Western Forest Products Limited

Tree Farm Licence 25
1998
Annual Report

On October 1, 1998, the Minister of Forests approved several significant changes to the original Tree Farm Licence granted in 1958. These changes included

- The elimination of Block 4 of TFL 25 and its amalgamation into TFL 6 as Block 2.
- The elimination of TFL 24 and its consolidation into TFL 25 as Block 6.

This Annual Report records accomplishments and data for the amended TFL 25 for the whole year, with the exception of detailed scale data. Scaled volumes reported reflect the amendment date of October 1, 1998. If you have comments on this report, please contact the Chief Forester at (604) 665-6224.

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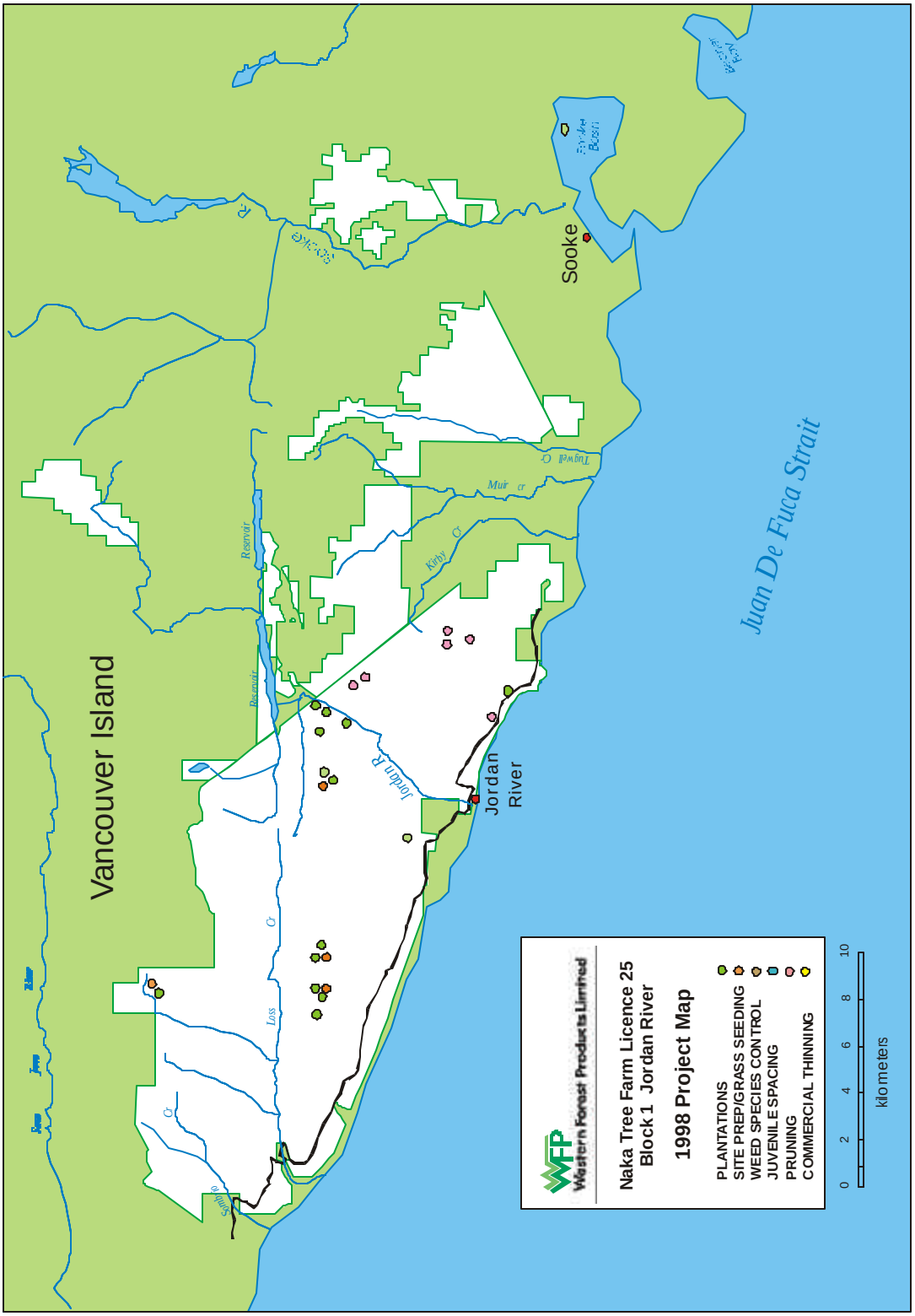
SUMMARY OF ACTIVITIES AND ACCOMPLISHMENTS – 1998

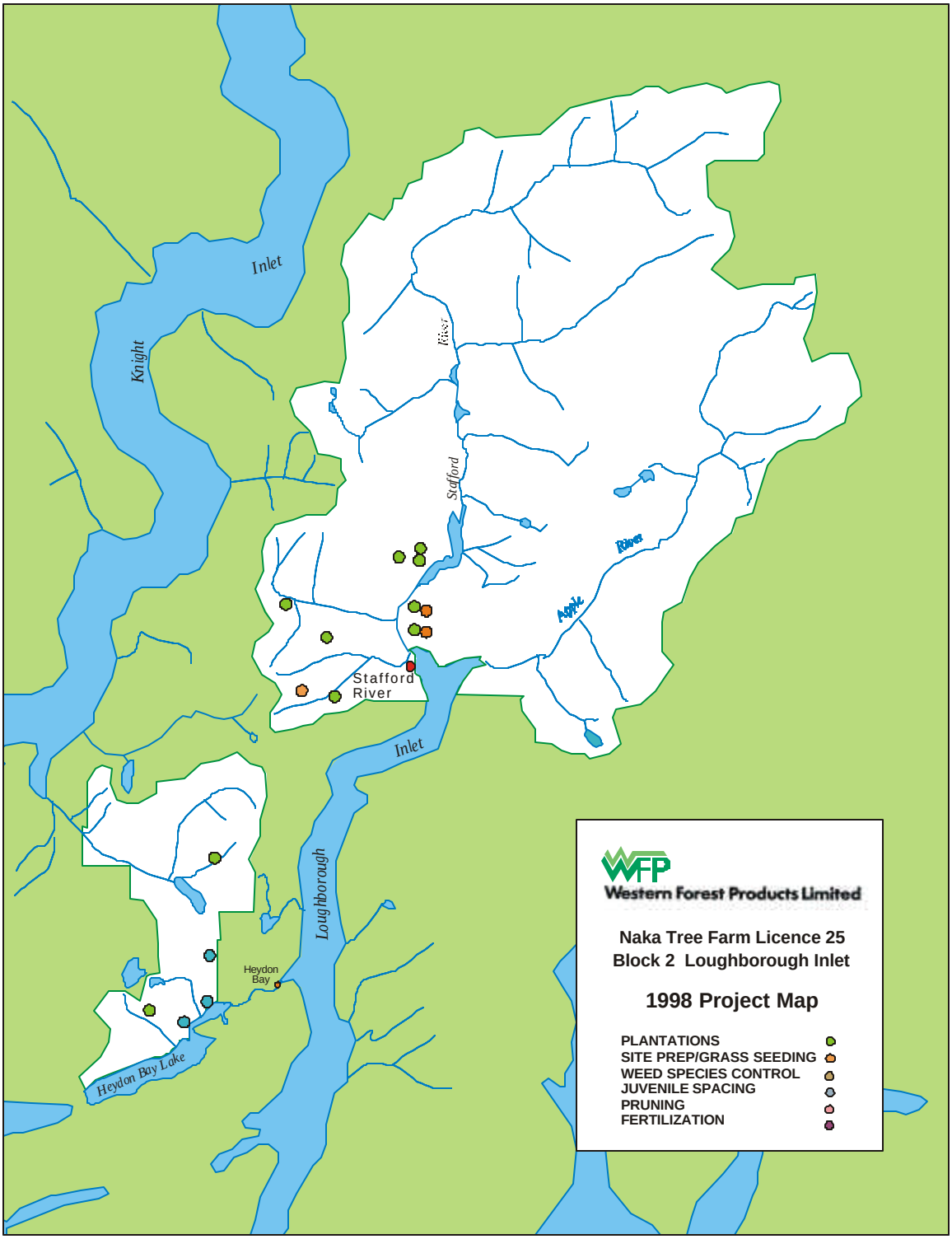
Depletion	Scaled Volume	479 818.2	m^3
	Volume Charged to Annual Allowable Cut	509 404.8	m^3
	Area Logged (Western Forest Products)	448.4	ha
	Area Logged (SBFEP)	24.8	ha
Reforestation	Silviculture Prescriptions	1 172.3	ha
	Site Preparation	10	ha
	Seedlings Planted	652,250	trees
	Seedlings Fertilized	175,550	trees
	Area Planted	635.2	ha
	Stocking Surveys	1 208.5	ha
	Plantation Survival Assessments	334.6	ha
	Free Growing Surveys	807.9	ha
Stand Management	Juvenile Spacing	404.5	ha
	Brushing and Weeding	440.7	ha
	Pruning	236.1	ha
	Commercial Thinning	26.4	ha
Inventory	Cutting Permit Cruising	510	plots
	Residue Assessment	257	plots
Engineering	Roads Built	24.1	km
	Roads Maintained	299.0	km
	Roads Deactivated	102.1	km
	Roadside Seeding	63.7	km
	Site Stabilization	1.0	ha
Protection	Accidental Fires	1	
Contracting	Contractor Obligation	182 908	m^3
	Contracted	183 124	m^3
	Compliance	100.1	%
Minor Products	Shake and Shingle	3 051.4	m^3
	Yew Bark	1 234.5	kg
	Honey	5 424	kg
	Salal	8 864	kg
Salmon Enhancement Program	Coho	49,332	fry
Employment	Direct Employment	67,698	person-days

PROJECT MAPS

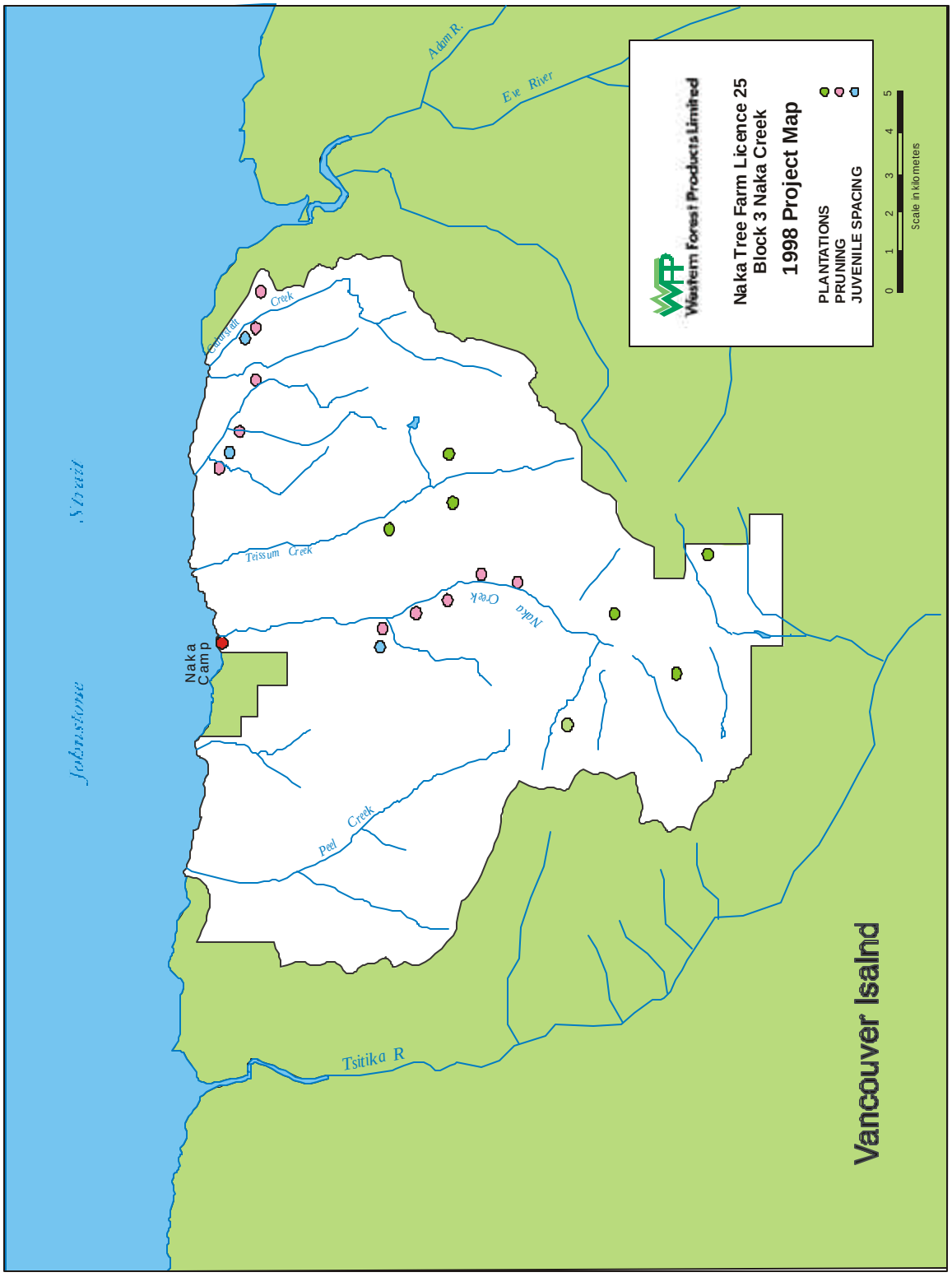
Block 1



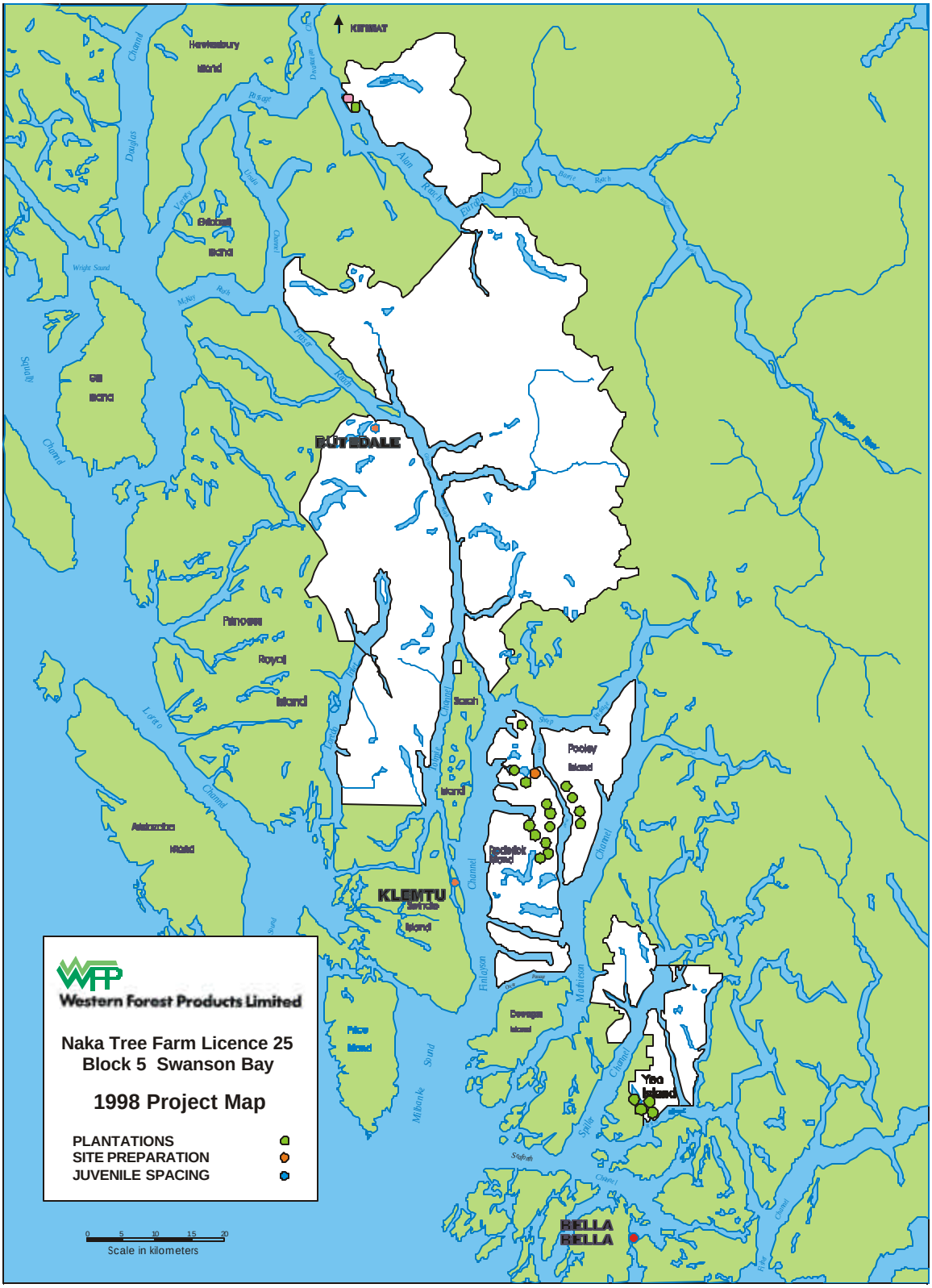
Block 2


Knight Inlet
Stafford River
Apple River
Stafford River
Inlet
Loughborough Inlet
Heydon Bay
Heydon Bay Lake
Western Forest Products Limited
Naka Tree Farm Licence 25
Block 2 Loughborough Inlet
1998 Project Map
PLANTATIONS
SITE PREP/GRASS SEEDING
WEED SPECIES CONTROL
JUVENILE SPACING
PRUNING
FERTILIZATION

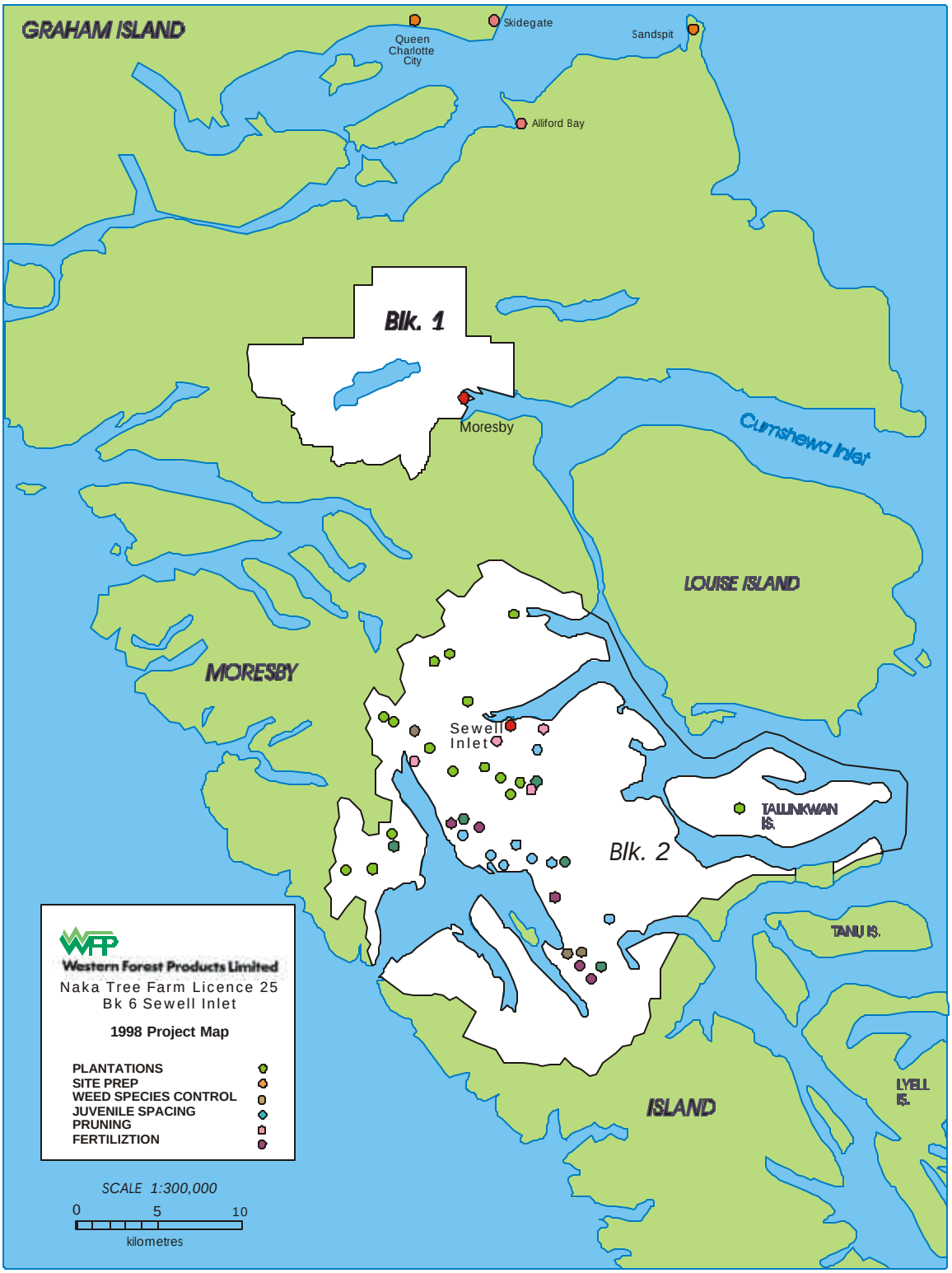
Block 3


Western Forest Products Limited
Naka Tree Farm Licence 25
Block 3 Naka Creek
1998 Project Map
PLANTATIONS
PRUNING
JUVENILE SPACING
Scale in kilometes
0 1 2 3 4 5
Adam R.
Eve River
Creek
Teissum Creek
Naka Creek
Naka Camp
Peel Creek
Tsitika R
Johnstone Strait
Vancouver Island

Block 5


Western Forest Products Limited
Naka Tree Farm Licence 25
Block 5 Swanson Bay
1998 Project Map
PLANTATIONS
SITE PREPARATION
JUVENILE SPACING
0 5 10 15 20
Scale in kilometers
BUTEDALE
KLEMTU
BELLA BELLA
Princess Royal Island
Pooley Island
Yeo Island
Price Island
Swindle Island
Douglas Channel
Squally Channel
Loretto Channel
Finlayson Channel
Mathieson Channel
Spiller Channel
Milbanke Sound
Wright Sound
Alan Reach
Fraser Reach
Lowe Inlet
Sarah Island
Redstick Island
Devegan Island
Seaforth Channel

Block 6


GRAHAM ISLAND
Queen Charlotte City
Skidegate
Sandspit
Alliford Bay
Blk. 1
Moresby
Cumshewa Inlet
LOUISE ISLAND
MORESBY
Sewell Inlet
TALUNKWAN IS.
Blk. 2
TANU IS.
LYELL IS.
ISLAND
Western Forest Products Limited
Naka Tree Farm Licence 25
Bk 6 Sewell Inlet
1998 Project Map
PLANTATIONS
SITE PREP
WEED SPECIES CONTROL
JUVENILE SPACING
PRUNING
FERTILIZTION
SCALE 1:300,000
0 5 10
kilometres

1.0 INTRODUCTION

1.1 Statement of Stewardship

Forest stewardship is an important element of Western Forest Products' management philosophy. All of its elements – environmentally appropriate, socially acceptable, and economically viable – are critical to the successful management of TFL 25. Key components of our stewardship program include

- Promptly reforesting all areas after harvest with ecologically appropriate species to maintain and enhance forest growth.
- Integrated planning for the long-term to incorporate the full range of forest values including soil, water, fish and wildlife, cultural and scenic resources, and biological diversity.
- Maintaining, enhancing, and protecting forest ecosystems while providing economic, environmental, social, and cultural benefits.
- Proposing and implementing allowable annual cuts that reflect forest ecosystem capacity and sustainability as well as social and economic considerations.
- Involving the public and stakeholders in meaningful consultation on all aspects of our forest management.

Western Forest Products actively promotes and practices sustainable forest management and will continue to do so.

Patrick Armstrong, Western Forest Products' critical issues advisor, views a felled old-growth Sitka spruce in the upper Stafford River drainage. Western Forest Products is undertaking leading-edge spatial harvest planning in this watershed and studies are in progress to identify potential protected areas.

1.2 Operations Highlights

Western Forest Products' parent company, Doman Industries, had another difficult financial year due to hemlock lumber market problems particularly in Asia, continued low pulp prices, and high stumpage and logging costs. As a result, losses for the year were $74.6 million compared to $2.3 million loss in 1997. Sales for the year were $779 million compared to $737 million in 1997. The outlook for 1999 was not expected to be significantly better, but by year end lumber prices started to improve, and pulp prices increased. The Company was successful in significantly reducing pulp and lumber inventories by year end. Poor markets resulted in the Company harvesting only 68 per cent of total Annual Allowable Cut in its forest operations in 1998.

Cost reduction and controlling an increasing bureaucratic and administrative burden were a major focus during the second half of the year. Government provided some stumpage relief in an attempt to keep logging operations active, but early in the fourth quarter all logging operations ceased. Joint Industry-Government committees and action teams were put in place to design relief packages that would allow the forest sector to return to profitability in 1999. Appendix XIX summarizes the operating statistics for the Doman group of companies.

Mr. Herb Doman, Chairman and President of Western Forest Products, addresses the crowd near Port McNeill during the signing ceremony for the $70 million five-year Forest Renewal BC agreement. These funds support watershed restoration, enhanced forestry, and inventory projects throughout Company tenures.

Company Highlights

- On October 1, 1998, the consolidation of TFL 24 into TFL 25 and the addition of TFL 25 Block 4 into TFL 6 was approved by the Minister of Forests.
- Western Forest Products announced it was proceeding with Forest Certification including Forest Stewardship Council, ISO 14001, and Canadian Standards Association – Sustainable Forest Management systems.

Western Forest Products embarked on the Forest Stewardship Council (FSC) certification process during 1998. SGS Forestry of Oxford, England will use their Qualifor program to assess the Company's operations according to the FSC International principles. Auditors from SGS review environmental management activities in the Stafford Lake Forest Operation.

- The Company signed a $70 million five-year Agreement with Forest Renewal BC to finance a large program of watershed restoration, enhanced forestry, and operational inventory.
- Western Forest Products celebrated the planting of the Company's 75 millionth tree.
- The consolidation of the Lost Lake and Saanich Forestry Centre tree improvement orchards was continued in 1998. A number of orchards were removed and others enhanced. High breeding value hemlock clones were moved from Lost Lake and used to upgrade the Saanich orchards.

Specific TFL 25 Highlights

- The Company established a new regional office in Campbell River. Fifty staff, consolidated from several locations together with new hirings, manage TFL 25 (except Block 3) and other mainland tenures from this location.
- In Block 1, logging in the Goudie Creek Community Watershed resumed for the first time since original logging about 70 years ago. The Company conducted extensive public consultation as part of the planning process.
- At Jordan River, a major deactivation project was successfully undertaken to complete the full rehabilitation of the Gain Main Hook-up Road following major landslide events during the last two

years. Highway 14 experienced debris flows that caused problems for commuters. One kilometre of the Hook-up road was de-built including the removal of a 24 m bridge over Loss Creek. The area was hydro-seeded and planted with alder.

- There were many TFL 25 tours for customers, school groups, media groups, and the public to view Western Forest Products' forestry programs first hand. A major German customer undertook an ISO 9001 supplier audit that the Company successfully passed.
- The first heli-logging was completed at Stafford Lake, and development of the east side of the upper Stafford River north of the lake has now begun.
- The first conventional development including the construction of a log dump and 6.8 km of road at Sheep Passage on North Pooley Island was initiated in 1998.
- The Campbell River Indian Band work crews completed all silviculture work in Block 2. The work included the planting of 62,600 trees and 73 ha of spacing.
- No logging occurred in Block 3 during the year, due to markets, high stumpage, and transition to a new full phase logging contractor at Naka Creek Contract Forest Operation.
- A cooperative venture with the Kitasoo Band is intended to increase Kitasoo involvement and employment in the forest industry and was celebrated by a community dinner in Klemtu in September. More than 400 locals and guests attended.
- A second mini-tower was introduced into the Yeo Island Forest Operation to increase training and employment for Heiltsuk Band Members.

A banner in the Klemtu Community Hall celebrates the new relationship between the Kitasoo people and Western Forest Products in a cooperative forestry venture. Western Forest Products worked with the community to secure a non-replaceable forest licence from the BC government as part of TFL 25 Block 5 Small Business Annual Allowable Cut.

- Kitasoo silviculture crews completed planting of 31,600 trees and brushing of 18 ha on Roderick Island.
- The acquisition of a new turbo DHC2 Mark III Beaver aircraft (C-GWFP) improved crew access to the Company's central coast operations.

C-GWFP parked at the Bella Bella airport was acquired in late 1998 to replace the Company's aging Cessna 185. This new turbo-powered Beaver (DHC Mark III) has the capacity to carry eight passengers and is a welcome addition for transportation of staff to the central coast operations.

- Forest Renewal BC provided funding of $665,000 for spacing, pruning, brushing, weeding, and layout of future projects in Block 6. As well, $250,000 of South Moresby Forest Replacement Account funding supported 210 ha of juvenile spacing completed by local contractors from Sandspit.
- Western Forest Products received an award from the Department of Fisheries and Oceans for 20 years of service to the salmonid resource. The Company's Sewell Inlet Hatchery was one of the first volunteer hatcheries set up in BC in 1978. This hatchery has released more than two million fry to local streams and has succeeded in restoring coho runs in the Big and Little Goose Creeks and chum runs in several local creeks.

2.0 MANAGEMENT AND OBLIGATION PERFORMANCE

2.1 Volume

The scaled production for the year was 479 818.2 m^3. Volumes by timber mark and Operation are summarized in Appendix I. The volume charged to the allowable cut was 509 404.8 m^3. This includes the scaled production and the recognized survey volumes (Appendix II). Volumes for 1998 include the prorated share of the former TFL 25 Block 4 volumes to September 30 and all of the former TFL 24 volumes.

2.2 Area

The Company harvested timber from 448.4 ha during the year. Appendix III summarizes the denudation by Operation. Road construction activities converted 24.1 ha from productive forest land to the non-productive category.

2.3 Contractor Compliance

Harvesting and forest management activities on TFL 25 during the year employed contractors and Company personnel. The Contractor Clause Performance for harvesting was 100.1 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

The Central Coast Land and Coastal Resources Management Planning (CCLCRMP) process commenced in earnest in 1998 with up to 50 groups and participants involved in these complex negotiations. The study involves the 5 million hectare Central Coast. Most of the year focused on process issues and setting the framework for negotiations on protected areas during 1999. Western Forest Products was pro-active in lengthy, difficult negotiations to address conservation group concerns over newly identified key ecological areas. Conservation groups wanted no logging in these areas during the CCLCRMP. There was a commitment by Western Forest Products in September to defer logging in return for these groups actively participating in good faith in the process. By year end the conservation groups had still not started active negotiating. The Company has three staff dedicated to the CCLCRMP supported by an internal team to advise on protected areas and other strategies.

In the Queen Charlotte Islands (Block 6) there was little Land and Resources Management Planning activity during the year, although a training session was undertaken. The QCI LRMP has been deferred while the process continues on landscape unit definition and data collection.

Costs for higher level planning activities totalled $192,931 for the year.

A large, inflatable grizzly bear was used at a Greenpeace protest at the Canadian Embassy in Hamburg over logging in Canada. Protesters included First Nations from Bella Coola. The event attracted little media attention and some bemusement from locals. 'Urwald" means old-growth in German.

2.4.2 Landscape Unit Plans

On Vancouver Island in the Jordan River and Naka Creek portions of TFL 25, there was little action on the Vancouver Island Land Use Plan or follow-up on landscape level planning.

On the mainland portions of TFL 25, Western Forest Products continued development on landscape planning for two landscape units, the Stafford and Roderick Landscape Units. Although these plans have not been recognized by government as Landscape Plans as defined under the Forest Practices Code, they provide many of the same elements expected to be part of the Landscape Planning process. References to both of these plans have been made in operational planning and have proved to be beneficial in ensuring all resource values are managed in an integrated fashion.

2.4.3 Forest Development Planning

A major amendment to the Jordan River 1997 – 2002 Forest Development Plan (FDP) included the Weeks Lake blocks, among others. The approval date for this major amendment was December 1998. Work was also started on Jordan River's 1999 – 2003 FDP.

The 1998 FDP for Stafford Lake was submitted on December 22, 1997 and approved on February 9, 1998. The Department of Fisheries and Oceans, the Ministry of the Environment, Lands, and Parks, the Ministry of Forests, and the First Nations groups involved received copies.

In Naka Creek, the Company applied for an extension of the 1997 – 2001 FDP. Work for the 1999 – 2003 FDP was started in 1998 and will continue.

The 1998 FDP for Roderick Operation was submitted on March 17, 1998. Yeo Island's FDP was submitted on October 13, 1998. Both FDPs were sent to the Department of Fisheries and Oceans, the Ministry of Environment, Lands, and Parks, and the Ministry of Forests. Both plans

were also sent to the Heiltsuk Band, and the Roderick FDP was sent to the Kitasoo Band. The Roderick FDP is still under review pending an agreement of stakeholders for a dumpsite development located in James Bay on Pooley Island. A major amendment for this Plan was completed. The Yeo Island FDP was approved on November 10, 1998.

The Sewell Inlet FDP was submitted on February 27, 1998. Stakeholders include the Ministry of Forests, the Department of Fisheries and Oceans, the Ministry of the Environment, Lands, and Parks, and the Council of Haida Nation. The FDP was approved on June 8, 1998.

Costs for FDPs totalled $52,031.

2.4.4 Silviculture and Harvest Planning

2.4.4.1 Cutting Permits and Cutting Permit Cruising

The number of active Cutting Permits in TFL 25 stabilized. In 1998, 36 permits were active (including the former TFL 25 Block 4), slightly down from 38 in the previous year (including the former TFL 24). Prior to the Forest Practices Code, 11 Cutting Permits were maintained. Associated costs have steadily increased. Table 1 lists the active Cutting Permits, expiration dates, and locations.

Table 1: Active Cutting Permits

CP	Expiry Date	Location
100	Jan 12 1999	Jordan River
101	Nov 30 1998	Jordan River
102	Oct 31 1998	Jordan River
103	Aug 31 1998	Jordan River
104	July 31 1998	Jordan River
105	Mar 12 2000	Jordan River
107	Jul 08 1998	Jordan River
202	Jul 31 1999	Stafford Lake
203	Feb 02 1999	Stafford Lake
204	Jul 20 1999	Stafford Lake
205	Apr 14 2000	Stafford Lake
300	Aug 28 1999	Naka Creek
301	Jun 18 1998	Naka Creek
302	Jun 30 1999	Naka Creek
303	Nov 30 1999	Naka Creek
4	Aug 31 1999	Port McNeill
400	Jan 01 2000	Port McNeill
402	Sep 30 1999	Port McNeill

CP	Expiry Date	Location
403	Oct 31 1999	Port McNeill
404	Dec 31 1999	Port McNeill
98	Apr 14 1999	Port McNeill
25/420	Jun 30 1999	Roderick
25/500	Sep 30 1999	Roderick
25/501	May 31 1999	Roderick
25/502	Aug 31 1999	Roderick
25/503	Oct 31 1999	Yeo Island (Salvage)
25/504	Apr 30 1999	Roderick
25/505	Jun 30 1999	Roderick
25/510	Sep 30 1999	Yeo Island
25/511	Oct 31 1999	Yeo Island
24/900	Jun 14 1998	Sewell Inlet
24/98	Apr 30 2000	Sewell Inlet
24/901	Apr 30 1998	Sewell Inlet
24/903	Sep 30 1998	Sewell Inlet
24/904	Apr 30 1999	Sewell Inlet
24/905	Jun 30 2000	Sewell Inlet

Cutting permit cruising plot costs decreased, on average, from 1997 costs. The cost reduction resulted from the high proportion of plots in favourable cruising locations, and the contractors' participation in the Company cost reduction efforts to deal with the difficult economic situation in

1998. Average cost per established plot, Company-wide, was $198. Average cost per compiled plot was $68. The weighted plot cost was $101.

A total of 510 plots were established in TFL 25. Twenty-seven cruise reports were compiled using 2,414 plots. Contractor costs totalled $100,904. Total Department costs including contractor costs were $115,547.

2.4.4.2 Road Permits

The Company maintained 8 Road Permits in 1998, as listed in Table 2, throughout TFL 25 Operations.

Table 2: Road Permits by Operation

Road Permit	Operation
RO00999	Heydon Bay
RO4507	Stafford Lake
RO5414	Jordan River
RO6086	Sewell Inlet
RO6224	Roderick
RO7618	Yeo Island
RO6748	Naka Creek
RO028	Naka Creek

2.4.4.3 Silviculture Prescriptions

Sixty-nine silviculture prescriptions were submitted to the Ministry of Forests in the year (Table 3). The total area for which new silviculture prescriptions were submitted was 1 172.3 ha. Average block size including reserve was 17 ha on the submitted prescriptions. Average reserve area varied from 15.4 per cent to 2.8 per cent by Operation.

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 $178,933 or $153 per ha.

Table 3: Silvicultural Prescription Statistics by Operation

Operation	Submitted SPs (#)	Total Area (ha)	Average Block Size (ha)	Minimum Block Size (ha)	Maximum Block Size (ha)	Average Reserve (%)
Jordan River	7	161.1	23.0	4.4	39.7	15.4
Stafford	7	169.3	24.2	11.0	43.1	13.1
Naka Creek	0	0.0	na	na	na	na
Roderick	45	615.0	13.7	1.1	40.4	
Yeo Island	5	135.4	27.1	15.4	35.1	2.8
Sewell Inlet	5	91.5	18.3	2.8	36.1	3.7
TOTAL	69	1172.3	17.0	1.1	43.1	

2.5 Public Involvement

2.5.1 Land and Resources Management Plan

The CCLCRMP process commenced in earnest in 1998 with up to 50 groups and participants in the process. The Plan involved splitting the north and south aspects of this 5 million hectare area of the Central Coast. Most of the year was taken up in process issues, with little substantive accomplishment by year end, other than setting the framework for negotiations in 1999.

Western Forest Products is very active with government and conservation groups to address conservation group concerns over key ecological areas. As a result, there was a commitment by late 1998 that these groups would actively participate in the process. The Company has three people dedicated to the task of planning who are supported by an internal team to advise on protected areas and other strategies for this negotiation.

2.5.2 Forest Development Plan

A major amendment to the 1997 – 2002 FDP for Jordan River was developed to include the Weeks Lake blocks, among others. The plan had previously been publicly reviewed at Sooke and Shirley, and with the T'Souke Band and the Port Renfrew Pacheedaht Band. No additional public reviews were held, aside from the Ministry of Forests and the Ministry of the Environment reviews.

The Stafford Lake 1998 – 2003 FDP was extended to June 1999. The Roderick FDP was submitted on March 17, 1998, after which a major amendment was developed. Table 4 lists the public plan reviews hosted by the Company in 1998. Costs for plan viewings totalled $11,251.

Table 4: Forest Development Plan Reviews

Operation	Plan	Location	Attendance	Written Responses
Stafford	1998 – 2003 Forest Development Plan	Campbell River Indian Band	4	0
		Campbell River	1	1
Roderick and Yeo Island	Forest Development Plan	Bella Bella	18	6
		Bella Coola	2	0
Sewell Inlet	1998 – 2002 Forest Development Plan	Sandspit	4	1
		Skidegate	1	0
		Queen Charlotte City	1	0
TOTAL	3	7	31	8

2.5.3 Pest Management Plan

An active Pesticide Use Permit for TFL 25 Block 2, the Stafford Operation, is in place. However, brush is manually treated due to the local First Nations' opposition to herbicide treatment. The Ministry of the Environment is in the process of moving from Pesticide Use Permits to Pest

Management Plans to regulate the use of herbicides on forest land. On all other portions of TFL 25 competition management is by manual techniques. No other Pesticide Use Permits or Pest Management Plans have been developed.

2.5.4 Community Consultations

In Jordan River, membership was maintained in the Lake Cowichan Combined Fire Organization. Staff attended the quarterly meetings. Membership in the South Island Forest Crime Prevention Task force was maintained and the quarterly meetings were attended. Jordan River Forestry staff also participated in the Sooke Community Fall Fair with displays and tree give-aways.

Bill Dumont, Western Forest Products' Chief Forester, and other staff met with an international youth delegation during a noisy protest outside head office in Vancouver. The youth were organised and had their expenses paid by Greenpeace. They demanded that Western Forest Products stop forestry operations in the central coast.

2.5.5 Forest Education and Public Relations

Western Forest Products Limited continued to raise the profile of forest stewardship in Coastal British Columbia with school and special interest group tours throughout the year. Costs of the forest education program were $30,404.

Jordan River hosted 5 school tours for 102 students from grades 4 to 10, and 22 students from the University of British Columbia. A Festival of Forestry tour with a Swedish group brought 26 visitors to the Operation. Four separate tours for product buyers showed Company forest practices to 31 people. Twenty-six participants attended a tour of the genetics trials in the Jordan River Operation. Western Forest Products' Chief Forester hosted a field tour at Jordan River for current and retired industry Chief Foresters and senior Ministry of Forests staff. Three additional tours – for a Bavarian film crew, for the Finnish Timber Council, and for the Ministry of Forest-Forest Renewal BC program – were hosted at Jordan River. At Yeo Island, National Forest Week was celebrated with a school tour for the Bella Bella Community School. Eight students from the grade 10 class toured logging and forestry activities in the Operation.

John Russell, Ministry of Forests' yellow cypress specialist, explained cypress performance to current and retired industry Chief Foresters and Senior Ministry of Forests staff during a tour of Block 1.

2.6 Inventories and Mapping

2.6.1 Geographic Information System and Electronic Mapping

Five PAMAP GIS stations were used for corporate resource inventory mapping and analysis. The purchase of ten PAMAP Viewer licences and increased use of Microstation at forest operations enabled expanded use of digital map data throughout the Company. These two mapping formats allow data exchange.

Dendron Resource Surveys Inc. prepared external dBase entry application software to enable use of expanded databases associated with new vegetation resources inventory. Training opportunities provided by PCI-Pacific and BCIT were used to advance the skills of GIS personnel.

GIS costs, prorated for TFL 25, were $26,430.

2.6.2 Forest Inventory

The Naka Creek (Block 3) digital files were updated to January 1, 1998, to incorporate changes that occurred during 1997 to forest cover, roads, operability, and logging history.

Updates to January 1, 1998, of the Jordan River, Stafford, Swanson Bay, and Queen Charlotte Islands Blocks are scheduled for 1999.

With the assistance of Dendron Resource Surveys Inc., data input was completed for the following projects:

Block 1 (Jordan River)

- Coding of phase I Vegetation Resource Inventory (VRI)
- Capture of 10 m contours for portions of the Block previously defined using only 50 m interval contours
- Capture of recreation inventory including Recreation Opportunity Spectrum (ROS)

Block 2 (Stafford)

- Capture of recreation inventory including ROS
- Capture of ecosystem polygons for the Heydon Bay portion

Block 3 (Naka Creek)

- Capture of recreation inventory including ROS
- Digital mapping of Forest Practices Code stream classification available to date.

Block 5 (Swanson Bay)

- Continuation of a project to use BC TRIM mapping to replace water features and add 20 m interval contours to all map sheets where operational 1:5 000 scale mapping is unavailable
- Capture of 10 m interval contours from 1:5 000 operational scale mapping of Neekas Inlet and Roderick, Pooley, and Yeo Islands
- Capture of visual landscape inventory (VQO)
- Capture of recreation inventory including ROS

Block 6 (Sewell Inlet)

- Capture of VRI phase I polygons for the Mosquito Lake portion of the Block directly from stratified aerial photographs using mono-restitution procedures
- Conventional digital capture of recreation inventory including ROS
- Capture of the VQO

Shortreid Terrain Data completed operational mapping at 1:5 000 scale for Swanson Bay and Yule Lake vicinities in Block 5. Kjell Hoel completed the same for the Crescent and Dana Inlets within Block 6.

The shift of Block 6 from NAD 27 to NAD 83 was concluded with the examination of all levels for completeness of both vector and database components. Mapping control data was translated from the current polyconic NAD27 datum to the BCGS UTM NAD83 datum as a preliminary to a NAD shift to be undertaken at a later date for Blocks 2 and 3.

VRI of Block 1 progressed to the adjustment sampling phase. Simon Reid Collins and Ministry of Forests crews established 110 samples including 10 non-forest types. Block 6 VRI progress included photo stratification for the entire block, polygon capture of the Mosquito Lake portion, and a start on attribute coding of the polygons.

FDP maps were prepared for Block 5 Griffin Passage, Block 5 Yeo Island, and Block 6 Sewell Inlet. Future FDP maps are expected to be completed locally using microstation.

Forest inventory costs totaled $128,552.

2.6.3 Ecosystem

Progress with Ecosystem Classification of the Heydon Bay portion of Block 2 included capture of photo-stratified polygons to the GIS by Shortreid Terrain Data and Dendron, and hard copy map coding and completion of the project draft report by Dr. Terence Lewis. Progress with the Block 5 project included transfer to hard copy of ecosystem polygons for the Aaltanhash to Kiltuish Inlets area east of Graham Reach and continuation of classification by Dr. Lewis.

Prorated costs were $13,566.

Dr. Terry Lewis, Western Forest Products' pedologist and ecologist at the inlet of a rock tunnel in TFL 25 Block 5 established in the early 1900s to carry water to the Swanson Bay Pulp Mill from Yule Lake on the Inside Passage.

2.6.4 Terrain Stability

Dr. Terrence Lewis completed the revision of the 1992 Blocks 1 and 3 terrain stability classification to Ministry of Forests' standards. Block 3 revisions were captured to the GIS. Partially classified Blocks 2 and 5 and fully classified Block 6 were completed in accordance with the Ministry of Forests' classification standards developed subsequent to the Blocks 1 and 3 work. Denny Maynard completed the terrain stability classification of Block 6 in 1998.

Prorated costs were $1,991.

2.6.5 Geotechnical Analyses

Engineering consultants completed geotechnical analyses of cutblocks, road alignments, and bridge site plans and design in four of the Blocks (Table 5). Costs of on-site geotechnical analyses were included in logging costs.

Table 5: Geotechnical Analyses

Operation	Geotechnical Firm	Areas	Roads
Jordan River	Thurber Engineering Limited	2	1
	Golder Associates	1	
Stafford	Golder Associates		1
Naka Creek	Arbour Tech		2
Roderick	Thurber Engineering Limited	16	16
	Associated Engineering		1
TOTAL		19	21

2.6.6 Integrated Resource Management Inventories

Numerous inventories were implemented throughout the year. Costs for Integrated Resource management inventories totalled $140,121.

2.6.6.1 Archaeology

Millenia Consultants completed Archaeological Impact Assessments and reported on 4 areas in the Roderick portion of Block 5. A total of 61.1 ha was surveyed. Forestry Department costs totalled $3,292. The bulk of the costs were incorporated into the logging costs.

2.6.6.2 Streams

Aquametrix consultants assessed 2 streams in the Jordan River operation, and 1 stream in the Stafford Operation. Additionally, Fishfor Contracting implemented 8 stream classification assessments at Stafford, and 15 at Roderick. The Forestry Department spent $3,800 on stream inventories. Logging costs absorbed most of the stream assessment costs.

2.6.6.3 Wildlife

Wildlife inventories including specific bear and marbled murrelet projects, as well as general wildlife habitat inventories were implemented in TFL 25. Western Forest Products contracted the University of British Columbia Centre for Conservation Biology to develop a planning model that would allow the identification of high value habitat for sensitive species on a landscape basis. Costs for these projects totalled $118,635. Forest Renewal BC and the South Moresby Forest Replacement Account reimbursed these costs.

2.6.6.4 Visual Impact Assessments

Jordan River staff completed a visual impact assessment of Area 448. A consultant, SRK, completed visual impact assessments of 14 Areas covering 164.4 ha in Roderick operation. Costs for this and other miscellaneous inventories totalled $14,394.

3.0 MANAGEMENT OBJECTIVE ACHIEVEMENTS

3.1 Management and Utilization of Timber Resources

3.1.1 Harvesting Methods

Eight logging systems were used in TFL 25 during the year (Figure 1). Grapple yarding was the dominant system, employed in Jordan River, Sewell Inlet, and Roderick Operations to harvest in excess of 86 thousand cubic metres of wood. Tower systems harvested more than 75 thousand cubic metres of wood in Blocks 2 and 5. Heli-logging was used in Jordan River, Stafford, and Roderick Operations to harvest 57 thousand cubic metres of wood. Hoe-forwarding accounted for 41 thousand cubic metres of wood in Blocks 1 and 6. The super-snorkel yarding system, including cherry picking, harvested 30 thousand cubic metres of timber. Other harvesting methods employed at Jordan River included the single grip harvester, mini-tower, and self-loaders. No harvesting took place in Block 3, Naka Creek.

Canadian Aircrane logged 13,500 m^3 by Sikorsky helicopter in Area 25H on Roderick Island. Heli-logging in Block 5 is part of the 70,000 m^3 partitioned harvest for this TFL Block.

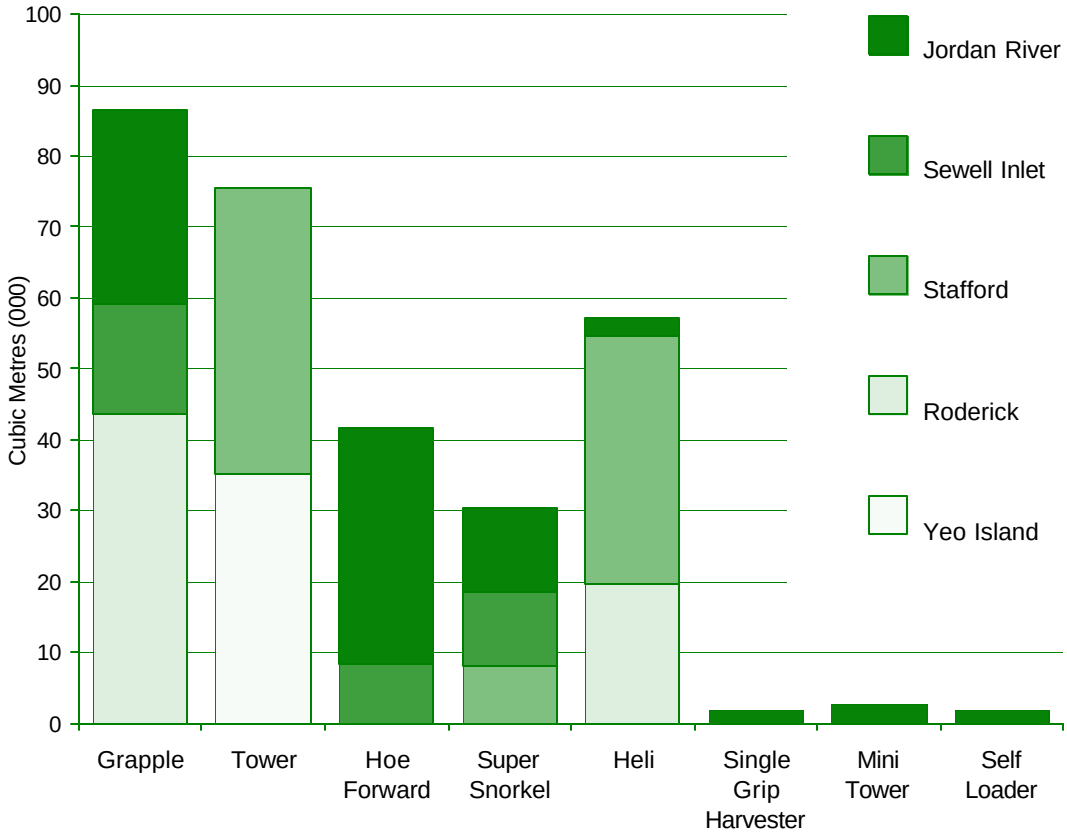


Figure 1. Logging Volumes by Harvest System and Operation.

During the year there were numerous successful tours of customers and media in Block 5 on the Central Coast. The Yeo Island logging crew yards low quality timber while being filmed by the CBC. Customers remained loyal and the Company received balanced reporting.

3.1.2 Silviculture Systems

Western Forest Products Limited employed the clearcut silviculture system with modifications for non-timber resources throughout all operations. Clearcut with reserve for wildlife, streams, and other resources is the dominant system (Table 6).

Table 6: Silvicultural Systems by Operation

Operation	System	Blocks Engineered (#)	Average Block Size (ha)	Minimum Block Size (ha)	Maximum Block Size (ha)
Jordan River	Clearcut	5	29.6	8.1	48.5
	Clearcut with Reserve	6	25.4	7.3	51.4
Stafford	Clearcut with Reserve	1	21.0	na	na
Roderick	Clearcut	15	15.3	3.4	42.5
	Clearcut with Reserve	1	31.2	na	na
Yeo	Clearcut	1	18.3	na	na
Sewell Inlet	Clearcut with Reserve	4	17.5	7.4	38.8
Operation	**System**	**Blocks Harvested (#)**	**Average Block Size (ha)**	**Minimum Block Size (ha)**	**Maximum Block Size (ha)**
Jordan River	Clearcut	1	18.7	na	na
	Clearcut with Reserve	4	39.2	28.3	47.8
Stafford	Clearcut	5	20.4	1.7	38.8
	Clearcut with Reserve	2	17.5	12.7	22.3
Roderick	Clearcut	3	25.7	14.7	34.7
Yeo	Clearcut	2	13.9	11.0	18.2
Sewell Inlet	Clearcut with Reserve	6	14.8	9.4	32.2

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 standards generally include the following:

i. Maximum stump height of 30 cm on shortest side to minimize waste (with exceptions as deemed necessary in the judgement of the forest officer);

ii. All coniferous trees containing X grade logs or better will be utilized to a top diameter of 15 cm inside bark;

iii. All conifer trees or parts of these trees exceeding 3 m in length which contain X grade logs or better will be removed;

iv. Logs or parts of logs less than 3 m in length and broken at ends are classed as breakage;

v. 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. Immature timber may be reserved. The measures of achievement for felling, bucking, and utilization standards are the residue surveys.

3.1.3.2 Residue Surveys

The Company 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 consequence, 1998 depletion includes residue volumes from 1997 and 1998 surveys as determined by the billing date. For 1998, the billable waste totalled 7 216.6 m^3 and the Annual Allowable Cut depletion totalled 24 006.5 m^3 (Table 7).

The contractor costs for residue sampling and compilation were $36,276 or $106 per plot. Total costs of residue assessments were $42,300.

Table 7: Residue Assessment Survey Summary

LOCATION	SURVEY AREA		AAC DEPLETION		BILLABLE WASTE TOTAL VOLUME		NUMBER OF PLOTS				
	Gross (ha)	Net* (ha)	m^3/ha	m^3	m^3/ha	m^3	Slash	Road Side	Pile & RMZs	Other	TOTAL
Jordan River	98.7	95.3	43.4	4133.4	15.9	1516.9	12	12	12	14	50
Stafford Lake Conventional	55.3	51.4	29.6	1522.6	12.1	619.6	12	8	8		28
Stafford Lake Heli	37.3	37.3	49.7	1852.6	9.3	348.5	18		5		23
Naka Creek	0.0	0.0									
Port McNeill	160.1	147.4	22.6	3328.6	7.9	1158.9	36	20	16	12	84
Roderick Conventional	122.3	111.9	38.1	4265.0	13.3	1488.2	20	20	20	10	70
Roderick Heli	20.0	20.0	86.1	1722.8	16.5	329.3	10		8		18
Sewell	112.2	109.1	65.8	7181.5	16.1	1755.2	22	16	24	6	68
TOTAL	606	572	42	24006	13	7217	130	76	93	28	341

3.1.3.3 Minor Products

Volumes of cedar shake and shingle wood salvaged from TFL 25 were down from 1997 volumes at 3 051.4 m^3. Volumes of shake and shingle wood salvaged are detailed in Appendix XI. In Jordan River, J.D. Enterprises and T. Mazar operate the salvage production. Naka Creek anticipates a return to shake and shingle production in 1999.

In Blocks 2 and 5, no minor forest products were salvaged in 1998. Salvage operations by Heiltsuk and Kitasoo crews are anticipated at Yeo and Roderick in the future.

Both Naka Creek and Jordan River Operations had Yew Bark harvests in 1998. Jeff Hillberry at Jordan River produced 1 107.7 kg (dry weight) of harvested bark from area 505. At Naka Creek production was 127 kg (dry weight).

Non-timber minor products included 8 864 kg of salal and 5 424 kg of honey at Jordan River. The honey was produced in 229 hives controlled by 15 beekeepers. Beekeepers logged 156 person days of employment. Honey production was down in 1998 due to a parasite mite that attacked and wiped out a number of hives on East Main. The mite has not spread across the river as yet, but is expected to next year.

Costs to administer the minor products programs were $8,562.

3.1.4 Partitioned Harvest

As part of the Management Plan 9 approval, comparison of the timber harvesting in each Block of the TFL to the inventory profile of the block was completed. The summary report lists harvesting by inventory height class, operability, and harvest category (Appendix IX). The comparison revealed that Western Forest Products is harvesting very close to the inventory profile.

The Block 1 analysis reveals that Height Classes 3 and 4 were harvested above the Inventory Profile, while Height Classes 5 and 6 were under-represented. In Block 2, Height Classes 3 and 4 were under-represented in the Actual harvest, and Height Classes 5 and 6 volumes harvested exceeded the Inventory Profile. In Block 5, significant under-representation of Height Class 3 occurred; Height Class 5 volumes harvested significantly exceeded the Inventory Profile for the year. In Block 6, the Height Class 3 and 4 Actual volumes exceeded the Inventory Profile volumes significantly, and Height Class 5 significantly under-represented the Inventory Profile.

Of the total harvest by volume, 74 per cent was from conventional area, 4 per cent from heli-operability, and 11 per cent from the inoperable category in the year. Blocks 2 and 5 had significant heli-operability volumes.

3.1.5 Annual Allowable Cut and Cut Control Performance

The Allowable Cut available to Western Forest Products on TFL 25 for 1998, including the prorated Allowable Cut available on the former TFL 25 Block 4 and the entire annual allowable cut of the former TFL 24, was 784 855 m^3 (Appendix IV). The chargeable cut for the year, including the scaled production and the recognized residue survey volumes, was 509 404.8 m^3 (Appendix II). Chargeable volumes for the former TFL 25 Block 4 were prorated. The cumulative volume charged after five years of the current five-year cut control period is 3 816 963 m^3 or 92 per cent of the five-year total allowable cut (Appendix IV).

The historical cut control is presented in Appendix V and includes all the former TFL 24 volumes. The former TFL 25 Block 4 volumes were removed as of October 1 1998. Since the establishment of the Licences in 1959, Western Forest Products and its predecessors have harvested 36 031 487 m^3 in the former TFL 24 and TFL 25. To the end of 1998, the accumulated Allowable Cut was 35 977 300 m^3.

3.1.6 Small Business Forest Enterprise Program

The Small Business Forest Enterprise Program (SBFEP) reported logging in Block 5, Mid Coast District, during the year. Little Valley Forest Products logged 24.8 ha. Scaled volume and residue totalled 5 319.7 m^3. The SBFEP summary to date is presented in Appendix X. To date, 43 per cent of the available Allowable Cut throughout the TFL has been harvested.

3.2 Protection and Conservation Measures

Western Forest Products protected and conserved resource values throughout its area of operation during the year. The following sections include engineered blocks that were submitted in the year, and harvested blocks for which harvest completion reports were dated for the year. Blocks for which amendments were submitted and blocks in which harvesting was not completed are not included in these statistics.

3.2.1 Visual Quality

Of the 33 areas engineered throughout TFL 25 in 1998, three were adjusted specifically to address visual quality concerns. These included two at Sewell and one at Jordan River (Table 9). Of 23 areas harvested in the year, one area at Jordan River was modified to address aesthetic resources.

3.2.2 Biological Diversity

Biological diversity issues at the stand level were specifically addressed in the engineering of nine areas at Jordan River and four areas at Sewell (Table 9). Of the areas harvested, 10 were modified to retain biological diversity. Modifications for other identified resources including fish, wildlife, and cultural heritage also effectively retain increased biodiversity on harvested areas.

3.2.3 Soil Stability Maintenance

3.2.3.1 Conservation

Soil stability was an identified concern on four blocks engineered at Jordan River in 1998 (Table 9). Numerous harvested blocks were modified to address soil stability.

3.2.3.2 Operational Site Stabilization Program

The current site stabilization program includes roadside treatments and repair of current slides. Seeding of roadsides to reduce erosion and minimize siltation of fish streams occurred at Jordan River, Naka Creek, Roderick, Yeo, and Sewell Inlet (Appendix XI). Seeding to stabilize a one hectare area occurred at Sewell Inlet. Costs totalled $72,507.

3.2.3.3 Watershed Restoration Program

Forest Renewal BC funded watershed restoration projects in 16 areas and watersheds of TFL 25 (Table 8). These included 7 road deactivation projects, two Level I Assessments, five Level II Assessments, two in-stream projects, and monitoring. French Creek Forest Services Ltd co-ordinated the program on behalf of the Company.

Accomplishments included 62 km of road deactivation and 1 km of fish habitat restoration. Monitoring of work completed in previous projects continued. Program costs including implementation and administration were $1,485,862 and were completely reimbursed.

At Jordan River, the Company completed heli-hydro seeding on the G-Main hookup road restoration project. As part of Western Forest Products' Watershed Restoration Program, disturbed and rehabilitated areas are seeded and planted.

Table 8: Watershed Restoration Program Summary

Watershed	Level I	Level II	LRAP	Road Deactivation	Fish Habitat Restoration	Bio-Engineering	Spending
Loss Creek						Report	4,015
Sombrio River						Monitoring	5,565
Glendale				4 km			41,487
Cedarstadt			In Progress				4,071
Thorsen		x		12 km	In Progress		229,245
Flat		x		19 km			228,222
North Crescent		x		6 km			151,632
Clint / Sewell		x		7 km			147,631
Shearer		x					17,530
Tasu					1 km		53,549
Kiltuish East				13 km			297,227
Moresby Road				1 km			242,222
Talunkwan				Report			70
QCI North	x						26,480
QCI South	x						18,178
Little Goose, Tasu/Slim, Big Goose, Shale, Talunkwan, Flat, Thorsen, Waterfall					Monitoring		18,738
TOTAL							$1,485,862

A collapsed bridge built in the 1950s over the Pacofi Creek at Sewell Inlet formerly accessed logging in this 1 329 ha watershed. Jim Neuman, Operations Engineer , together with resource agency staff reviewed the bridge crossing during the 1998 Development Plan Field Review. The Company plans to remove this existing barrier to improve fish access to many kilometres of upstream habitat.

Table 9: Protection and Conservation Measures.

Operation	Blocks Engineered (#)	Number of Blocks Modified						
		Visual Quality	Biological Diversity	Soil Stability	Water Quality	Cultural Heritage	Fish Habitat	Wildlife Habitat
Jordan River	11	1	9	4	1	0	1	0
Stafford	1	0	0	0	0	0	0	0
Naka Creek	0	0	0	0	0	0	0	0
Roderick	16	0	0	0	0	0	5	0
Yeo	1	0	0	0	0	1	0	0
Sewell	4	2	4	0	0	0	2	4
TOTAL	33	3	13	4	1	1	8	4
Operation	Blocks Harvested (#)	Number of Blocks Modified						
		Visual Quality	Biological Diversity	Soil Stability	Water Quality	Cultural Heritage	Fish Habitat	Wildlife Habitat
Jordan River	5	1	4	1	0	0	0	0
Stafford	7	0	0	7	0	0	2	1
Naka Creek	0	0	0	0	0	0	0	0
Roderick	3	0	0	3	0	0	0	0
Yeo	2	0	0	2	0	0	0	0
Sewell	6	0	6	6	0	1	2	6
TOTAL	23	1	10	19	0	1	4	7

3.2.4 Water Quality

Water quality was an issue in one of the eleven blocks engineered at Jordan River during the year (Table 9).

3.2.5 Recreation Resources

3.2.5.1 Public Recreation Sites

The Company maintained recreation sites at Jordan River, Naka Creek, and Sewell Operations during the year. Public use of these sites was encouraged.

At Jordan River, the Sandcut Beach Trail had the bridge decking replaced as well as stair steps along the trail. The grass seed and trees planted at the main gravel parking lot of the Jordan River Recreation Site were later washed away by high tides in heavy winds and rain.

The Naka Creek recreation site has grown in popularity for a wide range of users. Kayakers, whale watchers, and others have become regular visitors to this small, secluded spot.

Two public recreation sites were maintained on the Queen Charlottes: Mosquito Lake Campground and Moresby Campground. Both were maintained under minor services contracts from the Ministry of Forests.

Costs of maintaining the recreation sites were $$18,232. Reimbursements from the Ministry of Forests totalled $3,747.

3.2.5.2 Recreation Use

The use of TFL 25 for a variety of recreational activities was estimated from specific site monitoring, reports from maintenance workers, and issued permits. Table 10 summarizes recreation use estimates by Block. Of the TFL 25 Blocks, Block 1 at Jordan River is the most accessible. This is reflected in the high recreation use estimates. Blocks 2 and 5 are remote; automobiles have no access. The only access to Block 3 at Naka is by restricted logging road, thus recreation use is limited as well. The north area of Block 6 on the Queen Charlottes is accessible by public road.

Table 10: Recreation Use Estimates

Activity	User Days By Operation					
	Block 1	Block 2	Block 3	Block 5	Block 6	Total
Beach Use	6500	0	120	250	650	7520
WFP Sites and Trails	10500	0	96	0	1100	11696
Hunting	1600	100	1100	300	850	3950
Fishing (Freshwater)	600	75	0	300	800	1775
Fishing (Saltwater)	200	150	500	1000	1000	2850
Firewood Cutting	65	0	50	0	0	115
Food Gathering	450	0	25	300	600	1375
Kayaking	300	0	120	350	350	1120
Whale Watching	250	0	750	750	100	1850
Auto Touring	2700	0	200	0	1100	4000
Hiking and Caving	1000	0	90	250	150	1490
TOTAL	**24165**	**325**	**3051**	**3500**	**6700**	**37741**

3.2.6 Cultural Heritage Resources

At Yeo Island, the single area engineered in the year was modified to conserve archaeological resources. Of the six areas harvested at Sewell Inlet, conservation of cultural heritage resources led to modification in one area (Table 9).

3.2.7 Fish Habitat

3.2.7.1 Conservation

Of a total of 32 areas for which engineering plans were submitted in the year, 8 were modified to address the conservation of fisheries resources. Of the 23 areas in which harvesting was completed in 1998, four were modified to address fish habitat conservation (Table 9).

3.2.7.2 Salmonid Enhancement Program

The Sewell Inlet hatchery continued its Salmonid Enhancement Program in 1998 with the release of 21,816 coho fry into Tasu Creek and 27,516 coho fry into Flat Creek. This is the longest running Salmonid Enhancement Program sponsored by Western Forest Products. Dave Davies of the Department of Fisheries and Oceans coordinates hatchery activities. To date, this hatchery has released more than 2.0 million fry into the local watersheds (Appendix XVI). Costs to the Forestry Department for the program were $2,921.

Exceptionally low water flows in the summer threatened coho fry in Sewell Inlet streams. Volunteers from the community undertook fry trapping on Lagoon Inlet Creek for release to other secure sites. These programs have huge paybacks to the salmon resource.

3.2.8 Wildlife Habitat

Wildlife habitat resources were addressed in the engineering of 4 areas and the harvesting of 6 areas at Sewell Inlet. At Stafford Lake, one of the areas harvested was modified to address wildlife habitat conservation (Table 9). Active bear dens, raptor nests, deer wintering ground, and murrelet nesting areas are among the wildlife habitat resources conserved.

3.3 Integration of Harvesting Activities

Numerous users of other resources on the tenures managed by Western Forest Products have been identified and consulted in the development of the timber resources.

In Block 1, stakeholders included the Goudie Creek Community Watershed Association, the Kludahk Trail Club, and the First Nations of the area. Consultation input was sought from these associations regarding their concerns and resource values. No concerns were expressed.

Identified stakeholders in Block 2 included three trapper/guides.

Block 5 stakeholders include 16 trappers. As well, a number of guide outfitters operate in the area. A stakeholder consultation process has been developed in the Mid Coast Forest District for

Forest Development Planning. A statement to all guide outfitters and trappers is included in the public review advertisements for all proposed forest developments requesting their input.

In Block 6, other resource users include three trappers, two shake cutters, and numerous local mushroom pickers.

The Ministry of Forests' policy requires that all Forest Development Plans be referred to local First Nations as part of the stakeholder consultation process. Western Forest Products invited First Nation participation in the field reviews and met with the Band Council to explain and discuss the proposed Plan. First Nations' concerns were addressed in the Plans as a result of these ongoing meetings.

3.4 Forest Fire Management

3.4.1 Prevention

Fire Preparedness Plans were submitted to the Ministry of Forests by all Operations in the spring of 1998. At each active Operation, a weather station was monitored throughout the fire season. The costs for prevention were $5,009.

In Block 1 the minor products salvage was discontinued during the summer due to extreme fire hazard conditions. Gates on North Main, East Main, and Sandcut were closed to the public throughout this period. Throughout the summer fire hazard ratings were moderate to high, with one week at extreme hazard ratings. Fog maintained good overnight recovery. Open fires were prohibited at the recreation sites in Block 1 through much of July and August. No other Operations reported weather-related shutdowns.

3.4.2 Suppression

Damages from an unreported accidental fire covering 30.7 ha were discovered at Naka Creek in April. The fire destroyed a plantation. Fringe damage to the standing timber at the west side of the block was minimal. The fire also entered a blowdown patch at the north edge of the boundary. Source of ignition was not determined. The piles in the block were burned on October 27, 1997, and the evening patrol revealed no fire escape hazards. At the time of the patrol rain had begun to fall. In subsequent days, the weather was wet and seasonal. The Accidental Fire Report lists hunters as a possible source of ignition.

3.4.3 Fuel Management

At Jordan River, roadside debris was piled and burned in the fall, when weather permitted. Due to Operational shutdowns, no pile burning was conducted at Yeo or Roderick. At Sewell Inlet, fire hazard is consistently low, thus fuel management concerns are reduced.

3.5 Forest Health Management

3.5.1 Disease Management

Jordan River Operation reported completion of surveys for *Armillaria* spp. root rot. Levels and incidence of the disease varies but is widespread. More surveys are required as development in the Other Point vicinity continues.

3.5.2 Insect Management

Trials indicated that the incidence of the Sitka spruce weevil in Block 1 is low and declining. In Block 6 a significant western black-headed budworm outbreak was monitored on Talunkwan Island and Sewell Inlet. The ambrosia beetle trapping program at Naka Creek was not maintained in 1998 as timber harvesting operations were shut down. Costs for insect management were $2,643.

Another black-headed budworm attack damaged hemlock forests in Block 6. Particularly hard-hit was the old growth behind Sewell Inlet Camp. Generally, such attacks occur on a 10-year cycle. Two to three defoliations by this endemic pest will kill mature hemlock.

3.5.3 Ungulate Management

Ongoing annual maintenance of deer browse guards at Roderick Operation continued. Vexar mesh was established in one hectare of cedar plantation during the year. Cedar seedlings at Sewell Inlet continue to require protection from deer browsing. These costs are included with planting costs.

3.5.4 Abiotic Factors

A low incidence of abiotic damage occurred in 1998 at Jordan River. Small pockets of wind-throw totalling less than 0.5 ha occurred. At Naka Creek areas 75 and 78, wind-throw damage occurred in the fire breaks. Wind is a significant hazard at all coastal operations requiring management considerations. At Roderick, a slide damaged an area of 1.2 ha.

3.6 Silviculture

3.6.1 Reforestation

3.6.1.1 Seed Acquisition

Lost Lake Seed Orchard in Victoria and the Saanich Forestry Centre in Saanichton are owned and operated by Western Forest Products. They are licensed by the Ministry of Forests to produce genetically superior seed and stecklings for reforestation on managed forest lands. Seed orchards managed for seed production include two western red cedar orchards, two western hemlock orchards, one Sitka spruce orchard, one coastal Douglas-fir orchard, one yellow cypress clonal orchard, and one cottonwood clonal orchard. No wild stock seed collections were made in TFL 6 during the year.

Approximately 20.9 hectolitres of cones were harvested from the western red cedar orchards with an estimated potential of 2.8 million seedlings. The western hemlock seed orchard yielded 2.3 hl of cones with an estimated potential of 0.4 million seedlings. Fifteen percent of the western hemlock seed came from elite crosses. All of the coastal Douglas-fir seed collections resulted from elite crosses. The 1.5 hl of cones harvested should provide enough seed to produce 28,000 seedlings. This high gain custom seedlot is projected to yield a 17.5 per cent volume gain at rotation. Costs for this project were $7,854 and were covered by Forest Renewal BC through the Operational Tree Improvement Program. The seed production summary is included in Appendix XXII.

Cuttings from the yellow cypress clonal hedges yielded 300,000 stecklings. The cottonwood stool beds produced 2,800 whips. The TFL 6 prorated share of seed collection and acquisition costs were $151,498. The prorated share of seed sales was $22,973.

Western Forest Products' Saanich Forestry Centre includes seed orchards and a 20 unit greenhouse plug nursery that provide improved seed and planting stock for the Company's five million tree annual planting program. Operations at the Company's Lost Lake Seed Orchard are being consolidated and integrated with the Saanich Forestry Centre, located just west of Victoria Airport.

3.6.1.2 Tree Improvement

Orchard management included consolidation of the second-generation western hemlock orchards. High breeding value clones were removed from Lost Lake Seed Orchard (Orchard Hw 176) and incorporated into the Saanich Forestry Centre Seed Orchard (Orchard Hw 170). The projected volume gain at rotation was thereby increased from 7 per cent to 14.5 per cent. Costs for this project were $19,146. Funding was received from Forest Renewal BC through the Operational Tree Improvement Program. A number of orchards were removed from the Saanich Forestry Centre, including one and a half coastal Douglas-fir orchards, a western white pine orchard, and a yellow cypress orchard.

Special management techniques were applied to enhance genetic gain at the seed orchards. Polycross breeding of selected western red cedar clones produced seed for progeny testing. Forest Renewal BC through the Science Council of BC ($24,000) funded this work. Phase 1 of the Second Generation Western Red Cedar Seed Orchard is underway. To date, 150 trial clones were re-propagated by rooting of cuttings. These will be rogued after results of the progeny trials are analysed. Those clones with high breeding values will be included in the second-generation orchard. Forest Renewal BC funded the program for $15,400.

Cathy Cook, Senior Forestry Technician and Tree Improvement Specialist at Saanich Forestry Centre, inspects one year old western hemlock seedlings grown as planting stock for TFL 25. The Company's new nursery plays an important role in reforestation of logged areas.

Gibberellic acid was applied to approximately 600 trees in two western red cedar orchards to induce seed production. This will provide several years' supply of class A seed. Forest Renewal BC funded this program ($13,970) through the Operational Tree Improvement Program.

Field testing of the clonal yellow cypress hedges continued in 1998 with the establishment of two trials at Port McNeill. Four seedlots represented by 250 clones were included in the trials. Data collection and analyses of earlier trials continued. The final phase of testing will be established in the spring of 1999. Holding areas for the trial material was established at Saanich Forestry

Centre. Costs for this project, funded by Forest Renewal BC through the Science Council of BC, totalled $80,000.

Evaluation of the yellow cypress clonal material has led to the establishment of a High Gain Yellow Cedar Clonal Orchard. To date the top 46 clones out of 1,700 tested were selected for inclusion and are now being rejuvenated in a nursery. The average computed volume gain at rotation, based on 7-year data, is 18 per cent. Costs for this project, funded by Forest Renewal BC through the Operational Tree Improvement Program, were $13,440.

3.6.1.3 Site Preparation

Site preparation was implemented to improve regeneration efforts. In areas where excess slash or competition has reduced the availability and distribution of planting spots, burning or mechanical site preparation was employed. Costs for all site preparation totalled $13,063.

3.6.1.3.1 Broadcast Burning

No broadcast burning was undertaken in the TFL in 1998. At the time of hazard abatement burning, throughout the 1970s, annual broadcast burning was at 350 ha per year on average. In the 1980s this had dropped to 200 ha per year. In the current decade, annual broadcast burning in TFL 25 has averaged below 30 ha per year. Changes in harvesting practices have reduced the availability of this significant silvicultural tool.

Pile burning helps to maintain plantable spots along roadsides in Cutblock 312 at Jordan River. This practice will keep even stocking in quality planting sites.

3.6.1.3.2 Pile Burning

Piling and burning reduced the slash accumulations along roads at Jordan River, Stafford Lake, and Sewell Inlet (Appendix XI). An estimated 7.1 km of roadside piles were burned in eight areas at Jordan River. At Stafford, 4 areas were pile burned for a total of 4.6 km. Pile burning at Sewell Inlet treated 15.6 km in 15 areas. Costs for pile burning were $12,911 and averaged $473 per kilometre.

3.6.1.3.3 Mechanical Site Preparation

Mechanical site preparation to improve regeneration at Jordan River covered 10 ha. Costs for mechanical site preparation were included in logging costs.

3.6.1.4 Planting

More than 635 ha of original plantings were established throughout all Blocks of TFL 25 during the year (Appendix XI). Planting occurred in all Blocks; Jordan River Operation planted 183.9 ha, Stafford Operation planted 53.1 ha, Naka Creek Operation planted 77.4 ha, Sewell Inlet Operation planted 98.9 ha, and the Central Coast Operations planted 221.9 ha. The annual planting program was the smallest of the past three decades, reflecting reduced logging activity.

Mr. Herb Doman, Western Forest Products' President and Chairman, assisted by the Port McNeill Junior Forest Wardens, planted the Company's 75 millionth seedling at Rupert Inlet on Northern Vancouver Island.

Only Stafford Lake Operation required a re-plant program with 15.9 ha of replanting. Fill-plant programs to address not sufficiently restocked areas in natural regeneration occurred at Naka Creek and Sewell Inlet for a total of 17.1 ha (Appendix XI).

Original plantings were credited to the Regeneration Balance (Appendix XII).

Of the 206,775 seedlings planted at Jordan River, 105,750 were fertilized at time of planting. Stafford Lake Operation fertilized 31,000 seedlings of a total 62,679 seedlings planted. No seedlings of the 91,865 planted at Naka Creek were fertilized at time of planting. In Block 5,

197,058 seedlings were planted. The Yeo Island portion was planted by the Heiltsuk silvicultural crew. The Kitasoo silvicultural crew planted 31,637 seedlings on Roderick Island in Block 5. Fertilization at time of planting of 42,125 seedlings, mostly on bush sites on Roderick Island, was completed in Block 5. At Sewell Inlet, 38,800 seedlings of the total 93,860 planted were fertilized at time of planting.

Western red cedar seedlings comprised the largest portion of the TFL 25 planting program; 33 per cent of the seedlings planted were western red cedar. The Central Coast Operation planting program was more than 50 per cent western red cedar. Western hemlock and amabalis fir comprised 19 and 16 per cent of the planting stock respectively (Appendix XI).

Costs of the planting program were $942,321 and average $1,410 per hectare or $1.44 per seedling.

3.6.1.5 Stocking Surveys

Of the 36.6 ha of natural regeneration surveyed in Block 5, 14.1 ha were sufficiently restocked (Appendix XI). This area was credited to the Regeneration Balance (Appendix XII). Only Block 5 reported stocking surveys of natural regeneration.

All Operations completed plantation regeneration surveys during the year. Of the 1 171.9 ha surveyed, 1 065.4 ha met the prescribed stocking standards (Appendix XI). Of the remainder, 106.2 ha was classified Not Sufficiently Restocked, and debited to the Regeneration Balance (Appendix XII). Cost for the stocking surveys within the TFL totalled $38,513 and averaged $32 per hectare.

Peter Graham, Operations Forester, examines regeneration in Cutblock 1 at Roderick Island. The area was logged and planted in 1994 with 1 + 0 PSB 415 Sitka spruce,which is now doing very well.

3.6.1.6 Planting Survival Assessments

Survival assessments of planted areas took place at Jordan River and Naka Creek. The weighted average survival rate was 85.6 per cent for the 334.6 ha surveyed (Appendix XI).

Costs for survival assessments were $9,365 or $28 per hectare.

3.6.1.7 Free Growing Surveys

Jordan River, Naka Creek, and Sewell Inlet Operations conducted free growing surveys during the year. A total of 807.9 ha within the TFL were surveyed. More than 95 per cent of the area surveyed, 780.8 ha, was declared free growing (Appendix XI). Of the remainder, 26.0 ha requires little work to bring it up to the free growing standard. Other classification accounted for 1.1 ha.

Costs for free growing surveys totalled $9,611, or $12 per hectare. Reimbursements from FRBC were $4,150.

3.6.2 Stand Management

3.6.2.1 Juvenile Spacing

Operations in Blocks 2, 3, 5, and 6 implemented juvenile spacing programs in 1998 (Appendix XI). At Heydon Bay in Stafford Lake, First Nations contractors spaced 72.8 ha. Naka Creek Operations completed 30.3 ha of spacing. A silviculture contractor from Terrace hired members of the Haisla First Nation to complete the 42.1 ha spaced at Collins Point in Block 5. In Block 6, 259.3 ha of spacing was completed. No juvenile spacing took place at Jordan River Operation.

Costs of the spacing program totalled $709,803 or $1,754 per hectare. Forest Renewal BC and the South Moresby Forest Replacement Account funded these projects.

In Block 2, Assistant Forester Jill West checks spacing quality on a 73 ha contract at Heydon Bay. Contractors associated with the Campbell River Indian Band were awarded all silviculture contracts in Loughborough Inlet including planting, brushing, and juvenile spacing.

3.6.2.2 Brushing and Weeding

Brushing and weeding to promote conifer growth took place in Blocks 2, 5, and 6 in 1998 (Appendix XI). At Stafford Lake, 9.6 ha were mechanically brushed by a trained First Nations crew. At Roderick Island the Kitasoo Silviculture Crew completed 18.5 ha of manual brushing. Work was carried out on Western Forest Products' appraisal blocks and funded by the Company. The Kitasoo Silviculture Crew have conducted work at Roderick over three growing seasons. At Sewell Inlet 412.6 ha of brushing funded by Forest Renewal BC were completed.

Costs for the brushing and weeding program totalled $476,571. Average cost per ha were $1,081 per hectare. Reimbursements from Forest Renewal BC totalled $313,474.

3.6.2.3 Pruning

With the exception of Stafford Lake, all Operations in TFL 25 implemented pruning programs (Appendix XI). At Jordan River, 70.4 ha of pruning were funded by Forest Renewal BC. Naka Creek Operation pruned 93.7 ha under the Forest Renewal BC program. At Collins Point in Block 5, 13.7 ha of Forest Renewal BC – funded pruning were completed. Sewell Inlet Operation completed 58.3 ha of pruning under the Forest Renewal BC program.

Costs of the pruning program totalled $704,947; average cost per hectare was $2,986. The program was fully funded by Forest Renewal BC.

3.6.2.4 Fertilization

No fertilization was completed in 1998. Preparations for the 1999 program cost the Forestry Department $13,716 and was funded by Forest Renewal BC.

3.7 Roads and Bridges

3.7.1 Construction

Six bridges and 24.1 km of new roads were constructed in five Operations of the TFL (Table 11). Additionally, Jordan River Operation rebuilt 1.2 km of road. The bridge installed at Stafford Lake was 24.4 m in length.

Table 11: Road and Bridge Construction Summary

Operation	New Roads (km)	Rebuilt Roads (km)	Bridges (#)
Sewell Inlet	6.3	0.0	1
Stafford Lake	3.5	0.0	1
Roderick	4.1	0.0	1
Yeo Island	4.1	0.0	0
Jordan River	6.1	1.2	3
Naka Creek	0.0	0.0	0
TOTAL	24.1	1.2	6

3.7.2 Maintenance

Road maintenance occurred at all Operations with the exception of Naka Creek. Three hundred kilometres of road were graded as required throughout the year. Details by Operation are included in Appendix XI.

3.7.3 Current Deactivation

Current deactivation of roads included seasonal deactivation and permanent deactivation (Appendix XI). Seasonal deactivation of 90 km of road included Sewell Inlet, Stafford Lake, Roderick and Yeo, and Jordan River Operations. Sewell Inlet and Jordan River Operations permanently deactivated 12 km of road.

Equipment places concrete modules on the new North Main 7.5 mile replacement bridge at Jordan River. Costs for this 21 m span were in excess of $67,000.

3.8 Employment and Economic Opportunities

3.8.1 Direct Employment

3.8.1.1 Planning and Development

Planning and development relating to TFL 25 took place at the Operations, at the Mainland Islands Region office, and at the Company's head office in Vancouver. Engineering and road construction employed 80 people for an estimated total of 6,417 person days among the Operations. Twenty-six per cent of the employment in planning and development at the operations was Company personnel, the remainder were contractors.

The mapping department at head office in Vancouver provided support to the planning and development at the Operations. Throughout the year 4 Company staff and approximately 15 contractors generated the maps for the planning processes. The estimated pro-rated share of Company personnel person-days was 114. Contractors logged 1,192 days (Appendix XV – A).

3.8.1.2 Harvesting

Sixty-nine per cent of the people employed in harvesting activities from stump to dump were contract employees. Harvesting person-days for the year in TFL 25 totalled 16,010 (Appendix XV – A).

A high portion of the Jordan River harvesting employment involves local people. All the Company and contract personnel live on southern Vancouver Island. Jordan River harvesting operations generated 4,016 person-days of employment.

Block 2 is remote, no road access exists. Harvesting employment was all contract in this Block; 51 people logged 4,870 person-days at Stafford Lake.

Block 3 at Naka Creek generated no harvesting employment in 1998.

Harvesting activities in the Central Coast employ members of the local First Nations communities as well as contract employees from Vancouver Island and the Lower Mainland. Fifty-one contract employees accumulated 5,412 person-days.

In Block 6 the harvesting employees originated from Vancouver Island and the Lower Mainland, primarily. Twenty-two personnel were employed 1,712 person-days at Sewell Inlet in Harvesting activities.

3.8.1.3 Transportation

Transportation of wood to processing facilities and log trade markets to the south was by barge and boom. An estimated total of 2,232 person-days of employment were accumulated through log transport (Appendix XV – A).

3.8.1.4 Processing

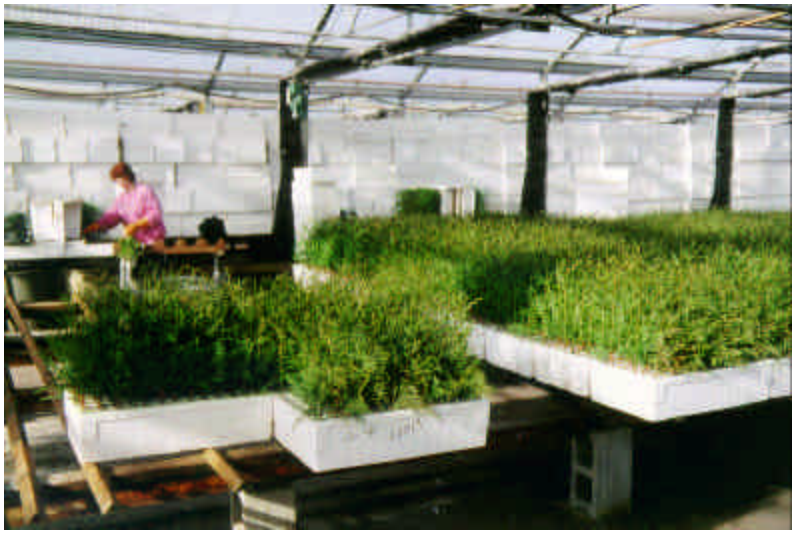
Seven processing facilities received wood from TFL 25 including Ladysmith Sawmill, Cowichan Bay Sawmill, Silvertree Sawmill, Vancouver Sawmill, Nanaimo Sawmill, Nanaimo Log Merchandising, and Port Alice Pulp Mill. Chips from the sawmills were processed at the Squamish Pulp Mill. Additionally, TFL 25 wood supplied log trades and sales. In all locations processing employment was generated.

Prorated direct employment based on wood flow and consumption estimates totalled 32,461 person-days (Appendix XV – A). All employees were assumed to live within the vicinity of the processing facility for purposes of the employment analysis.

3.8.1.5 Silviculture and Integrated Resource Management

Basic and enhanced silviculture, and integrated resource management projects employed 280 people throughout the year at the Operations and Region. Of these, 76 per cent were employed through contractors (Appendix XV – A). The prorated share of the employment at the Saanich

Forestry Centre attributed to TFL 25 was 659 person-days by 46 full-time and seasonal employees. Silviculture and Integrated Resource Management generated 7992 person-days of employment in the year.



Western Forest Products' forestry staff lifted and packaged more than 3 million trees for spring 1999 reforestation programs throughout coastal British Columbia.

With the delays in implementation of the Forest Renewal Multi-Year Agreement, and with the cost controlling measures implemented in 1998, employment in silviculture was reduced. Western Forest Products' policies are aimed at developing skilled employment locally, particularly for First Nations contractors. Of the contractor person-days, 27 per cent were generated by First Nations personnel (Appendix XV-C). This exceeds the Company target of 20 per cent First Nations employment in silviculture contracts.

3.8.1.6 Administration

Administration of the TFL is carried out from the Mainland Islands Region office in Campbell River, the North Vancouver Island Region office in Port McNeill, and the Company's Head Office. The pro-rated share of administrative employment for TFL 25 includes 40 Company personnel for 1,280 person-days in the year (Appendix XV – A).

3.8.2 Indirect Employment

Tree Farm Licence 25 activities support secondary jobs in the local communities of Sooke and Jordan River for Block 1. Other portions of the TFL are remote and support indirect employment throughout the coastal region and the province. Significant income is generated in the processing locations on Vancouver Island and the Lower Mainland. Additional indirect and induced jobs are supported province-wide through services and supplies. Indirect job opportunities are supported through the spending of wages from direct jobs. This spending supports positions in retail, finance, and housing industries, among others.

The Provincial Government revenue for stumpage from this tenure is significant. Both the Federal and Provincial Governments collected significant revenue from income and other taxes as a result of TFL 25 Logging, Forest Management, and Timber Processing. Municipal Governments also receive revenue through taxes from TFL 25 Operations within their jurisdictions. Indirect jobs within Government Ministries and agencies at all levels are supported by this revenue.

The ratio of direct employment to indirect and induced employment used in this analysis is 1:2 (Price-Waterhouse). For every employee directly supported by TFL 25 activities, two additional people are indirectly employed through private and public sector agencies. The estimated number of person-days of indirect and induced employment generated by TFL 25 activities in 1998 was 135,396. This is a conservative estimate, as the direct employment generated by TFL 25 was reduced by shutdowns at Mills and forest operations during the year. This reduced economic activity affected indirect employment more slowly.

3.8.3 First Nations Employment and Initiatives

Problems arose during the year with the establishment of New Forest Opportunities Limited and several First Nations Bands in TFL 25. There was significant progress made in increasing First Nations involvement in TFL 25.

First Nations crews completed all silviculture work in Block 2 including 62,600 trees planted, 73 hectares of spacing and 9.6 hectares of brushing and weeding at Stafford Lake.

Western Forest Products has worked closely with the Heiltsuk community at Bella Bella to develop silviculture skills. Madeline Hall works in Cutblock 3 at the Yeo Island Forest Operation to complete the spring planting. Western Forest Products also sponsored training and silviculture projects on Campbell Island in the Mid Coast Timber Supply Area.

The addition of a second mini-tower at the Yeo Island Operation increased training and employment for 5 more Heiltsuk Band members bringing employment to more than 20. The Heiltsuk silviculture crew also performed all of the tree planting work at Yeo Island. The company was successful in supporting the establishment of an independent Small Business Timber Sale

Licence for the Kitasoo within TFL 25, involving approximately 100 000 m³ over the next five years. Respecting the wishes of First Nations in the region, brush control techniques were undertaken manually. Manual brushing of 18 hectares of salmonberry was completed on Roderick Island.

A total of 31,600 trees were planted by Kitasoo silviculture on Roderick Island. In northern Block 5, Haisla First Nations workers and others undertook completion of 42.1 hectares of spacing at Collins Point.

Opportunities are being developed for minor products harvesting for Heiltsuk and Kitasoo Band members as part of shake salvage operations in the TFL.

Chief Archie Robinson, Senior Hereditary Chief of the Kitasoo people, dances at a Western Forest Products sponsored community dinner for 400 locals and visitors. This celebration marked the cooperative relationship developed with the Band in the Klemtu.

3.9 Performance Monitoring

During the year, 89 Harvest Inspections were undertaken by Ministry of Forests Compliance staff in TFL 25. Of these, 92% were found to be in full compliance with the Forest Practices Code and other regulations. Where concerns were identified, the problems were mostly minor and promptly addressed.

Late in the year, allegations of poor forest practices were made by the Sierra Legal Defence Fund at the Company's Yeo Island Forest Operation. The Department of Fisheries and Oceans and the Ministry of Forests undertook two days of investigations. The review found the allegations were

largely unfounded. A warning ticket was issued to the company involving road maintenance concerns. Outstanding issues were addressed promptly.

The Company undertakes internal audits of its forest operations on a biannual basis. In 1998 these included audits of 3 cutblocks and 6.8 km of road at Naka Creek and 7 cutblocks and 13 km of road at the Jordan River Forest Operation. Issues of concern regarding creeks were minimal. Road construction was found to be in good standing with minimal liabilities incurred. Concerns regarding the riparian reserve zones and windthrow along Naka Creek were noted.

At Jordan River, culvert placement was deemed to be of concern. Harvesting activities were found to be to good standards. Treatments of roads after harvesting and prior to final deactivation were to practical standards. Short spurs require de-building, and protection of metal culvert entrances during harvesting activities is important.

Action Plans were prepared for items of concern found in the audits and all issues were promptly addressed.

Western Forest Products purchased a 7 m, twelve-passenger boat to transport Kitasoo crews to forestry activities. The Company gifted part of the boat and the balance will be paid by the band through rentals. This permits the community's forestry coordinator to inspect Company Operations for environmental compliance.

4.0 TIMBER PROCESSING

TFL 25 logs were processed at seven processing facilities on the lower mainland and Vancouver Island during the year. An estimated 394 thousand cubic metres of wood were processed in Doman – owned mills. As well, log trades and sales consumed 86 thousand cubic metres of volume from TFL 25. Table 12 summarizes the estimated log flows for TFL 25.

Table 12: TFL 25 Log Consumption

Processing Facility	Log Volume (m^3)	Portion of 1998 Consumption (per cent)
Port Alice Pulp Mill	21 000	4
Ladysmith Sawmill	79 000	20
Silvertree Sawmill	81 000	23
Vancouver Sawmill	100 000	30
Nanaimo Log Merchandizer	54 000	16
Nanaimo Sawmill	4 000	1
Cowichan Sawmill	55 000	15

Other Doman – owned processing facilities including the Tahsis and Saltair Sawmills received wood from other Company tenures in 1998. The Chemainus Value-Added Mill re-manufactured 130 thousand cubic metres of wood, purchased from primary processing facilities. The Squamish Pulp Mill consumed 608 thousand units of chips, a by-product of the primary processing facilities.

Estimates of log flow and wood consumption for all tenures are summarized in Appendix XVII.

Hi-grade Doman lumber stacked up at the Company's Value-Added plant in Chemainus. Lumber inventories exceeded 500 million board feet by mid-year, resulting in extended down time for logging operations until the lumber was sold.

5.0 RESEARCH

Western Forest Products participated in numerous research projects in TFL 25 throughout the year. Data collections and reports completed in 1998 are highlighted in the following sections. All active projects in the TFL, including those not scheduled for monitoring in the year, are listed in Appendix XVIII.

Forestry Department research costs totaled $65,771 including the pro-rated share of the Saanich Forestry Centre's genetics research program. Reimbursements included Ministry of Forests Direct Contracts, and Forest Renewal BC funds.

5.1 Silviculture and Stand Management Research

At Jordan River, the Canadian Forest Service monitored a vaccinium – amabalis fir interaction trial. Herbicide was applied to selected plots to determine the benefit of vaccinium eradication.

Examination of weevil resistance in Sitka spruce indicated that resistant clones have held true. Since the inception of the trial, weevil populations have declined.

Jordan River Operation hosted a Tree Improvement Tour where yellow cypress provenance results were outlined by Western Forest Products' Research Coordinator, John Barker, and the Ministry of Forests' Research Scientist, John Russell from the Cowichan Lake Research Station.

5.2 Genetics Research

The yellow cypress clonal evaluation trials at Jordan River continued to be monitored and maintained throughout the year. Plans were in place and sites selected for the ninth and final phase of the evaluations. The second phase of the yellow cypress trials was measured after the 1998 growing season. This was the seven-year evaluation.

The Ministry of Forests' Research Branch established western hemlock and western red cedar trials at Jordan River.

6.0 GOALS AND INITIATIVES

Western Forest Products managed TFL 25 consistently with the objectives outlined in the applicable higher level plans. The continuing evolution of the public expectation of forest management was addressed through participation in the public planning processes. Company personnel will continue to participate in the CCLCRMP process. Certification is a major priority for Western Forest Products. The Company will continue in its endeavours to provide certified products from all Blocks within TFL 25. Specific goals for TFL 25 silviculture and forest management are listed in Table 13. A summary of obligations is included in Appendix XX.

Table 13: Goals for 1999

Program		Quantity
Silviculture		
	Site Preparation	75 ha
	Planting	990 ha
	Survival Surveys	1370 ha
	Stocking Surveys	2500 ha
	Brushing and Weeding	560 ha
	Free Growing Surveys	3150 ha
	Spacing	375 ha
	Pruning	370 ha
	Fertilization	1950 ha
Planning		
	Management Plan # 10*	1 MP
	Forest Development Plans	7 FDP
	Silviculture Prescriptions	80 SP
	Total Resource Plan – Block 1	1 TRP
	Landscape Unit Planning	
Inventory		
	Block 1 – VRI Phase 2	
	Block 6 – VRI Phase 1 and 2	
	Block 5 – Ecological Inventory	
	Block 5 – Kermode Bear Inventory	
Research		
	Coastal Yellow Cypress Trial Establishment & Monitoring	

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 and services as well as salaries and expenses to perform administrative functions. The prorated share of administrative costs totalled $304,251.

Dan Jepsen, Western Forest Products' Manager of Aboriginal Affairs and Environment, and Bill Dumont, Western Forest Products' Chief Forester, participated in a European tour along with other industry and senior government staff from British Columbia. A session with British customers was held at the Canadian High Commission in London to address the market boycott campaign coordinated by Greenpeace. Meetings were also held with Greenpeace.

8.0 FINANCIAL STATEMENTS

8.1 Forest Management Costs

The following summary presents all TFL 25 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 costs are included as well.

Program	Section	Sub-Total
Planning		$539,442
	Higher Level Planning	$192,931
	Forest Development Planning	$52,031
	Cutting Permits and CP Cruising	$115,547
	Silviculture Prescriptions	$178,933
Public Involvement		$41,655
	Plan Viewings	$11,251
	Forest Education	$30,404
Inventories and Mapping		$310,660
	Geographic Information System	$26,430
	Forest Inventory	$128,552
	Ecosystems	$13,566
	Terrain Stability	$1,991
	Integrated Resource Management	$140,121
Utilization		$54,157
	Residue Assessments	$42,300
	Minor Products	$8,562
	Commercial Thinning	$3,295
Conservation and Protection		$104,302
	Operational Site Stabilization	$72,507
	Recreation Resources	$18,232
	Salmon Enhancement Program	$2,921
	Fire Management	$5,009
	Forest Health	$2,643
	Audits	$2,990
Silviculture		$2,977,817
	Seed Procurement	$59,907
	Site Preparation	$13,063
	Planting	$942,321
	Stocking Surveys	$38,513
	Survival Assessments	$9,365
	Free Growing Surveys	$9,611
	Juvenile Spacing	$709,803
	Brushing & Weeding	$476,571
	Pruning	$704,947
	Fertilization	$13,716
Research		$65,771
	Research	$65,771
Administration		$304,251
	Administration	$304,251
TOTAL		$4,398,055

8.2 Forest Management Reimbursements

Western Forest Products Limited received funding from government agencies for silvicultural enhancement, integrated resource management, and salmonid enhancement projects. A summary of the reimbursements received is presented below.

Program	Project	TFL 6	TFL 19	TFL 25	TOTAL
Enhanced Forestry Forest Renewal BC	Juvenile Spacing	141,896	356,177	501,306	999,379
	Pruning	553,606	148,701	689,483	1,391,790
	Fertilization	12,855	10,029	14,869	37,753
Backlog Forestry Forest Renewal BC	Surveys	72,871	31,679	4,150	108,700
	Planting	17,427	3,046		20,473
	Brushing	696,062	6,685	313,474	1,016,221
	Site Rehabilitation		34,017		34,017
Recreation Forest Renewal BC	Recreation	24,942	2,208	7,780	34,930
Operational Inventory Forest Renewal BC	Cultural Heritage		8,551		8,551
	Streams	68,893	16,514		85,407
	Timber			116,320	116,320
	Wildlife	38,427	78,326	105,482	222,235
	Water Quality		34,017		34,017
Science Council Forest Renewal BC	Research	330,268	121,129	82,878	534,275
	Seed Orchard Development	22,973	11,486	7,859	42,318
Department of Fisheries and Oceans	Salmonid Enhancement Program	15,000			15,000
Ministry of Forests	Brushing		7,288		7,288
	Planting		23,286		23,286
	Surveys			9,316	9,316
	Recreation		94,979	6,000	100,979
	Research	13,635	2,280	1,560	17,475
South Moresby FRA	Juvenile Spacing			247,086	247,086
	Wildlife Inventory			75,000	75,000
	Recreation Site Maintenance			3,747	3,747
TOTAL		**2,008,855**	**990,398**	**2,186,310**	**$5,185,563**

APPENDICES

Appendix I

TREE FARM LICENCE 25
1998 Scaled Production

CUBIC METRES

Operation	Mark	Volume	Total
Jordan River	25/1	25.8	
	25/100	791.1	
	25/101	861.2	
	25/102	5956.5	
	25/103	0	
	25/104	28738.2	
	25/105	20589.6	
	25/107	1954.6	
	NBWKQ	16347.7	
	T0055A	52.4	
	T0055B	17179.8	92496.9
Naka Creek	25/302	1.9	
	25/7	1	
	T0003A	316.8	319.7
Port McNeill	25/4	9926.7	
	25/400	507.1	
	25/402	1359.5	
	25/403	2264.5	
	25/404	1069.9	
	25/98	649.3	
	BZ002	119831.1	
	HZ004	14780.8	
	L44327	0	
	T0191A	504.3	150893.2
Roderick Island	25/504	6537.1	
	25/505	65392.2	71929.3
Sewell Inlet	24/901	0	
	24/903	0	
	24/904	43514.4	
	24/98	2356.2	45870.6
Stafford Lake	25/203	0	
	25/204	58549.3	
	25/205	20015.8	
	T0111A	4561.8	83126.9
Yeo Island	25/510	4078.4	
	25/511	13695.1	
	T0412A	0	
	T0412B	5727.7	
	T0412C	11680.4	35181.6
Total Company Tenures			288835.4
Total Crown			190982.8
Grand Total			479818.2
Total Company and Phase Contractor Operations			389187.2
Total Harvest under Full Contracts			90631

Appendix II

TREE FARM LICENCE 25
1998 Volume Charged to Allowable Cut

CUBIC METRES

Mark	Crown Grant	Licences	Crown	TOTAL
24/901				
24/903				
24/904			43514.4	
24/98			2356.2	
25/1			25.8	
25/100			791.1	
25/101			861.2	
25/102			5956.5	
25/103				
25/104			28738.2	
25/105			20589.6	
25/107			1954.6	
25/203				
25/204			58549.3	
25/205			20015.8	
25/302			1.9	
25/4			9926.7	
25/400			507.1	
25/402			1359.5	
25/403			2264.5	
25/404			1069.9	
25/504			6537.1	
25/505			65392.2	
25/510			4078.4	
25/511			13695.1	
25/7			1.0	
25/98			649.3	
BZ002	119831.1			
HZ004		14780.8		
NBWKQ	16347.7			
T0003A		316.8		
T0055A		52.4		
T0055B		17179.8		
T0111A		4561.8		
T0191A		504.3		
T0412A				
T0412B		5727.7		
T0412C		11680.4		
Grand Total	136178.8	54804.0	288835.4	479818.2

Residue

Recognized residue survey volumes associated with 1998 MOF S&R invoices 29586.6

Total Chargeable **509404.8**

Appendix III

TREE FARM LICENCE 25
Area Denuded – 1998

HECTARES

Operation	Crown Grant	Crown / Licence	TOTAL
Jordan River		105.8	105.8
Stafford Lake		98.1	98.1
Naka Creek		0	0
Roderick and Yeo		158.0	158.0
Sewell Inlet		86.5	86.5
TOTAL		448.4	448.4
SBFEP		24.8	24.8

Appendix IV

TREE FARM LICENCE 25
Current Cut Control Period
Annual Allowable Cut

CUBIC METRES

Year	Allowable Cut Available to Licencee	Chargeable Cut[1]
1994 [2]	845 058	887 099
1995	845 058	781 181
1996	836 410	813 324
1997	832 432	802 561
1998 [3]	784 855	532 798
TOTAL	**4 143 813**	**3 816 963**

1 The cumulative volume charged by the end of the fifth year of the cut control period is 3 816 963 m^3 or 92 per cent of the five-year Allowable Cut. The five year AAC includes an annual overcut of 23 393 m3 from the 1989 to 1993 Cut Control Period.

2 Volumes include the former TFL 24 (Sewell) effective January 1, 1994.

3 TFL 25 was amended on October 1, 1998 with the deletion of TFL 25 Block 4 (Port McNeill).

Appendix V

TREE FARM LICENCE 25
Historical Cut Control Performance
1951 - 1998[1]

CUBIC METRES

Period	Allowable Cut Available to Licencee	Chargeable Cut
1959 – 1968	6 917 794	7 106 222
1969 – 1978	10 206 702	9 729 213
1979 – 1988	10 818 208	11 371 339
1989 – 1993	3 890 783	4 007 750
1994 – 1998	4 143 813	3 816 963
TOTAL	35 977 300	36 031 487

1 Historical Cut Control performance includes the Allowable Cut Available to Licencee and the Chargeable Cut of the former TFL 24 (Sewell) for the entire summary.

2 TFL 25 was amended on October 1, 1998 with the deletion of TFL 25 Block 4 (Port McNeill).

Appendix VI

TREE FARM LICENCE 25
Coastal Contractor Clause Performance Report

CALENDAR YEAR 1998

Referenc	Description		Source
1)	Total AAC of TFL approved by Chief Forester (CF) that is available to Licencee	643 674 m^3	CF's approval letter for management and working plan
2)	AAC attributable to Schedule "B" lands that is available to Licencee	490 742 m^3	Derived from the approved MWP
3)	Volume of timber harvested	479 818 m^3	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	365 817 m^3	Calculated: (#2/#1) X #3
5)	Total volume contracted under full and phase contracts	183 068 m^3	Licencee Records
6)	Total volume contracted expressed as a per cent of compliance required	100.1 %	Calculated: (#5/(#4 X 0.5)) X 100

Licencee Name: Western Forest Products Limited

Completed by: William Dumont, R.P.F.

Date Report Completed: June 21, 1999

Appendix VII

TREE FARM LICENCE 25
Phase and Full Contractors - 1998

Contractor	Phase
A.H. Jackson Corp	Full, Poling
Alliford Bay	Road, Road Maintenance
Beban Logging / Hayes Forest Services Ltd	Falling, Hauling, Loading, Road, Yarding
DeMedeiros Const. Ltd.	Road
J.F. Trucking Ltd.	Road
Poor Boy Enterprises Limited	Road
Port McNeill Enterprises Ltd.	Road
R & N Logging	Full
R.W. Saunders & Sons Ltd.	Hauling, Road
S.B.J. Contracting	Road
Stan Zwicker Contracting Ltd.	Road
Townsend Const. Co.	Road
G.L.M. Falling Limited	Falling
531088 BC Ltd.	Road
North Island RockPro Inc.	Road
Donne Contracting Limited	Falling, Full, Poling

Appendix VIII

TREE FARM LICENCE 25
Contractors - 1998

Name	Work	Location
467166 B.C. Ltd.	Brushing and Weeding	Sewell Inlet
531088 B.C. Ltd.	Road	
A. Forbes Contracting Ltd.	Road Construction/Gravel Truck	Jordan River
A.D. Busetto	Planting Supplies	Sewell Inlet
A.H. Jackson Corp.	Full, Polling	
Air Rainbow	Crew Transportation	Stafford Lake
Allan Chapman	Hydrologist	Stafford Lake
Alliford Bay Logging	Yarding/Road Construction	Sewell Inlet
Aquametrix Research Ltd.	Stream Sampling	Jordan River
Associated Engineering Ltd.	Bridge Site Plans	Jordan River , Stafford Lake
Azmeth Forest Consultants Ltd.	Residue Surveys	Roderick Island , Stafford Lake
Badger Creek Transfer Ltd.	Road Construction/Trucking	Jordan River
Beecher Bay Log Booming Ltd.	Log Booming	Jordan River
Big Bird Silviculture	Planting	Yeo Island
Brenton Forest Surveys	Residue Surveys	Sewell Inlet , Jordan River
Brinkman & Associates	Planting Administration	Yeo Island
C&E Roadbuilding Ltd.	Road Construction	Roderick Island
Canadian Aircrane	Heli Yarding	Jordan River
Canadian Helicopters	Crew Transportation	Stafford Lake
Canymex Silviculture	Juvenile Spacing, Pruning	Block 5
Chapman Geoscience	Watershed Assessment	Jordan River
Chemainus Towing	Log Booming	Jordan River
Coast Range Contracting	Planting	Roderick Island
Coast Thinning Co. Ltd.	Falling, Yarding, Thinning	Jordan River
Coastal Silviculture	Planting	Jordan River
Coulsons	Heli Logging	Stafford Lake
C.V.C. Services Ltd.	Catering	Sewell Inlet
Cypress Forestry Consultants	Juvenile Spacing Administration	Block 5
D. Blood & Associates	Wildlife Habitat Assessment	Stafford Lake , Sewell Inlet
D. Herberts	Recreation Site Maintenance	Moresby
Dave Clark Contracting Ltd.	Trucking	Jordan River
David Weyler	Silviculture Supervision	Roderick Island
Dawson Seed Co. Ltd.	Seed for Rehabilitation	Stafford Lake
DeMedeiros Construction Ltd.	Road Construction/Trucking	Jordan River
Don Phelps Trucking Ltd.	Road Construction/Trucking	Jordan River
Donne Contracting	Falling, Bucking	Jordan River
E&B Helicopters	Crew Transportation	Stafford Lake
Fishfor Contracting	Stream Assessments	Stafford Lake
Fishfor Contracting	Stream Classification	Roderick Island
Foresil Enterprises	Silviculture	Jordan River
French Creek Forest Services Ltd.	Watershed Restoration	Jordan River , Sewell Inlet
GLM Falling	Falling	Sewell Inlet
Golder Associates Ltd.	Terrain Stability	Jordan River , Stafford Lake
Hayes Forestry Services Ltd. / Beban Logging	Full Phase Labour	Roderick Island
Heiltsuk Band	Full Phase Labour/Planting	Yeo Island
HHS Drilling	Road Construction	Jordan River
Integra Forest Consulting	Watershed Restoration	Jordan River
Interior Reforestation Co. Ltd.	Rehabilitation	Jordan River , Stafford Lake
Iota Construction	Bridge Construction	Jordan River
J.D. Enterprises	Minor Products	Jordan River
J.F. Trucking Ltd.	Road	
Key Acre Trucking Ltd.	Trucking/Road Construction	Jordan River

Name	Work	Location
Kitasoo Band	Silviculture Crew	Roderick Island
Lucky Creek Contracting	Silviculture	Jordan River
Meeker Log & Timber	Special Forest Products Salvage	Sewell Inlet
Millenia Research	Archaeological Studies	Roderick Island
Molave Store	Commissary Store	Sewell Inlet
Nikirk Log Hauling	Log Hauling	Jordan River
North Arm Transportation	Barging	Roderick/Yeo Island
North Island RockPro Inc.	Road	
NR Expediting Services	Freight, Taxi	Sandspit
Pacheedaht First Nation	Creek Cleaning	Jordan River
Pacific Coastal Airlines	Crew Transport/Freight	Roderick/Yeo Island
Pacific Regeneration Technologies Inc.	Seedlings	Stafford Lake
Poor Boy Enterprises Limited	Road	
Port McNeill Enterprises Ltd.	Road	
R&N Logging Ltd.	Logging	Stafford Lake
R. Cherry Engineering	Engineering	Sewell Inlet
R.W. Saunders & Sons Ltd.	Log Haul, Lowbedding	Jordan River, Sewell Inlet
Reid Collins	Timber Cruising	Sewell Inlet
Robin Craig	Road Construction	Jordan River
Ruskin Construction Ltd.	Bridge Construction	Stafford Lake , Jordan River
S.B.J. Contracting	Road Construction	Jordan River
Sandspit Inn	Warehousing, Storage, Freight	Sandspit
Seasons Enterprises Ltd.	Road Deactivation	Jordan River
Seaspan International	Log Barging	Roderick/Yeo Island
Sechelt Peninsula Silviculture	Pruning, Juvenile Spacing	Sewell Inlet
Shearwater Scaling and Grading	Log Scaling	Sewell Inlet , Roderick/Yeo Island
Silva Services	Roadside Pile Burning, Spacing	Naka Creek , Sewell Inlet
Silvifor Resources Consultants	Pruning	Jordan River
Simons-Reid Collins Assoc.	Timber Cruising	Jordan River , Block 5
Skookum Ventures	Falling, Yarding, Hauling	Jordan River
Sooke Custom Falling Ltd.	Trucking	Jordan River
Stan Zwicker Contracting Ltd.	Road	
Stephan Contracting	Juvenile Spacing, Tree Planting	Sewell Inlet
T. Johnsson Contacting	Salvage	Moresby
T. Lewis	Ecological & Geotech Surveys	Stafford Lake , Jordan River
Thurber Engineering Ltd.	Geotechnical Assessment	Sewell Inlet , Jordan River , Roderick/Yeo Island
Timberline Reforestation	Planting	Naka Creek
Top Class Reforestation	Pruning	Naka Creek
Townsend Construction Co. Ltd.	Road Construction	Jordan River
T'Sou-ke Nation	Pruning	Jordan River
Vancouver Island Air	Crew Transportation	Stafford Lake
Wade Contracting Ltd.	Road Construction /Deactivation /Maintenance	Sewell Inlet
Wade Contracting Ltd.	Stump to Dump	Yeo Island
Wade Logging Ltd.	Log Skidding, Culvert Removal	Sewell Inlet
Way-Lan Contracting	Silviculture	Stafford Lake
Welsh Trucking Ltd.	Log Hauling	Jordan River
West Coast Cedar	Minor Products	Jordan River
West Coast Helicopters	Crew Transport	Roderick Island

Appendix IX

TREE FARM LICENCE 25
Timber Harvesting Operability Report - 1998

Block	Volume by Height Class **Actual** *Inventory Profile* (per cent)							Total Scaled Volume (m^3)	Volume by Operability (per cent)			Harvest Category (per cent)	
	HC 0	HC 2	HC 3	HC 4	HC 5	HC 6	HC 7		Conv	Heli	Inop	Comn Thin	Decid
1	**0** *0*	**0** *0*	**43** *39*	**49** *36*	**8** *21*	**0** *4*	**0** *0*	92497	93	0	7	0	0
2	**0** *0*	**0** *0*	**8** *15*	**20** *39*	**51** *39*	**21** *7*	**0** *0*	83127	45	46	9	0	0
3	**0** *0*	**0** *0*	**0** *14*	**0** *49*	**0** *34*	**0** *3*	**0** *0*	0	0	0	0	0	0
5	**0** *0*	**0** *0*	**5** *17*	**43** *40*	**52** *36*	**0** *6*	**0** *1*	107111	74	15	11	0	0
6	**0** *0*	**5** *0*	**27** *18*	**62** *53*	**6** *27*	**0** *3*	**0** *0*	45871	81	0	19	0	0
Total	**0** *0*	**1** *0*	**20** *18*	**42** *42*	**32** *34*	**5** *5*	**0** *1*	328606	74	4	11	0	0

On Ocober 1, 1998, the former TFL 25 Block 4 was removed from TFL 25 and incorporated into TFL 6. The former TFL 24 was consolidated into TFL 25.

TFL 25 Block 3 had 320 m^3 scaled in 1998, but there was no logging at the Operation.

Appendix X

TREE FARM LICENCE 25
Small Business Forest Enterprise Program
Harvesting Report – 1998

Year	Block and MOF District		Volume Available to SBFEP m^3	District Allocation	Licence No.	Licensee	Area Logged ha	Volume Scaled m^3	Residue m^3	Charge-able Volume m^3	TS Status
1988 to 1991	1	D	25313	25313							
	2	CR	22660	59397							
	3		11643								
	4	PM	37996	12902							
	5	MC	24642	24642							
		NC		0							
	6	QC	29655	29655							
	TOTAL		151909	151909							
1992	1	D	8822	8822	TSL A35553	D.Arden	6	2985.5	717.3	3702.8	
	2	CR	7897	18746							
	3		4058								
	4	PM	13242	6451	TSL A37079	Coastwise	0				
	5	MC	8588	8588							
		NC		0							
	6	QC	10335	10335							
	TOTAL		52942	52942			6	2985.5	717.3	3702.8	
1993	1	D	8822	8822	TSL A35553	D.Arden	36	20626	1429	22055	
	2	CR	7897	18746	TSL A36945	B&W Creative Woods	0				
	3		4058		TSL A49603	Eagle Ridge Contracting	0				
	4	PM	13242	6451	TSL A37079	Coastwise	0				
	5	MC	8588	8588	TSL A45333	Little Valley Forest Products	0				
		NC		0							
	6	QC	10335	10335							
	TOTAL		52942	52942			36	20626	1429	22055	
1994	1	D	8822	8822							
	2	CR	7897	18746	TSL A36945	B&W Creative Woods	69.8	41193	0	41193	
	3		4058		TSL A49603	Eagle Ridge Contracting	0				
	4	PM	13242	6451	TSL A37079	Coastwise	10	6697	0	6697	
	5	MC	8588	8588	TSL A45333	Little Valley Forest Products	0				
		NC		0							
	6	QC	10335	10335							
	TOTAL		52942	52942			79.8	47890	0	47890	
1995	1	D	8822	8822	TSL A3553	Campbell River Mills Ltd.	27.8	17761	375.3	18136.3	
	2	CR	7897	11955	TSL A36945	B&W Creative Woods	0	4	0	4	
	3		4058								
	4	PM	13242	13242	TSL A37079	Coastwise	58.6	34108	0	34108	
	5	MC	8588	8588	TSL A45333	Little Valley Forest Products	0				
		NC		0							
	6	QC	10335	10335	TSA 47405 TSA 47406	Younger Bros.	0				
	TOTAL		52942	52942			86.4	51873	375.3	52248.3	

Year	Block and MOF District		Volume Available to SBFEP m^3	District Allocation	Licence No.	Licensee	Area Logged ha	Volume Scaled m^3	Residue m^3	Charge-able Volume m^3	TS Status
1996	1	D	8822	8822	TSL A3553	Campbell River Mills Ltd.					
	2	CR	7897	11955	TSL A36945	B&W Creative Woods	80.2	48945	0	48945	
	3		4058		TSL A49603						
	4	PM	13242	13242	TSL A37079	Coastwise	7	7794	1030	8824	
	5	MC	8588	8588	TSL A45333	Little Valley Forest Products	0				
		NC		0							
	6	QC	10335	10335	TSA 47405 TSA 47406	Younger Bros.	0				
	TOTAL		52942	52942			87.2	56739	1030	57769	
1997	1	D	8822	8822	TSL A3553	Campbell River Mills Ltd.					
	2	CR	7897	11955	TSL A36945	B&W Creative Woods					
	3		4058		TSL A49603						
	4	PM	13242	13242	TSL A37079	Coastwise					
	5	MC	8588	8588	TSL A45333	Little Valley Forest Products					
					TSL A55355	Micheal Wilson	17.3	12712	0	12712	
		NC		0							
					TSA 47405	Younger Bros.	14.9	11936	0	11936	
	6	QC	10335	10335	TSA 47406 TSA 43693	Silvermere Forest Products	16.2	8600	0	8600	
	TOTAL		52942	52942							
1998	1	D	8822	8822	TSL A50665	Pacific Builders	0				
	2	CR	7897	11955	TSL A45929	Delta Cedar Products Ltd.	0				
	3		4058								
	5	MC	8588	8588	TSL A45333	Little Valley Forest Products	24.8	4196.2	1123.5	5319.7	
		NC		0							
	6	QC	10335	10335	TSA 47405	Younger Bros.					
	TOTAL		39700	39700			24.8	4196.2	1123.5	5319.7	
Summary	1	D	87067	87067			69.8	41372.5	2521.6	43894.1	
	2 3	CR	77939 40049	163455			150.0	90142.0	0	90142.0	
	4	PM	117448	71981			75.6	48599.0	1030.0	49629.0	
	5	MC	84758	84758			42.1	16908.2	1123.5	18031.7	
		NC		0			0	0	0	0	
	6	QC	102000	102000			31.1	20536.0	0	20536	
	TOTAL		509261	509261			368.6	217557.7	4675.1	222232.8	

Appendix XI

Project Summary – 1998

Project			Block 1 Jordan River	Block 2 Stafford Lake	Block 3 Naka Creek	Block 5 Roderick and Yeo	Block 6 Sewell Inlet	TOTAL
Denudation	Total Company	ha	105.8	98.1	0	158.0	86.5	448.4
	Crown / Licence	ha	105.8	98.1	0	158.0	86.5	448.4
	Crown Grant (MF)	ha						
	SBFEP	ha				24.8		24.8
	TOTAL	ha	105.8	98.1	0	182.8	86.5	473.2
Accidental Fires		No.	0	0	1	0	0	1
		ha	0	0	30.7	0	0	30.7
Site Preparation	Prescribed Burning	ha	0	0	0	0	0	0
	Pile Burning	km	7.1	4.6	0	0	15.6	27.3
	Mechanical	ha	10.0	0	0	0	0	10.0
	Crown / Licence	ha	10.0	0	0	0	0	10.0
	Crown Grant (MF)	ha	0	0	0	0	0	0
Planting	Original	ha	183.9	53.1	77.4	221.9	98.9	635.2
	Replants	ha	0	15.9	0	0	0	15.9
	Fill-ins	ha	0	0	6.1	0	11.0	17.1
	Total	ha	183.9	69.0	83.5	221.9	109.9	668.2
	Crown / Licence	ha	142.3	69.0	83.5	221.9	109.9	626.6
	Crown Grant (MF)	ha	41.6	0	0	0	0	41.6
	Number of Seedlings	Cw	76325	29265	1680	104246	5760	217276
		Hw	66402	0	24080	0	31880	122362
		Ba	19790	7916	35230	41909	0	104845
		Fdc	20610	15975	1080	0	0	37665
		Yc	23648	6403	29795	21458	4200	85504
		Ss	0	0	0	29445	51480	80925
		P	0	0	0	0	300	300
		Misc	0	3120	0	0	240	3360
		Total	206775	62679	91865	197058	93860	652237
Stocking Surveys	Natural Regeneration	ha	0	0	0	36.6	0	36.6
	Sufficiently restocked	ha	0	0	0	14.1	0	14.1
	Crown / Licence	ha	0	0	0	14.1	0	14.1
	Crown Grant (MF)	ha	0	0	0	0	0	0
	Other Classification	ha	0	0	0	22.5	0	22.5
	Crown / Licence	ha	0	0	0	22.5	0	22.5
	Crown Grant (MF)	ha	0	0	0	0	0	0
	Plantation Regeneration	ha	468.9	28.7	185.2	309.8	179.3	1171.9
	Sufficiently Restocked	ha	389.9	22.9	178.8	294.8	179.0	1065.4
	Crown / Licence	ha	338.6	22.9	178.8	294.8	179.0	1014.1
	Crown Grant (MF)	ha	51.3	0	0	0	0	51.3
	Not Sufficiently Restocked	ha	79.0	5.8	6.4	15.0	0	106.2
	Crown / Licence	ha	74.1	5.8	6.4	15.0	0	101.3
	Crown Grant (MF)	ha	4.9	0	0	0	0	4.9
	Other Classification	ha	0	0	0	0	0.3	0.3
	Crown / Licence	ha	0	0	0	0	0.3	0.3
	Crown Grant (MF)	ha	0	0	0	0	0	0
Silviculture Prescription		ha	161.1	169.3	0	750.4	91.5	1172.3
		No.	7	7	0	50	5	69
Plantation Survival Assessments		ha	263.4	0	71.2	0	0	334.6
		%	83.0	0	95.1	0	0	85.6

Project Summary – 1998

Project			Block 1 Jordan River	Block 2 Stafford Lake	Block 3 Naka Creek	Block 5 Roderick and Yeo	Block 6 Sewell Inlet	TOTAL
Free Growing Surveys	Total	ha	13.3	0	641.2	0	153.4	807.9
	Free Growing	ha	0	0	628.5	0	152.3	780.8
	Crown / Licence	ha	0	0	628.5	0	152.3	780.8
	Crown Grant (MF)	ha	0	0	0	0	0	0
	Not Free Growing	ha	13.3	0	12.7	0	0	26.0
	Crown / Licence	ha	13.3	0	12.7	0	0	26.0
	Crown Grant (MF)	ha	0	0	0	0	0	0
	Other Classification	ha	0	0	0	0	1.1	1.1
	Crown / Licence	ha	0	0	0	0	1.1	1.1
	Crown Grant	ha	0	0	0	0	0	0
Brushing and Weeding	Total	ha	0	9.6	0	18.5	412.6	440.7
	Manual	ha	0	0	0	18.5	412.6	431.1
	Mechanical	ha	0	9.6	0	0	0	9.6
	Stem Injection	ha	0	0	0	0	0	0
	Aerial Foliar	ha	0	0	0	0	0	0
	Ground Foliar	ha	0	0	0	0	0	0
	Crown / Licence	ha	0	9.6	0	18.5	412.6	440.7
	Crown Grant (MF)	ha	0	0	0	0	0	0
Juvenile Spacing	Total	ha	0	72.8	30.3	42.1	259.3	404.5
	Crown / Licence	ha	0	72.8	30.3	42.1	259.3	404.5
	Crown Grant (MF)	ha	0	0	0	0	0	0
Pruning	Total	ha	70.4	0	93.7	13.7	58.3	236.1
	Crown / Licence	ha	66.9	0	93.7	13.7	58.3	232.6
	Crown Grant (MF)	ha	3.5	0	0	0	0	3.5
Fertilization	Total	ha	0	0	0	0	0	0
	Crown / Licence	ha	0	0	0	0	0	0
	Crown Grant (MF)	ha	0	0	0	0	0	0
Commercial Thinning	Total	ha	26.4	0	0	0	0	26.4
	Crown / Licence	ha	11.5	0	0	0	0	11.5
	Crown Grant (MF)	ha	14.9	0	0	0	0	14.9
Residue Assessment Plots			50	51	0	88	68	257
CP Cruising Plots								510
Minor Products	Cedar Shake and Shingle	m^3	1099.0	0	0	0	1952.4	3051.4
	Yew Bark	kg	1107.5	0	127.0	0	0	1234.5
	Honey	kg	5424	0	0	0	0	5424
	Salal	kg	8864	0	0	0	0	8864
Engineering	Roads Constructed (New)	km	6.1	3.5	0	8.2	6.3	24.1
	Roads Maintained	km	75.6	22.0	0	53.4	148.0	299.0
	Roads Deactivated							
	Seasonal	km	5.9	10.4	0	26.1	48.0	90.4
	Semi-Permanent	km	0	0	0	0	0	0.0
	Permanent	km	1.2	0	0	0	10.5	11.7
Roadside Treatments	Mechanical Brushing	km	0	0	0	0	0	0
	Chemical Spraying	km	0	0	0	0	0	0
	Hydro and Dry Seeding	km	12.5	0	3.0	33.0	15.2	63.7
Site Stabilization		ha	0	0	0	0	1	1
Salmonid Enhancement Program	Total		0	0	0	0	49332	49332
	Chum		0	0	0	0	0	0
	Coho		0	0	0	0	49332	49332

Appendix XII

Western Forest Products
Regeneration Balance Sheet
to December 31, 1998

Item	TFL 6	TFL 19	TFL 25	Total
Opening Balance (NSR at 1998 01 01)	1951 ha	1037 ha	2262 ha	5250 ha
Debits				
1998 Denudations	1132 ha	631 ha	448 ha	2211 ha
1998 Surveys	43 ha	258 ha	106 ha	407 ha
Credits				
1998 Planting	1341 ha	738 ha	651 ha	2730 ha
1998 Surveys (Natural Regeneration)	180 ha	0 ha	14 ha	194 ha
Other	4 ha	0 ha	35 ha	39 ha
Closing Balance (NSR at 1998 12 31)	1601 ha	1188 ha	2116 ha	4905 ha

Appendix XIII

TREE FARM LICENCE 25
Historical Summary of Activities

Year	Denuded (ha)	Planted (ha)	No. Trees Planted	Juvenile Spacing (ha)	Brushing (ha)	Prescribed Burning (ha)	Site Prep. (ha)	Fertilization (ha)	Pruning (ha)	Thinning (ha)
Pre 1965	6062.8	2628.2	2531100	0.0	153.1	711.1	36.5	0.0	0.0	0.0
1965	884.4	346.4	298500	0.0	4.1	564.9	0.0	0.0	0.0	0.0
1966	999.9	458.5	432800	40.1	1.2	341.2	0.0	0.0	0.0	0.0
1967	798.3	577.4	547650	0.0	623.0	477.3	0.0	0.0	0.0	0.0
1968	727.4	630.2	645250	0.0	143.2	308.4	0.0	0.0	0.0	0.0
1969	766.3	607.7	446100	15.8	62.8	321.1	0.0	0.0	0.0	0.0
1970	741.6	418.8	341450	0.0	279.5	305.6	0.0	0.0	0.0	0.0
1971	834.7	671.3	586700	0.0	37.0	187.6	0.0	0.0	0.0	0.0
1972	918.5	290.6	295300	0.0	11.3	284.3	0.0	0.0	0.0	0.0
1973	1084.5	942.3	772450	239.8	320.8	199.0	0.0	0.0	0.0	16.2
1974	911.4	444.1	363850	224.6	0.0	761.3	0.0	0.0	0.0	0.0
1975	729.8	214.4	199450	0.0	2.8	32.0	0.0	0.0	0.0	0.0
1976	1143.7	902.5	807250	53.5	4.5	674.5	2.4	0.0	0.0	0.0
1977	824.1	876.8	757550	535.1	15.3	0.0	0.0	0.0	0.0	0.0
1978	978.4	626.0	555600	569.5	8.0	390.0	14.0	522.5	0.0	29.2
1979	838.3	922.6	749000	620.5	35.0	663.0	0.0	40.0	0.0	40.0
1980	829.5	586.7	493650	667.3	79.9	256.0	12.0	737.5	0.0	60.0
1981	650.4	924.1	803900	615.2	31.6	342.5	0.0	0.0	0.0	34.7
1982	787.2	851.8	827700	0.0	0.0	0.0	0.0	223.8	0.0	0.0
1983	1236.1	757.7	669050	161.2	186.7	290.5	0.0	0.0	0.0	0.0
1984	1180.3	846.6	809000	99.0	376.9	118.4	0.0	0.0	0.0	0.0
1985	1010.1	576.0	522050	322.4	716.0	109.0	0.0	0.0	0.0	0.0
1986	985.7	748.5	630950	335.7	614.5	489.9	6.9	0.0	4.5	0.0
1987	1213.6	1605.4	1297750	485.5	712.8	100.7	0.0	0.0	17.2	0.0
1988	1239.6	1249.5	982850	57.4	928.7	70.0	26.3	22.6	11.6	0.0
1989	773.0	1026.1	735600	325.7	1314.5	165.8	31.2	0.0	6.6	0.0
1990	1078.5	847.0	712350	433.4	974.1	107.4	0.0	0.0	38.9	0.0
1991	796.2	1157.8	842850	705.6	33.1	38.4	0.0	0.0	3.2	0.0
1992	834.8	820.2	673900	869.0	2.1	19.0	0.0	1304.0	38.0	0.0
1993	907.6	733.1	639750	231.5	111.5	16.4	0.0	0.0	47.3	0.0
1994	1020.0	652.0	546000	511.5	338.7	9.5	38.1	0.0	157.8	0.0
1995	776.5	897.2	853050	721.4	515.1	48.5	0.0	581.4	308.6	0.0
1996	924.2	1103.8	1089750	319.8	168.9	0.0	8.5	1947.2	165.0	16.2
1997	850.5	904.9	951900	483.2	269.0	21.5	3.6	1061.9	313.9	25.0
1998	448.4	635.2	652250	404.5	440.7	0.0	10.0	0.0	236.1	26.4
TOTAL	36786.3	28481.4	25064300	10048.2	9516.4	8424.8	189.5	6440.9	1348.7	247.7

- Historical Summary amended to remove the former TFL 25 Block 4 and include the former TFL 24.

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		1332700
1966	325300	726000	432800	0		1484100
1967	422950	434000	547650	285800		1690400
1968	444900	539000	645250	46700		1675850
1969	989650	474000	446100	327300		2237050
1970	751700	535000	341450	136500		1764650
1971	529350	1123000	586700	158250		2397300
1972	912650	912000	295300	407000		2526950
1973	600500	699000	772450	162000		2233950
1974	459350	1324000	363850	57950		2205150
1975	777700	942000	199450	67950		1987100
1976	777050	709000	807250	58250		2351550
1977	553900	631000	757550	172350		2114800
1978	493950	494000	555600	38800		1582350
1979	662850	524000	749000	12300		1948150
1980	491500	473000	493650	24150		1482300
1981	1047600	579000	803900	29900		2460400
1982	1198300	735000	827700	16900		2777900
1983	888000	566000	669050	55450		2178500
1984	882400	325000	809000	102700		2119100
1985	701800	452000	522050	69550		1745400
1986	1347100	346000	630950	57000		2381050
1987	2256650	686000	1297750	329300		4569700
1988	1844050	563000	982850	172950		3562850
1989	1169250	755000	735600	287750		2947600
1990	1405700	707000	712350	354150		3179200
1991	1491100	439000	842850	60150		2833100
Pre 1992					5268800	5268800
1992	1550900	757000	673900	95700	232850	3310350
1993	1574650	683000	639750	240600	377550	3515550
1994	1712150	674000	546000	226200	790600	3948950
1995	2003400	1040000	853050	160400	894500	4951350
1996	2110950	1140000	1089750	579400	3550	4923650
1997	1944750	1067000	951900	52150	0	4015800
1998	1473600	675550	652250	1522400	28750	5826150
TOTAL	**36858550**	**26655550**	**25064300**	**10398100**	**7596600**	**108046700**

- 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

Appendix XV – A

Employment Statistics – TFL 25

Operation	Home Region	Contractor Personnel		Company Personnel		TOTAL	
		People	Person Days	People	Person Days	People	Person Days
Planning and Development							
Head Office	South Mainland	15	1192	4	114	19	1306
Jordan River	Vancouver Island	4	684	3	750	7	1434
Stafford	Vancouver Island	7	672	0	0	7	672
Naka	Vancouver Island	6	30	4	30	10	60
Roderick	Lower Mainland	7	738	0	0	7	738
	Vancouver Island	11	487	4	405	15	892
Yeo	Vancouver Island	9	437	4	405	13	842
Sewell	Queen Charlottes	3	384	1	82	4	466
	Vancouver Island	4	510	1	83	5	593
	Lower Mainland	8	480	4	240	12	720
SUBTOTAL		74	5614	25	2109	99	7723
Harvesting							
Jordan River	Vancouver Island	3	42	39	3974	42	4016
Stafford	Vancouver Island	51	4870	0	0	51	4870
Roderick	Lower Mainland	30	3165	0	0	30	3165
Yeo	Coastal Communities	7	749	0	0	7	749
	Vancouver Island	14	1498	0	0	14	1498
Sewell	Queen Charlottes	0	0	1	82	1	82
	Vancouver Island	1	64	7	578	8	642
	Lower Mainland	9	657	1	83	10	740
	BC - Other	0	0	3	248	3	248
SUBTOTAL		115	11045	51	4965	166	16010
Silviculture and Integrated Resource Management							
Saanich Forestry Centre	Vancouver Island			46	659	46	659
Jordan River	Vancouver Island	16	583	5	691	21	1274
	Lower Mainland	19	315	0	0	19	315
Stafford	Coastal Communities	17	660	0	0	17	660
	Vancouver Island	17	270	2	360	19	630
Naka	Vancouver Island	30	663	4	60	34	723
Roderick & Yeo	Coastal Communities	28	425	0	0	28	425
	Vancouver Island	1	40	8	469	9	509
	Lower Mainland	15	262	0	0	15	262
	Other - BC	16	100	0	0	16	100
Sewell	Queen Charlottes	19	686	0	0	19	686
	Vancouver Island	1	25	3	377	4	402
	Coastal Communities	4	200	0	0	4	200
	Lower Mainland	29	1147	0	0	29	1147
SUBTOTAL		212	5376	22	1957	280	7992

Operation	Home Region	Contractor Personnel		Company Personnel		TOTAL	
		People	Person Days	People	Person Days	People	Person Days
Transportation							
Vancouver	South Mainland	151	2232			151	2232
SUBTOTAL		151	2232			151	2232
Processing							
Port Alice Pulp Mill	Vancouver Island			495	2855	495	2855
Squamish Pulp Mill	Lower Mainland			347	7633	347	7633
Ladysmith Sawmill	Vancouver Island			100	4440	100	4440
Cowichan Bay Sawmill	Vancouver Island			87	2727	87	2727
Silvertree Sawmill	Lower Mainland			133	6699	133	6699
Vancouver Sawmill	Lower Mainland			143	6221	143	6221
Nanaimo Sawmill	Vancouver Island			140	287	140	287
Log Trading and Sales	Lower Mainland			35	905	35	905
Nanaimo Log Merchandising	Vancouver Island			40	694	40	694
SUBTOTAL				1520	32461	1520	32461
Administration							
Head Office	Lower Mainland			34	972	34	972
Region	Vancouver Island			6	308	6	308
SUBTOTAL				40	1280	40	1280
Summary – By Home Region							
	Vancouver Island	175	10875	1033	21057	1208	31932
	Coastal Communities	56	2034	347	7633	403	9667
	Queen Charlottes	22	1070	2	164	24	1234
	Lower Mainland	283	10188	319	14329	602	24517
	Other - BC	16	100	3	248	19	348
TOTAL		552	24267	1704	43431	2256	67698

Appendix XV - B

Western Forest Products
Direct Employment Statistics
(person-days*)

	Planning, Engineering, and Road Development	Harvesting	Transportation	Processing	Silviculture and Integrated Resources Management	Administration	TOTAL
TFL 6	13709	60160	7071	75628	13377	4232	**174177**
TFL 19	9147	38287	3536	51309	5918	4023	**112220**
TFL 25	7723	16010	2232	32461	7992	1280	**67698**
MF 61	0	0	0	0	147	0	**147**
FL A16845	2181	6194	**	12574	1682	611	**23242**
FL A16847	2908	6419	**	14918	1418	677	**26340**
FL A19205	683	1487	**	2908	186	132	**5396**
FL A19216	1804	5655	**	8287	304	316	**16366**
FL A19228	128	1772	**	3819	77	52	**5848**
FL A19231	4210	24373	**	**	1261	2269	**32113**
FL A19240	11	0	**	32724	1122	84	**33941**
FL A53746	236	910	**	**	170	214	**1530**
Other Tenures	0	0	5768	15250	1531	0	**22549**
Campbell Island	0	0	0	0	571	0	**571**
TOTAL	**42740**	**161267**	**18607**	**249878**	**35756**	**13890**	**499874**

* Includes Company and Contract Personnel.
** See Other Tenures

Appendix XV - C

Western Forest Products
First Nations Silviculture Contracts Employment Summary
1998

	TFL 6	TFL 19	TFL 25	Campbell Island	FL A16845	FL A19228	FL A53746 Zeballos Community	FL A19231	FL A19240	MF 61	Total	Total Contractor Days	Percent First Nations Employment	Percent WFP Goal
Holberg	475										475	2333	20	100
Jeune Landing	270										270	1428	19	95
Port McNeill	1242		2								1244	2519	49	245
Central Coast			477	491	50						1018	3201	32	160
Mainlands Islands			954			12					966	4037	24	120
Zeballos		32					170	592			794	1148	69	345
Gold River		514									514	1663	31	155
Nootka Contract Admin		0									0	678	0	0.0
TOTAL											5281	17007	31	155

Appendix XVI

Tree Farm Licence 25
Salmonid Enhancement Program Summary

No. Fry Released (000)

Year	Hatchery	Release Stream	Coho	Chum	Pink	Subtotal	TOTAL
1998	Sewell	Tasu Creek	21.8			21.8	49.3
		Flat Creek	27.5			27.5	
1997	Sewell	Big Goose Creek	7.2			7.2	110.1
		Tasu Creek	19.1			19.1	
		Flat Creek	21.8			21.8	
		Lomgon Creek	9.6			9.6	
		George Creek		52.4		52.4	
1996	Sewell	Big Goose Creek	14.3			14.3	93.6
		Tasu Creek	24.5			24.5	
		Flat Creek	23.8			23.8	
		George Creek		31.0		31.0	
1995	Sewell	Big Goose Creek	20.0			20.0	70.0
		Tasu Creek	25.0			25.0	
		Flat Creek	25.0			25.0	
1994	Sewell	Sewell #2 Creek		46.0		46.0	46.0
1993	Sewell	Tasu Creek	3.5			3.5	70.7
		Big Goose Creek	17.6			17.6	
		Sewell Lagoon	16.0			16.0	
		Flat Creek	4.6			4.6	
		Clint Creek		29.0		29.0	
1992	Sewell	Sewell #2 Creek		25.1		25.1	75.5
		Big Goose Creek	4.1			4.1	
		Sewell Head Creek	6.8			6.8	
		Tasu Creek	20.8			20.8	
		Flat Creek	18.7			18.7	
1991	Sewell	Flat Creek	17.0			17.0	122.4
		Tasu Creek	15.8			15.8	
		Clint Creek	19.6			19.6	
		Sewell Head Creek		70.0		70.0	
1990	Sewell	Flat Creek	20.0			20.0	111.4
		Sewell Head Creek	12.6			12.6	
		Sewell Inlet Creek		78.8		78.8	
1989	Sewell	Big Goose Creek	18.0			18.0	193.1
		Tasu Creek	40.1			40.1	
		Waterfall Creek		135.0		135.0	
1988	Sewell	Sewell Head Creek	4.1	145.0		149.1	209.6
		Big Goose Creek	20.0			20.0	
		Tasu Creek	40.5			40.5	
1987	Sewell	Sewell Head Creek	10.0	47.0		57.0	188.0
		Big Goose Creek	25.0	30.0		55.0	
		Little Goose Creek		33.0		33.0	
	Lyell	Sandy Creek		11.5		11.5	
		Powrivco Creek		11.5		11.5	
		Gate Creek	20.0			20.0	
1986	Sewell	Sewell Head Creek	4.2	15.0		19.2	158.7
		Big Goose Creek	21.0	49.0		70.0	
		Little Goose Creek		46.0		46.0	
		Powrivco Creek		5.0		5.0	
		Belijay Creek		18.5		18.5	
1985	Sewell	Sewell Head Creek	1.6	20.0		21.6	78.6
		Big Goose Creek	17.0	20.0		37.0	
		Little Goose Creek		20.0		20.0	
1984	Sewell	Sewell Head Creek	13.5	15.0		28.5	115.5
		Big Goose Creek		40.0		40.0	
		Little Goose Creek		41.5		41.5	
	Lyell	Gate Creek	5.5			5.5	
1983	Sewell	Lagoon Creek	15.0			15.0	120.0
		Big Goose Creek		75.0	10.0	85.0	
	Lyell	Powrivco Creek		20.0		20.0	
1982	Sewell	Clint Creek		25.0		25.0	58.6
	Lyell	Gate Creek	8.0	25.6		33.6	
1981	Sewell	Big Goose Creek		0.8	5.0	5.8	130.6
		Clint Creek		74.8		74.8	
		Waterfall Creek		25.0		25.0	
	Lyell	Powrivco Creek		25.0		25.0	
1980	Sewell	Waterfall Creek		25.0		25.0	25.0
TOTAL			680.2	1,331.5	15.0	2,026.7	2,026.7

Appendix XVII

WESTERN FOREST – WESTERN PULP – DOMAN INDUSTRIES – DOMAN WESTERN LUMBER

1998 Log Flow and Wood Consumption (Approximate)

AWMILL ULPMILL	TENURE / SOURCE (THOUSAND CUBIC METRES)													Chips to Woodfibre (Thousand Units)
	TFL 6	TFL 19	TFL 2	FL A19240 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	259											15	274	34
Chemainus												130	130	9
Ladysmith	111	10	79	5	7	25			1	2	9	146	395	22
Cowichan	23	24	55	16	2	8	3	1	1	4	24	214	375	25
Silvertree	80	80	81	54	6	11	13	1		2	26	1	355	51
Vancouver	44	12	100	6	19	37					13	102	333	46
Tahsis		154		80							8	62	304	10
Saltair		7		1			29	8	14	31	5	355	450	24
Nanaimo	33	24	4	1		3	56	12	16	27	12	315	503	10
Log Merchandizer	31	13	54	6	2	8		1	2	2	10	218	347	160
Port Alice Pulp Mill	176		21		11	16					5	346	575	
Trades / Sales	111	201	86	102	9	16	43	6	2	13	28	115	732	(7)
Squamish Pulp Mill Chips														
• Purchased														219
• Consumed														608
TOTAL LOGS	868	525	480	271	56	124	144	29	36	81	140	2019	4773	

Appendix XVIII

Western Forest Products Limited
Forest Research Summary
Permanent Plots and Trials

Forest Nutrition

(Fertilization Monitoring)

Trial (Year Established)	Location	Measurements (Year indicates last growing season)	Reports	Other
Operational Fertilization Monitoring (1995)	Sewell Inlet	1996, 1994		

Genetics Trials

Trial (Year Established)	Location	Measurements (Year indicates last growing season)	Reports	Other
Yellow Cypress Phase 1 (1991)	Jordan River	1997, 1994	1996	
Yellow Cypress Phase 2 (1992)	Jordan River	1998, 1995		
Yellow Cypress Phase 3 (1993)	Jordan River	1996		
Western Hemlock Clonal Trial (1991)	Jordan River		1992 Est. Rep.	

Growth and Yield Monitoring

Trial (Year Established)	Location	Measurements (Year indicates last growing season)	Reports	Other
Type III Growth and Yield Installations (1988)	Jordan River	1995	1995 MOF Report	Vegetation Measures - 1997
Growth and Yield Plots (1993)	North Coast	1993		
Growth and Yield Plots (1992)	North Coast	1992		

Appendix XIX

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

Operating Statistics

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
		127 Timber Licences
Logging Operations		30
Employees and Contractors		4 200 people (est)
Annual Timber Harvest		4 200 000 m^3
Annual Timber Purchase		800 000 m^3
Mills		2 Pulp Mills – 1 Kraft, 1 Sulphite
		9 Saw Mills
		1 Value Added Plant
		1 Log Merchandiser
Products:	Lumber and Solid Wood	800 000 000 board feet
	Pulp	400 000 tonnes
Annual Product Sales		over $800 million
Annual Roads Construction		335 km
Annual Roads Maintainance		2 100 km
Annual Logging		5 500 ha
Annual Planting		5 100 ha
Annual Natural Regeneration		400 ha
Annual Number of Seedlings Planted		5 000 000 trees
Average Survival of 3-year Old Plantations		90 %
Annual Site Preparation		700 ha
Annual Brushing and Weeding		2 300 ha
Annual Juvenile Spacing		1 600 ha
Annual Pruning		1 000 ha
Annual Fertilization		3 000 ha
Annual visitors to Forest Lands		over 300 000 visitors
Annual Salmon Enhancement Production (4 hatcheries)		750 000 fry
Recreation Sites and Trails		45
Forest Enhancement Person-Days		over 40 000

Appendix XX

Tree Farm Licence 25
Status Report
Summary of Obligations and Commitments – Management Plan No. 9

OBLIGATION	TARGET COMPLETION DATE	CURRENT STATUS
TFL Annual Report *information required:* Volume harvested for each block by • Operability type • Commercial thinning • Height class • Deciduous-leading stands	April – Annual Submission	Annual Report with required information submitted yearly
Provide format and schedule for completion of TFL Resource Inventories	During term of MP	Completed March, 1997
Improve Yeild Estimates for TFL 25: • Prepare Work Plan to improve estimates • Implement and complete Work Plan • Include revised estimates in draft MP No. 10	April 1, 1997	No plan submitted Yield estimates to be based on Ecosystem Classification. Classification to be completed in 1999.
Submit Landscape Level Biodiversity Plan	Blocks 2, 3, and 5 with draft MP No. 10	WFP has requested Biodiversity Plans be prepared within the proposed context and timetable for Landscape Unit Plans (LUP).
Amalgamate TFL 25 – Block 4 with TFL 6, and TFL 24 with TFL 25	During term of MP	Completed
Minimum Annual Employment Goals • 54,500 PD	Annual Employment	1997 – 60,160 PD
Update Soil Stability Mapping	During term of MP	Blocks 1, 2, 3, completed Block 5 to be completed in 1999
Develop OAFs most appropriate for Block 1	During term of MP	Vegetative Resources Inventory (VRI) Block 1 in progress
Develop more appropriate Yield Estimates for Balsam	During term of MP	In Progress, will be completed March 31, 1999
Complete Recreation Mapping	During term of MP	Completed
Completion of Visual Resources Mapping	During term of MP	Completed Currently addressing regional strategy on mitigating timber supply impacts
Block 6		
Operability Mapping	December 31, 1996	Completed
Environmentally Sensitive Area Mapping	December 31, 1996	Completed Will be submitted with MP 10

OBLIGATION	TARGET COMPLETION DATE	CURRENT STATUS
Total Resource Plans	December 31, 1997	Plans to be prepared within the context and timetable for LUP
Forest Ecosystem Network Mapping	December 31, 1997	Draft submitted with 1997 FDP Will be completed within context and timetable of LUP
Review adequacy of Mature and Immature Forest Type Inventories	During term of MP	VRI in progress to be completed in 2000
Improve Yield Estimates	During term of MP	Included in VRI project
Landscape inventory and analysis	April 30, 1995	Completed
Assess adequacy of the timber inventory Meet with MOF Regional staff	During term of MP	VRI in progress
Review procedures for determining site index	During term of MP	Yield estimates will be based on ecosystem classification
Develop a factor for non-recoverable losses (NCL)	Submit with draft MP 10	Testing methodology within VRI project
Develop consultation measures with Haida	During term of MP	Consultation in context of FDP process
Determine Schedule B Pro-rate	June 30, 1995	Completed
Submit Summary of Inventory Report dated January 1, 1989 for all holders of MP No. 7	December 31, 1995	Revised inventory will be submitted when VRI completed
Amend MP No. & Table of Contents to include map folio and contents	June 30, 1995	Completed
Forward updated inventories to plan holders	During term of MP	Inventory revisions submitted upon completion
Conduct aggressive Juvenile Spacing Program	During term of MP	Approximately 200 ha spaced annually
Develop a Red Cedar Regeneration Strategy	During term of MP	District Red Cedar Policy implemented

Appendix XXI

Saanich Forestry Centre
Seedling Production Report

Species	Size	Seedlings Produced					
		Surplus	Fall	Spring	Total by Size	Total by Species	%
Cw	313B	0	0	552,480	552,480		
Cw	410A	0	0	244,020	244,020		
Cw	415C	7,690	1,182	720,170	729,042		
Cw	615A	0	800	25,615	26,415	1,551,957	50.25
Dr	415B	0	0	23,068	23,068	23,068	0.75
Ds	415B	0	0	38,160	38,160	38,160	1.24
Fc	313B	0	0	50,020	50,020		
Fc	410A	0	35,280	8,420	43,700		
Fc	415C	0	273	486,533	486,806		
Fc	615A	0	0	21,924	21,924	602,450	19.51
Hm	410A	0	0	18,370	18,370	18,370	0.59
Hw	313B	89,980	0	192,840	282,820		
Hw	415C	34,900	500	258,130	293,530	576,350	18.66
Pw	415B	0	0	5,296	5,296	5,296	0.17
Ss	313B	0	0	72,640	72,640		
Ss	410A	0	0	17,410	17,410		
Ss	415C	0	480	92,510	92,990	183,040	5.93
Sx	415C	6,770	0	41,570	48,340	48,340	1.57
Sxs	415C	0	12,400	3,030	15,430	15,430	0.50
Yc	410A	0	0	25,100	25,100	25,100	0.81
Misc.	313B	0	40	0	40		
Misc.	410A	0	100	0	100		
Misc.	415C	0	480	0	480	620	0.02
Total		139,340	51,535	2,897,306	3,088,181	3,088,181	100.00

Appendix XXII

Saanich Forestry Centre and Lost Lake Seed Orchard
Seed Production Report

Seedlot	Species	Orchard	Zone	BVvol60[1] (%)	Elevation (m)	Latitude	Longitude	Volume (hL)	Seed Weight (Kg)	Seedlings (estimated)	Comments
60350	Fdc	166	M/GL	17.5	304	49 13	123 35	1.485	0.578	28,113	Elite Crosses (FRBC Funded)
60351	Hw	126	M	15.7	121	50 02	125 52	0.364	0.252	61,039	Elite Crosses (FRBC Funded)
60352	Hw	126	M	7.9	95	50 30	126 53	1.928	1.334	323,304	High BV Bulk collections
60353	Cw	128	M	N/A	168	50 45	127 35	5.026	3.129	616,172	22% midge - 1/2 crop extracted MoF
60355	Cw	128	M	N/A	168	50 45	127 35	5.026	3.129	616,172	22% midge - 1/2 crop extracted YPP
60354	Cw	155	M	N/A	252	52 42	131 39	5.487	4.029	793,403	8% midge - 1/2 crop extracted MoF
60356	Cw	155	M	N/A	252	52 42	131 39	5.487	4.029	793,403	8% midge - 1/2 crop extracted YPP
								Total:	**16.48**	**3,231,606**	

[1] Expected gain in volume over wild seedlots at rotation.