	Geotechnical/Hydrological Consultants	Gold River
Quinsam Excavating	Excavator, Deactivation	Gold River
R. Forrest Contracting	Silviculture	NCA
R.A.S. Roots	Public Education	Nootka Region
R.G. McCredy Forest Consulting	Cruising, Residue Surveys	Gold River, NCA
Rain Forestry	Silviculture	NCA, Gold River
Rainbow Resources	Trucking	NCA
Richard Dennison	Recreation Maintenance	Gold River
Ridinger & Cooke Log Scaling	Log Scaling	NCA
Rugged Mountain Contracting	Silviculture, Engineering	Nootka Region, Zeballos
Russell & Lily Ltd.	Full Phase Logging	NCA
Safety on Site	Traffic Controllers	Gold River
Sentry Forestry	Silviculture, Creek Cleaning	Zeballos
Settler Timbers	Falling Assessments	Gold River
Shawn Hamilton and Associates	FRBC Spawning Channel Assessments	Nootka Region
Shawn Verhagen	Engineering Data Program	Gold River
Simard Trucking	Trucking	Gold River
Sitka Silviculture	Planting	Gold River, Zeballos
Spirit Lake Timber Ltd.	DLS Services, Full Phase Logging	Gold River, NCA
Stan McLean Trucking	Hauling	Zeballos
Stonecroft Project Engineering	Engineering	Gold River, NCA
Sure Span Construction	Bridge Construction	Gold River, Port Eliza
Symbiotic Silviculture	Silviculture	NCA
T.M.R. Enterprises	Engineering	NCA
Taylor Contracting	Cedar Salvage	NCA
Thomas Hart Contracting	FRBC Recreation Site Construction	Nootka Region, NCA
Thurber Engineering	Terrain Assessments	Nootka Region, Gold River, NCA
Timberline Forest Inv Consultants	Mapping	NCA, Zeballos
Totem Bar Contracting	Road Construction	Zeballos
Tripp Biological Consultants	FRBC Spawning Channel Assessments	Nootka Region
Tsitika Contracting	Cedar Salvage	Gold River
Upland Excavating	Road Building	NCA
VIH Logging	Helicopter Logging	Gold River
Watson Forest Services	Timber Cruising	Nootka Region, Gold River
West Side Roadbuilding	Road Building	Gold River, NCA
Western Aerial	Aerial Fertilization	Gold River
Westwood Contracting	Road Maintenance/Deactivation	Zeballos
Wolf Snare Contracting	Road Deactivation	Nootka Region

APPENDIX IX

**TREE FARM LICENCE 19  
Timber Harvesting Operability Report - 2000**

Operation	Volume by Height Class Actual (%)						Total Scaled Volume (M <sup>3</sup> )	Volume by Operability (% OF TOTAL SCALED VOLUME)		
	HC 2	HC 3	HC 4	HC 5	HC 6	HC 7		Conv	Heli	Inop
GOLD RIVER	2	7	48	34	9	0	507 841	93	4	4
NOOTKA CONTRACT	0	8	29	61	3	0	353 252	82	16	3
ZEBALLOS	0	17	17	67	0	0	65 822	100	0	0
TFL TOTAL	1	8	39	46	6	0	926 915	89	8	3
<b>INVENTORY PROFILE</b>	<b>1</b>	<b>9</b>	<b>38</b>	<b>34</b>	<b>16</b>	<b>2</b>				

APPENDIX X

**TREE FARM LICENCE 19  
Small Business Forest Enterprise Program  
Harvesting Report – 2000**

YEAR	VOLUME AVAILABLE TO SBFEP m <sup>3</sup>	LICENCE No.	LICENCEE	AREA LOGGED ha	VOLUME SCALED m <sup>3</sup>	RESIDUE m <sup>3</sup>	CHARGEABLE VOLUME m <sup>3</sup>
1988	22 934			0			
1989	45 868			0			
1990	45 868			0			
1991	45 868			0			
1992	45 868	A3880	Dorman Logging	59.5	46 179	2 207	48 386
1993	45 868	A39588	CR Mills	43.4	25 996	283	26 279
		A34814A	Coulson Heli	85.9	76 135		76 135
1994	45 868	D72095	CR Mills	3.2	2 240		2 240
		A34814A	Mokko Manufacturing	9.0	8 692		8 692
		A34814C	Mokko Manufacturing	54.7	44 009		44 009
1995	45 868	A34814C	Mokko Manufacturing	7.9	6 742		6 742
		A34814D	Mokko Manufacturing	62.2	58 013	2 679	60 692
		A34814A	Mokko Manufacturing	12.0	9 590	966	10 556
1996	45 868			0			
1997	45 868	A43314	Hayes	14.0	14 297	692	14 989
		A34814H	Mokko Manufacturing	17.4	14 553	569	15 122
1998	45 868	A34814B	Mokko Manufacturing	20.5	23 592	1 319	24 911
		A34814M	Mokko Manufacturing	54.9	55 345		55 345
		A34814J	Mokko Manufacturing	25.4	23 654		23 654
1999	45 868			0			
2000	45 868	A34814P	Mokko Manufacturing	14.2	11 381		11 381
		A34814Q	Mokko Manufacturing	23.6	25 135		25 135
		A34814U	Mokko Manufacturing	22.7	15 858		15 858
		A39591B	Green River Timber	20.5	17 452	452	17 904
		A39591C	Green River Timber	21.2	24 080	373	24 453
<b>TOTAL</b>	<b>573 350</b>			<b>572.2</b>	<b>502 943</b>	<b>9 540</b>	<b>512 483</b>

APPENDIX XI

PROJECT SUMMARY – 2000

PROJECT			GOLD RIVER	NOOTKA CONTRACT ADMINISTRATION	ZEBALLOS	TOTAL
<b>Denudation</b>	Total Company	ha	544.7	379.7	83.1	1007.5
	Crown / Licence	ha	541.7	379.7	83.1	1004.5
	Crown Grant (MF)	ha	3	0	0	3.0
	SBFEP	ha	0	102.2	0	102.2
	TOTAL	ha	544.7	481.9	83.1	1109.7
<b>Accidental Fires</b>		No.	0	0	0	0
		ha	0	0	0	0
<b>Site Preparation</b>	Prescribed Burning	ha	0	0	0	0
	Pile Burning	ha	6.9	0.7	0.1	7.7
	Mechanical	ha	0.1	5.6	0	5.7
	Crown / Licence	ha	7.0	6.3	0.1	13.4
	Crown Grant (MF)	ha	0	0	0	0
<b>Planting</b>	Original	ha	507.5	289.3	18.7	815.5
	Replants/Fill-ins	ha	147.3	4.7	3.0	155.0
	Roadsides	ha	20.6	1.5	0	22.1
	Total	ha	675.4	295.5	21.7	992.6
	Crown / Licence	ha	675.4	295.5	21.7	992.6
	Crown Grant (MF)	ha	0	0	0	0
	Number of Seedlings	Cw	105,225	98,900	5,905	210,030
		Hw	230,950	49,400	5,176	285,526
		Ba	106,977	35,800	660	143,437
		Fdc	89,865	21,500	2,110	113,475
		Yc	32,445	33,600	5,385	71,430
		Ss	6,170	0	0	6,170
		P	1,880	0	58	1,938
	Misc	15,358	11,000	0	26,358	
	Total	588,870	250,200	19,294	858,364	
<b>Stocking Surveys</b>	Plantation Regeneration	ha	708.5	360.1	132.6	1201.2
	Sufficiently Restocked	ha	566.2	276.2	132.6	975.0
	Crown / Licence	ha	558.9	276.2	132.6	967.7
	Crown Grant (MF)	ha	7.3	0	0	7.3
	Not Sufficiently Restocked	ha	142.3	83.9	0	226.2
	Crown / Licence	ha	142.3	83.9	0	226.2
	Crown Grant (MF)	ha	0	0	0	0
<b>Silviculture Prescription</b>		ha	984.7	514.7	213.1	1712.5
		No.	31	23	9	63
<b>Plantation Survival Assessments</b>		ha	122.4	0	0	122.4
		%	95.0	0	0	95.0
<b>Free Growing Surveys</b>	Total	ha	657.2	1301.1	200.9	2159.2
	Free Growing	ha	339.8	568.8	174.7	1083.3
	Crown / Licence	ha	339.8	472.3	174.7	986.8
	Crown Grant (MF)	ha	0	86.5	0	86.5
	Not Free Growing	ha	317.4	732.3	26.2	1075.9
	Crown / Licence	ha	317.4	732.3	26.2	1075.9
	Crown Grant (MF)	ha	0	0	0	0
<b>Green-up Surveys</b>	Total	ha	1977.3	0	31.1	2008.4
	Greened-up	ha	1090.9	0	17.8	1108.7
	Crown / Licence	ha	1090.9	0	17.8	1108.7
	Crown Grant (MF)	ha	0	0	0	0
	Not Greened-up	ha	886.4	0	13.3	899.7
	Crown / Licence	ha	886.4	0	13.3	899.7
	Crown Grant (MF)	ha	0	0	0	0
<b>Brushing and Weeding</b>	Total	ha	7.7	38.0	0	45.7
	Manual	ha	0	0	0	0
	Mechanical	ha	7.7	38.0	0	45.7
	Stem Injection	ha	0	0	0	0

PROJECT			GOLD RIVER	NOOTKA CONTRACT ADMINISTRATION	ZEBALLOS	TOTAL
	Aerial Foliar	ha	0	0	0	0
	Ground Foliar	ha	0	0	0	0
	Crown / Licence	ha	7.7	38.0	0	45.7
	Crown Grant (MF)	ha	0	0	0	0
<b>Juvenile Spacing</b>	Total	ha	92.8	111.6	52.0	256.4
	Crown / Licence	ha	92.8	111.6	52.0	256.4
	Crown Grant (MF)	ha	0	0	0	0
<b>Pruning</b>	Total	ha	60.3	140.4	31.8	232.5
	Crown / Licence	ha	60.3	140.4	31.8	232.5
	Crown Grant (MF)	ha	0	0	0	0
<b>Fertilization</b>	Total	ha	862.1	0	90.6	952.7
	Crown / Licence	ha	862.1	0	90.6	952.7
	Crown Grant (MF)	ha	0	0	0	0
<b>Residue Assessment Plots</b>			127	134	0	261
<b>CP Cruising Plots</b>			765	750	259	1774
<b>Minor Products</b>	Cedar Shakes	m <sup>3</sup>	567.8	868.6	974.5	2410.9
	Cedar Shingles	m <sup>3</sup>	43.8	135.5	79.8	259.1
	Cedar Cants	m <sup>3</sup>	0	0	31.8	31.8
	Yew Bark (wet kg)	kg	0	0	0	0
<b>Engineering</b>	Roads Constructed (New)	km	40.6	22.3	12.4	75.3
	Roads Rebuilt	km	32.0	0	0.8	32.8
	Roads Maintained	km	333.5	207.0	70.5	551.0
	Roads Deactivated					
	Temporary	km	28.8	7.6	0	28.8
	Semi-Permanent	km	12.2	0	1.6	13.8
	Permanent	km	3.3	2.6	0	5.9
<b>Roadside Treatments</b>	Mechanical Brushing	km	0	0	0	0
	Chemical Spraying	km	0	0	0	0
	Hydro and Dry Seeding	km	0	0	0	0
<b>Site Stabilization</b>		ha	3.5	12.5	0	15.5

Appendix XII

Western Forest Products  
Regeneration Balance Sheet  
to December 31, 2000

ITEM	TFL 6	TFL 19	TFL 25	TOTAL
				ha
<b>Debits</b>				
2000 Denudations	1229 ha	1008 ha	641 ha	2878 ha
2000 SBFEP	33 ha	102 ha	111 ha	246 ha
2000 Surveys	30 ha	226 ha	123 ha	379 ha
<b>Credits</b>				
2000 Planting	957 ha	942 ha	744 ha	2643 ha
2000 (Natural Regeneration)	73 ha	0 ha	23 ha	96 ha
SBFEP Regen	27 ha	32 ha	25 ha	84 ha
Other	0 ha	0 ha	0 ha	0 ha
<b>CLOSING BALANCE (NSR at 2000/12/31)</b>	<b>2313 ha</b>	<b>1818 ha</b>	<b>2471 ha</b>	<b>6583 ha</b>

APPENDIX XIII

TREE FARM LICENCE 19  
Historical Summary of Activities

Year	Denuded (ha)	Planted (ha)	No. Trees Planted	Juvenile Spaced (ha)	Brushed (ha)	Prescribed/ Pile Burned (ha)	Mechanical Site Prep. (ha)	Fertilized (ha)	Pruned (ha)
Pre 1965	5 065	4 731	3 502 000	83	70	3 089	0	0	0
1965	420	483	425 000	28	5	577	0	0	0
1966	585	790	726 000	12	49	382	37	0	0
1967	547	564	434 000	140	178	616	0	0	0
1968	683	639	539 000	155	98	545	0	0	0
1969	683	744	474 000	204	92	340	0	0	0
1970	825	682	535 000	274	0	594	0	0	0
1971	1 205	1 533	1 123 000	57	16	588	0	0	0
1972	623	1 411	912 000	56	15	299	0	0	0
1973	1 241	995	699 000	99	28	377	0	0	0
1974	885	1 499	1 324 000	90	38	333	0	0	0
1975	469	1 307	942 000	29	33	300	0	0	0
1976	1 055	1 009	709 000	30	0	831	0	0	0
1977	1 236	1 085	631 000	30	48	963	0	0	0
1978	1 178	889	494 000	52	176	113	0	0	0
1979	1 108	1 181	524 000	314	310	111	0	0	0
1980	1 296	955	473 000	424	190	17	0	1 296	0
1981	922	1 195	579 000	564	10	295	56	1 042	0
1982	800	1 228	735 000	235	54	71	0	990	0
1983	1 116	792	566 000	804	184	102	0	1 052	0
1984	1 136	562	325 000	397	877	0	3	0	0
1985	1 190	973	452 000	554	311	16	0	0	0
1986	953	742	346 000	114	358	0	0	0	0
1987	1 446	1 304	686 000	874	302	0	0	0	14
1988	966	930	563 000	467	435	6	0	0	24
1989	889	1 252	755 000	473	165	0	0	0	43
1990	1 068	1 122	707 000	140	80	0	0	0	0
1991	1 297	784	439 000	608	77	0	0	0	0
1992	976	1 346	757 000	300	113	1	19	0	0
1993	887	1 221	683 000	161	153	10	36	0	0
1994	856	967	674 000	266	57	39	80	0	137
1995	923	1 665	1 040 000	226	292	15	20	0	39
1996	1 071	1 772	1 140 000	249	61	51	28	188	20
1997	1 000	1 512	1 067 000	163	88	8	14	0	111
1998	631	719	675 550	165	5	14	2	0	40
1999	650	466	382 881	303	26	39	3	764	117
2000	1 110	993	858 364	256	46	8	6	953	233
<b>TOTAL</b>	<b>39 063</b>	<b>42 042</b>	<b>27 896 795</b>	<b>9 396</b>	<b>5 040</b>	<b>10 750</b>	<b>304</b>	<b>6 285</b>	<b>778</b>

APPENDIX XIV

Western Forest Products  
Tree Planting History

*Number of Seedlings*

Year	TFL 6	TFL 19	TFL 25	WFP Misc. Properties	Other Properties	TOTAL
Pre 1965	701400	3502000	2531100	3782450		10516950
1965	361500	425000	298500	247700		52231500
1966	325300	726000	432800	0		50975062
1967	422950	434000	547650	285800		50541100
1968	444900	539000	645250	46700		49299212
1969	989650	474000	446100	327300		48304050
1970	751700	535000	341450	136500		47534562
1971	529350	1123000	586700	158250		45906750
1972	912650	912000	295300	407000		45007612
1973	600500	699000	772450	162000		43672800
1974	459350	1324000	363850	57950		42802462
1975	777700	942000	199450	67950		41685700
1976	777050	709000	807250	58250		40450912
1977	553900	631000	757550	172350		39570900
1978	493950	494000	555600	38800		38868562
1979	662850	524000	749000	12300		37622750
1980	491500	473000	493650	24150		37386262
1981	1047600	579000	803900	29900		35162350
1982	1198300	735000	827700	16900		34608362
1983	888000	566000	669050	55450		32983850
1984	882400	325000	809000	102700		32489262
1985	701800	452000	522050	69550		31238450
1986	1347100	346000	630950	57000		30108212
1987	2256650	686000	1297750	329300		26668750
1988	1844050	563000	982850	172950		26545362
1989	1169250	755000	735600	287750		23721150
1990	1405700	707000	712350	354150		23366162
1991	1491100	439000	842850	60150		20888050
Pre 1992					5268800	18097362
1992	1550900	757000	673900	95700	232850	17577700
1993	1574650	683000	639750	240600	377550	14581812
1994	1712150	674000	546000	226200	790600	13628750
1995	2003400	1040000	853050	160400	894500	9630462
1996	2110950	1140000	1089750	579400	3550	8705100
1997	1944750	1067000	951900	52150	0	5614662
1998	1473600	675550	652250	1522400	28750	4352550
1999	1088000	382881	413000	901550	21900	2807331
2000	1042049	858 350	752500	1238550	0	3891449
<b>TOTAL</b>	<b>38 988 599</b>	<b>27 896 781</b>	<b>26 229 800</b>	<b>12 538 200</b>	<b>7 618 500</b>	<b>113 271 880</b>

TFL 6 Summary amended to include the former TFL 25 Block 4

TFL 25 Summary amended to include the former TFL 24, and exclude the former TFL 25 Block 4

TFL 19 Summary includes back to inception of the TFL.

APPENDIX XV – A

DIRECT EMPLOYMENT SUMMARY – TFL 19 – 2000

OPERATION	HOME REGION	CONTRACTOR PERSONNEL		COMPANY PERSONNEL		TOTAL	
		PEOPLE	PERSON DAYS	PEOPLE	PERSON DAYS	PEOPLE	PERSON DAYS
<b>Planning and Development</b>							
Head Office	Lower Mainland			1	56	1	56
Gold River	Gold River	17	1583	17	3374	34	4957
	Tahsis	2	243	0	0	2	243
	Campbell River	4	696	1	163	5	859
	Courtenay	5	178	7	1141	12	1319
	Vancouver Island	19	936	0	0	19	936
	Lower Mainland	9	109	0	0	9	109
	BC (Other)	5	213	0	0	5	213
NCA	Gold River	3	496	9	1037	12	1533
	Tahsis	1	9	0	0	1	9
	Campbell River	5	1288	2	190	7	1478
	Courtenay	4	45	0	0	4	45
	Vancouver Island	5	64	0	0	5	64
	Lower Mainland	9	99	0	0	9	99
	BC (Other)	6	26	0	0	6	26
Zeballos	Zeballos	3	170	8	425	11	595
	Gold River	2	48	1	60	3	108
	Campbell River	2	41	0	0	2	41
	Vancouver Island	0	0	0	0	0	0
<b>ΣBTOTAL</b>		<b>101</b>	<b>6244</b>	<b>46</b>	<b>6446</b>	<b>147</b>	<b>12690</b>
<b>Harvesting</b>							
Gold River	Gold River	26	2599	97	16749	123	19348
	Tahsis	0	0	0	0	0	0
	Campbell River	17	1631	15	2445	32	4076
	Courtenay	35	3006	19	3164	54	6170
	Vancouver Island	23	2956	3	406	26	3362
	Lower Mainland	0	0	0	0	0	0
NCA	Gold River	21	2901	0	0	21	2901
	Tahsis	34	3135	0	0	34	3135
	Campbell River	6	773	0	0	6	773
	Courtenay	42	6505	0	0	42	6505
	Vancouver Island	26	2483	0	0	26	2483
	Lower Mainland	5	5000	0	0	5	5000
Zeballos	Zeballos	1	53	43	1825	44	1878
	Campbell River	3	12	2	100	5	112
	Courtenay	0	0	3	68	3	68
	Vancouver Island	0	0	4	145	4	145
<b>ΣBTOTAL</b>		<b>239</b>	<b>31054</b>	<b>186</b>	<b>24902</b>	<b>425</b>	<b>55956</b>

OPERATION	HOME REGION	CONTRACTOR PERSONNEL		COMPANY PERSONNEL		TOTAL	
		PEOPLE	PERSON DAYS	PEOPLE	PERSON DAYS	PEOPLE	PERSON DAYS
<b>Silviculture and Integrated Resource Management</b>							
Head Office	Lower Mainland	31	626	4	167	35	793
Saanich	Vancouver Island	0	0	59	1189	59	1189
Gold River	Gold River	11	1047	4	920	15	1967
	Tahsis	1	12	0	0	1	12
	Campbell River	5	52	0	0	5	52
	Courtenay	0	0	0	0	0	0
	Vancouver Island	15	736	0	0	15	736
	Lower Mainland	8	92	0	0	8	92
	BC (other)	0	0	0	0	0	0
	NCA	Gold River	2	41	1	80	3
NCA	Tahsis	9	282	0	0	9	282
	Campbell River	8	161	2	460	10	621
	Courtenay	11	311	0	0	11	311
	Vancouver Island	25	624	0	0	25	624
	Lower Mainland	5	159	0	0	5	159
	BC (other)	28	448	0	0	28	448
Zeballos	Zeballos	20	358	2	63	22	421
	Gold River	0	0	1	110	1	110
	Campbell River	7	136	1	44	8	180
	Vancouver Island	0	0	1	57	1	57
	Lower Mainland	10	234	0	0	10	234
<b>ΣBTOTAL</b>		<b>196</b>	<b>5319</b>	<b>75</b>	<b>3090</b>	<b>271</b>	<b>8409</b>
<b>Transportation</b>							
Head Office	Lower Mainland	45	6070	4	223	49	6293
<b>ΣBTOTAL</b>		<b>45</b>	<b>6070</b>	<b>4</b>	<b>223</b>	<b>49</b>	<b>6293</b>
<b>Processing</b>							
Port Alice Pulp Mill	Vancouver Island			455	19496	455	19496
Squamish Pulp Mill	Lower Mainland			344	8054	344	8054
Saltair Sawmill	Vancouver Island			125	2043	125	2043
Tahsis Sawmill	Tahsis			200	19488	200	19488
Cowichan Bay Sawmill	Vancouver Island			100	2423	100	2423
Silvertree Sawmill	Lower Mainland			142	5813	142	5813
Vancouver Sawmill	Lower Mainland			77	2892	77	2892
Nanaimo Sawmill	Vancouver Island			161	3841	161	3841
Log Trading and Sales	Lower Mainland			32	1193	32	1193
Nanaimo Log Merchandizer	Vancouver Island			36	561	36	561
<b>ΣBTOTAL</b>				<b>1672</b>	<b>65804</b>	<b>1672</b>	<b>65804</b>

OPERATION	HOME REGION	CONTRACTOR PERSONNEL		COMPANY PERSONNEL		TOTAL	
		PEOPLE	PERSON DAYS	PEOPLE	PERSON DAYS	PEOPLE	PERSON DAYS
<b>Administration</b>							
Head Office	Lower Mainland	4	121	33	1707	37	1828
North Vancouver Island Region	North Vancouver Island	0	0	2	42	2	42
Gold River	Gold River	3	38	3	575	6	613
	Vancouver Island	0	0	1	138	1	138
	Campbell River	0	0	2	276	2	276
<b>SUBTOTAL</b>		<b>7</b>	<b>159</b>	<b>41</b>	<b>2738</b>	<b>48</b>	<b>2897</b>

<b>Summary – By Home Region</b>							
	Gold River	85	8753	136	22905	218	31658
	Tahsis	47	3681	0	0	47	3681
	Zeballos	24	581	53	2313	77	2894
	Campbell River	57	4790	25	3678	82	8468
	Courtenay	97	10045	29	4373	126	14418
	North Vancouver Island	0	0	461	19538	461	19538
	Vancouver Island	113	7799	690	30291	803	38090
	Lower Mainland	126	12510	637	20105	763	32615
	BC (Other)	39	687	0	0	39	687
<b>TOTAL</b>		<b>588</b>	<b>48846</b>	<b>2028</b>	<b>103203</b>	<b>2616</b>	<b>152049</b>

APPENDIX XV - B

WESTERN FOREST PRODUCTS  
DIRECT EMPLOYMENT SUMMARY - 2000  
(PERSON-DAYS\*)

	Planning and Development	Harvesting	Transportation	Processing	Silviculture and Integrated Resources Management	Administration	TOTAL
FL 6	8542	65732	6745	71328	12864	3051	168262
FL 19	12690	55956	6293	65804	8409	2897	152046
FL 25	8699	21164	5739	28309	7918	2129	73958
MF 61	86	494	24	**	60	35	699
FL 16845	1355	10190	291	6857	890	428	20011
FL 16847	1969	16796	659	12215	2264	569	34472
FL 19205	1102	2159	240	2535	396	164	6596
FL 19216	1213	1600	217	3239	586	186	7041
FL A19221					317	11	328
FL 19228	27	620	160	2645	474	153	4079
FL 19231	2971	17389	2439	24304	3591	1098	51792
FL 19240	1547	6378	137	12756	863	276	21957
FL 53746							
Other WFP Tenures	51		107	2614	508	150	3430
Nootka Sound Economic Development Corporation	247	1638			150	240	3430
Non-WFP Tenures				127422			127422
TOTAL	40499	200116	23051	360028	39290	11387	674371

\* Includes Company and Contract Personnel.

\*\* See Other Tenures

APPENDIX XV - C

WESTERN FOREST PRODUCTS  
FIRST NATIONS SILVICULTURE CONTRACTS EMPLOYMENT SUMMARY - 2000

TENURE	OPERATION							TOTAL
	HOLBERG	JEUNE LANDING	PORT McNEILL	MAINLAND ISLANDS REGION	ZEBALLOS	GOLD RIVER	NOOTKA CONTRACT ADMIN	
FFL 6	282	9	954					1245
FFL 19					553	835	380	1768
FFL 25				1396				1396
MF 61								
FL A16845				10				10
FL A16847				284				284
FL A19205								
FL A19216								
FL A19221								
FL A19228				6				6
FL A19231				126	90	1	519	736
FL A19240								
FL A53746								
Other Tenures								
River's Inlet				98				98
Mathieson Channel								
Campbell Island								
<b>TOTAL First Nations Days</b>	<b>282</b>	<b>9</b>	<b>954</b>	<b>1920</b>	<b>643</b>	<b>836</b>	<b>899</b>	<b>5543</b>
<b>Total Contractor Days</b>	<b>3036</b>	<b>2097</b>	<b>2330</b>	<b>8745</b>	<b>932</b>	<b>1967</b>	<b>4043</b>	<b>23150</b>
<b>% FN Employment</b>	<b>9</b>	<b>0</b>	<b>41</b>	<b>22</b>	<b>69</b>	<b>43</b>	<b>22</b>	<b>24</b>
<b>% WFP Goal</b>	<b>45</b>	<b>0</b>	<b>205</b>	<b>110</b>	<b>345</b>	<b>215</b>	<b>110</b>	<b>120</b>

APPENDIX XVI

WESTERN FOREST PRODUCTS - WESTERN PULP - DOMAN INDUSTRIES - DOMAN WESTERN LUMBER  
2000 LOG FLOW AND WOOD CONSUMPTION

(Approximate)

SAWMILL PULPMILL	TENURE / SOURCE (THOUSAND CUBIC METRES)												Chips to Woodfibre Thousand Units)		
	TFL 6	TFL 1	TFL 2	FL A19231 Strathcona	FL A19240 Kingcome	FL A16845 Mid Coast	FL A16847 Mid Coast	FL A19205 Fraser	FL A19228 Sunshine	FL A19216 Soo	Other Tenures	Inventory / Purchase		Total Consumption	
Duke Point	348				32							9	(109)	280	39
Chemainus													140	140	
Ladysmith	224		82		13	13						4	(2)	334	
Cowichan	24	42	66	30	4	16	3	1	2	1		3	172	364	
Silvertree	90	105	78	76	14	31	11	2		1		5	(28)	385	55
Vancouver	83	53	103	17		23						2	(26)	255	33
Tahsis		232		76								3	19	330	47
Saltair		39		4			35	6	16	17		1	338	456	
Nanaimo	3	63	25	8			93	15	15	14		2	307	545	
Log Merchandizer	45	51	67	19	1	22	3	17	12	21		1	429	688	338
Port Alice Pulp Mill	195	180	14	59	19		32					8	452	959	
Trades / Sales	124	141	71	63	17	25	19	3	1	3		8	357	832	(7)
Squamish Pulp Mill Chips															
• Purchased															221
• Consumed															726
<b>TOTAL LOGS</b>	<b>1136</b>	<b>906</b>	<b>506</b>	<b>352</b>	<b>100</b>	<b>130</b>	<b>196</b>	<b>44</b>	<b>46</b>	<b>57</b>	<b>46</b>	<b>2049</b>	<b>5568</b>	<b>1452</b>	

APPENDIX XVII

WESTERN FOREST PRODUCTS LIMITED  
FOREST RESEARCH SUMMARY - 2000  
PERMANENT PLOTS AND TRIALS

Trial (Year Established)	Location	Measurements	Reports
<b>Forest Nutrition</b>			
Cedar and Amabilis Fir Screening Trials (1999)	Gold River, Nootka Contract, Zeballos	2000, 1999	Establishment Report (2000)
Hemlock and Cedar Screening Trials (1996)	Galiano	1997	Establishment Report (1998)
Amabilis Fir Fertilization Trial (1996)	Saunders	2000, 1998, 1997, 1996, 1995	Establishment Report (1997)
<b>Growth and Yield Monitoring</b>			
Survey Plots (1994)	Gold River	1994	
Survey Plots (1993)	Gold River	1993	
Survey Plots (1992)	Gold River	1992	
Survey Plots (1991)	Gold River	1991	
Survey Plots (1990)	Gold River	1990	
Survey Plots (1979)	Gold River	1987/90, 1979	
Survey Plots (1978)	Gold River	1989/90/92, 1978	
Survey Plots (1977)	Gold River	1994, 1987/90, 1977	
Survey Plots (1976)	Gold River	1991, 1987/89, 1976	
Survey Plots (1975)	Gold River	1989/90, 1975	
Survey Plots (1974)	Gold River	1990, 1983/87, 1976/79, 1974	
Survey Plots (1969)	Tahsis, Zeballos	1989, 1987/89/90, 1976/79/89, 1972/73/79, 1969	
Survey Plots (1968)	Gold River	1991, 1988/90/92, 1978/87/90, 1978, 1970/72, 1968	
Survey Plots (1967)	Gold River	1988/89/90, 1976/77/88, 1970/73/77, 1967	
Survey Plots (1966)	Gold River	1988, 1976/88, 1970/71, 1966	
Survey Plots (1964)	Gold River	1988, 1977, 1970, 1964	
Survey Plots (1963)	Gold River, Tahsis	1990, 1980/88, 1972/77/78, 1973, 1963	
Survey Plots (1961)	Gold River, Tahsis	1978, 1973, 1970, 1961	
Survey Plots (1957)	Gold River	1988/90/92, 1978, 1973, 1957	
<b>Other</b>			
Planting Technique Trial (1997)	Gold River	1998, 1997	

1. YEAR INDICATES LAST GROWING SEASON

APPENDIX XVIII



**Doman Forest Products Limited**  
**Western Pulp Inc.**  
**Western Forest Products Limited**  
**Doman – Western Lumber Ltd.**

Operating Statistics - 2000

Productive Forest Land Managed	885 000 ha
Operable Forest Land	550 000 ha
Forest Tenures	3 Tree Farm Licences 7 Forest Licences 5 Managed Forests 144 Timber Licences
Logging Operations	30
Employees and Contractors	4 200 people (est)
Timber Harvest/Year	4 100 000 m <sup>3</sup>
Timber Purchase/Year	1 600 000 m <sup>3</sup>
Mills	2 Pulp Mills – 1 Kraft, 1 Sulphite 9 Saw Mills
Products: Lumber and Solid Wood	1 Value Added Plant(80 million bd.ft.) 1 Log Merchandiser
Pulp	1.2 billion board feet 420 000 tonnes
Annual Product Sales	\$900 million
Roads Constructed/Year	325 km
Roads Maintained/Year	2 150 km
Area Logged/Year	5 400 ha
Area Planted/Year	5 100 ha
Area Natural Regeneration/Year	300 ha
Number of Seedlings Planted/Year	4 800 000 trees
Average Survival of 3-year Old Plantations	90 %
Area Brushing and Weeding/Year	2 200 ha
Area Juvenile Spacing/Year	1 450 ha
Area Pruning/Year	950 ha
Area Fertilized/Year	2800 ha
Visitors to Forest Lands/Year	over 300 000 visitors
Salmon Production/Year (4 hatcheries)	900 000 fry released
Recreation Sites and Trails	45
Forest Enhancement Person Days	over 40 000

APPENDIX XIX

Tree Farm Licence 19  
Status Report - 2000  
Summary of Obligations and Commitments – Management Plan 8

OBLIGATION	TARGET COMPLETION DATE	CURRENT STATUS
Harvest performance reporting: Volume harvested by: ➤ Height class ➤ Operability type ➤ Harvest system	April – Annual Submission	Part of TFL Annual Report submitted in 2000
Review and update operability mapping	Completed April 1999	Revised operability status completed by WFP in 1999
Explore commercial thinning opportunities	During term of MP	Roughly 1 000 ha identified on 1998 FDPs. Economic conditions have precluded any CT initiation to date.
Develop a detailed strategy for wildlife habitat	2001	EW1 areas made 'known' as ungulated winter ranges Nov. 1998. EW2 areas to be covered under MoF/MoELP MoU. WFP active in development of VILUP, LU planning, and IWMS. Implementation of biodiversity strategies identified in higher level plans and/or landscape unit planning will be used to manage wildlife in the TFL. Wildlife habitat assessment started in 1999 to be completed in 2001.
Biodiversity planning	Submit with draft MP 9	Planning for biodiversity at the landscape level will be done as part of Landscape Unit Planning. Stand level biodiversity is currently managed as per Regional Manager's letter dated May 22, 1996 which recommends 10 % of the area in each cutblock be set aside as wildlife tree patches.
Recreation strategy including review of cover, constraints, and/or land base deductions	2001	Recreation feature inventory update completed in 2000. Revised inventory included in timber supply analysis for MP9. Revised recreation strategy to be completed in 2001.
Non-recoverable losses	During term of MP	Non-recoverable losses are being monitored and recorded for the TFL. Minor blow events (i.e. within riparian areas) are being recovered where practical and/or allowable under the FPC
Terrain Stability Mapping	December, 1996	Mapping completed November 1996 and is now being used in operational. Updated mapping will be used in preparation of MP 9.
Visual Quality Objectives	2001	Visual landscape inventory updated in 2000. Revised inventory included in MP9 timber supply analysis. Recommended visual quality classes are used to guide management of scenic values..

APPENDIX XX

Saanich Forestry Centre  
Seedling Production Report - 2000

SPECIES	SIZE	SEEDLINGS PRODUCED			TOTAL BY SPECIES	%
		SPRING	FALL	TOTAL BY SIZE		
Cw	313B	410 660	0	410 660		
Cw	410A	331 530	42 040	373 570		
Cw	412A	276 877	520	277 397		
Cw	415C	572 680	27 380	600 060		
Cw	615A	27 360	0	27 360		
Subtotal					1 689 047	54.95
Fc	410A	47 210	9 800	57 010		
Fc	415C	525 830	33 470	559 300		
Subtotal					616 310	20.05
Hw	313B	154 960	0	154 960		
Hw	410A	27 020	90 730	117 750		
Hw	415C	361 800	0	361 800		
Subtotal					634 510	20.64
Ss	415C	63 320	0	63 320		
Subtotal					63 320	2.06
Sx	415C	42 080	21 590	63 670		
Subtotal					63 670	2.07
Yc	410A	6 850	0	6 850		
Subtotal					6 850	0.22
Misc	415C	0	110	110		
Subtotal					110	0.01
<b>Total</b>		<b>2 848 177</b>	<b>225 640</b>	<b>3 073 817</b>	<b>3 073 817</b>	<b>100.00</b>

APPENDIX XXI

SAANICH FORESTRY CENTRE  
SEED PRODUCTION REPORT - 2000

SEEDLOT	SPECIES	ORCHARD	ZONE	BV VOL 60 <sup>1</sup> (%)	ELEVATION (M)	LATITUDE	LONGITUDE	VOLUME (HL)	SEED WEIGHT (KG)	SEEDLINGS (000s)	COMMENTS	
61133	Hw	126	M	11	85	50°31'	126°53'	7.36	12.25	2,008.6	SMP Crop	
61134	Hw	126	M	9	122	50°31'	127°06'	29.86	32.97	4,932.6	SMP Crop	
											Custom Lot	
60400	Hw	127	M	4	422	50°35'	126°57'	0.21	0.43	74.2	- Elevation CP Crop	
61127	Fdc	166	M/GL	10	355	49°18'	124°13'	10.20	3.78	177.4	SMP Crop	
61128	Fdc	166	M/GL	13	357	49°03'	123°50'	3.25	1.21	56.8	SMP Crop	
61129	Fdc	169	M/GL	10	253	49°08'	124°03'	7.95	2.95	138.4	SMP Crop	
61090 <sup>3</sup>	Fdc	169	M/GL	15	228	49°17'	123°28'	2.62	0.97	45.5	SMP Crop	
61130	Cw	155	M	2	154	50°45'	127°35'	8.86	0.62	161.6		
61131	Cw	128	M	2	330	50°38'	127°33'	0.98	0.02	6.5		
											Tops	
61132	Cw	128	M	<sup>2</sup> 5	150	50°41'	127°39'	3.31	0.08	22.0	(improved outcrossing)	
61135	Cw	155	M	2	327	52°47'	131°43'	0.83	0.18	45.8		
61136	Cw	155	M	2	239	52°42'	131°38'	14.95	4.53	1,173.5		
									<b>Total:</b>	<b>59.99</b>	<b>8,842.9</b>	

1 Expected % gain in volume over wild seedlots at age 60.

2 Breeding Value volume 60 (% gain at age 60) estimated, awaiting confirmation from DNA out-crossing studies.

3 Will be combined with 61128 or 61129, based on pollen contamination study results.

APPENDIX XXII

Western Forest Products Limited

Tree Farm Licence 19  
Timber Loss Ledger

Year	Gold River			Nootka Contract Administration			Zeballos					
	Wind			Wind			Wind			Slide		
	Area (ha)	Recoverable Volume (m <sup>3</sup> )	Non-Recoverable Volume (m <sup>3</sup> )	Area (ha)	Recoverable Volume (m <sup>3</sup> )	Non-Recoverable Volume (m <sup>3</sup> )	Area (ha)	Recoverable Volume (m <sup>3</sup> )	Non-Recoverable Volume (m <sup>3</sup> )	Area (ha)	Recoverable Volume (m <sup>3</sup> )	Non-Recoverable Volume (m <sup>3</sup> )
2000	0	0	0	0	0	0	0	0	0	0	0	0
1999	6.2	2600	850	0	0	0	0	0	0	8.2	0	6000
1998	2.6	800	1200	0	0	0	1.5	1500	0	0	0	0
1997	9.8	7300	200	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	35.7	25800	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	4.3	2000	0	0	0	0
	18.6	10700	2250	35.7	25800	0	5.8	3500	0	8.2	0	6000