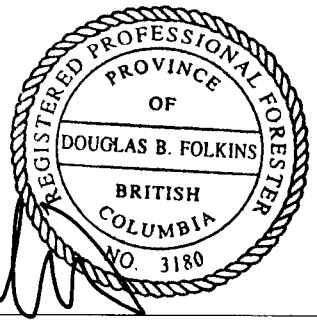
CANFOR

CANADIAN FOREST PRODUCTS LTD.

NIMPKISH VALLEY
Tree Farm Licence 37

2003
ANNUAL REPORT



Doug Folkins, R.P.F.
Silviculture Forester
Coastal Operations
June 3, 2004

PREFACE

This Annual Report for the Nimpkish Tree Farm Licence 37 (TFL 37) is prepared in accordance with the current Ministry of Forests (MoF) policies and directives pursuant to the Licence Agreement for TFL 37.

This document contains a review of our 2003 forest resource management activities. It is written for both technical and non-technical readers in order to enhance public understanding of our programs.

This report is an integral part of our TFL Management Plan 8 (MP 8), which states our management goals, commitments and strategies to plan and conduct forestry resource activities, including non-timber resources.

If you need more information regarding our Nimpkish TFL 37 operations, please write or telephone:

Doug Folkins, R.P.F.
Silviculture Forester
Canadian Forest Products Ltd.
Coastal Operations
Woss, BC V0N 3P0
Telephone: (250) 281-2418
e-mail: dfolkins@mail.canfor.ca

TABLE OF CONTENTS

List of Tables

List of Figures

INTRODUCTION

Canadian Forest Products Ltd. (Canfor) completed its fortieth year of operations under the terms of the contract for TFL 37. This report is used to monitor and document accomplishments in achieving the objectives stated in MP 8[1], as well as progress towards meeting requirements detailed in the MoF's approval letter[2] and the AAC Rationale[3]. It summarizes our operational achievements in 2003 while focusing on higher-level objectives and strategies. The format of this annual report is presented to mirror the format used in MP 8.

PROGRESS ON MANAGEMENT OBLIGATIONS

Changes to the Licence Area

Through 2003 there have been a small number of minor boundary adjustments as agreed to with neighbouring licensees and the MoF. Management Plan #9 will address these minor changes to the licence area.

Land Use Planning

In December 2000 the Vancouver Island Land Use Plan, Higher Level Plan Order came into effect. This order establishes Resource Management Zones and Resource Management Zone Objectives within the area covered by the Vancouver Island Land Use Plan. Canfor has incorporated the strategic direction of the Higher Level Plan Order into our strategic, tactical/development and operational planning levels.

Submissions for approval of OGMA objectives were made to government for the Upper Nimpkish and Tsitika Landscape Units in 2002. A submission for the Lower Nimpkish Landscape Unit was presented to government in January 2003. These submissions are still before government pending approval.

Update on Management Issues

In 2002, the Ministry of Forests (MoF) granted an extension of the next AAC determination to July 1, 2006. As this date no longer aligned with the management plan (MP) approval process for TFL 37, Canfor applied for and received approval to extend MP 8 and shorten the next AAC determination both to December 31, 2005. In addition, Canfor intends to integrate the next MP 9 with its Sustainable Forest Management Plan (SFMP) under the Canadian Standards Association CAN/CSA Z809-96 Sustainable Forest Management Standards for forestry operations on TFL 37.

Canfor prepared a Goshawk adaptive management strategy that was approved by government with the establishment of ten Wildlife Habitat Areas within TFL 37. In addition, habitat suitability mapping was completed and will be considered in the next timber supply analysis.

Canfor has developed the framework for an adaptive management strategy to conserve suitable marbled murrelet nesting habitat in the Upper and Lower Nimpkish Landscape Units. The strategy will consider information from low-level aerial surveys and marine surveillance radar monitoring of marbled murrelet populations, as well as a conservation plan. The strategy should be completed in 2004.

In 2003, the BC Government passed Bill 28 that reallocates harvesting rights from major tenure licenses to other tenure holders. The MoF subsequently initiated a plan involving two phases to implement this initiative: one to establish the volumes required from affected licenses and the other to identify areas on the ground that correspond with the required volume. Canfor will aggressively seek to clarify how this will impact TFL 37, in concert with its other tenures on the Coast and in the Interior.

---

[1] *Management Plan 8 for Tree Farm Licence 37*, December 1998 (Plan Period January 1, 1999 to December 31, 2003)
[2] Letter from Chief Forester: *TFL 37 Management Plan Approval*, December 22, 1998
[3] Tree Farm Licence 37 – *Rationale for Allowable Annual Cut (AAC) Determination*, effective January 1, 1999

PROGRESS ON MANAGEMENT GOALS AND COMMITMENTS

MP 8 states our management goals, commitments and strategies to plan and conduct forest management activities, including non-timber uses, on TFL 37. The following sections summarize our progress towards these goals and commitments.

Forest Practices Performance

Environment Management System

A field assessment of TFL 37 as part of a corporate wide ISO 14001-assessment audit was completed in 2003 by KPMG. Annual audits (internal and external) ensure compliance and continual improvement of Canfor's Environmental Management System.

Sustainable Forest Management Certification

Canfor achieved registration under the Canadian Standards Association CAN/CSA Z809-96 Sustainable Forest Management Standards for TFL 37's forest operations in August 2000. Englewood Logging Division is committed to the 6 criteria and 21 critical elements of CSA and the 10 principles of FSC. A periodic assessment audit was completed in August 2003 by KPMG.

Canfor's Forestry Principles

In June 1999, Canfor's CEO approved the 10 Forestry Principles which provides a foundation for forest management strategies, policies and operating procedures in all our operations. The 10 Forestry Principles are:

(i) Ecosystem management
(ii) Scale
(iii) Adaptive management
(iv) Old growth
(v) Timber resource
(vi) Forest landbase
(vii) Health and safety
(viii) First Nations
(ix) Communities
(x) Accountability

In October 2001, Canfor developed the Canfor Forestry Principals Implementation Plan: Coastal Region, for TFL 37. This detailed ecosystem-based management plan addresses UPDAte on Management Issues all 10 of the Forestry Principals and responds to the strategic direction detailed in the Vancouver Island Land Use Plan Higher Level Plan Order.

Compliance with Laws and Regulations

There were determinations that were concluded in 2003.

Table 1 Legal Contraventions within TFL 37

MoF Case # Canfor Incident #	Incident Start Date	Contravention	Description	Determination (Amount)

** Investigations which have now been concluded, that were previously under investigation.*

FOREST RESOURCE MANAGEMENT

Road Construction

In 2003, Canfor constructed a total of 42.9 km of main and secondary roads and 47.7 km of spur roads. Table 2 shows the length and distribution of roads constructed in 2003 by operating area.

Table 2 Road Construction

Operating Area	Main and Secondary (km)	Spur (km)
	2003	2003
Company	30.8	33.0
Kipala	2.7	4.7
Vernon	9.4	10.0
TOTAL	*42.9*	*47.7*

Timber Harvesting

Cut Control Status

2003 was the third year of Canfor's cut control period. Despite the challenging market conditions over the past few years, Table 3 shows Canfor's periodic cut control status for the 5-year period ending in 2000 for TFL 37 at 99.9%. 2001 was the first year of the current 5-year cut control period.

Table 3 Canfor Cut Control Status

Year	Actual Recorded Cut (m^3)	Allowable Annual Cut * (AAC – m^3/yr)	% Compliance (Annual)	% Compliance (Periodic)
1996	1,010,359	1,024,816	98.6%	98.6%
1997	982,675	1,024,816	95.9%	97.2%
1998	801,724	1,024,816	78.2%	90.9%
1999	1,118,764	1,024,816	109.2%	95.5%
2000	1,207,318	1,024,816	117.8%	99.9%
2001	865,180	1,024,816	86.4%	86.4%
2002	1,156,720	1,024,816	112.8%	98.6%
2003	*1,058,122***	1,068,000	103.2%	98.8%

** This AAC represents volume available to Canfor exclusive of the SBFEP.*

***2003 Recorded cut is an estimate due to MoF Billing system delay.*

Integrating the Small Business Forest Enterprise Program/ BC Timber Sales

The SBFEP/BC Timber sales apportionment of the AAC from TFL 37 is 43,184 m3 per year. Table 4 shows this program's periodic cut control status for the 1996-2000 period on TFL 37 is 23.4%. 2001 was the 1st year of the next 5-year cut control period.

Table 4 SBFEP Cut Control Status

Year	Actual Recorded Cut (m^3)	Allowable Annual Cut * (AAC - m^3/yr)	% Compliance (Annual)
1996	2,931	43,184	6.8%
1997	0	43,184	0%
1998	2,145	43,184	5.0%
1999	44,670	43,184	103.4%
2000	705	43,184	1.6%
2001	34,176	43,184	79.1%
2002	45,511	43,184	105.4%
2003	25,705	43,184	59.5%

Harvest Profiles

All harvest profiles listed in Table 5 correspond to areas harvested relative to specific inventories and classifications used in MP 8.

Table 5 Harvest Profiles Relative to MP 8 Inventories

Profile	Indicator	2003 (1206.5 ha)	
		Amount (ha)	% of Total Harvest
Leading Species	Ba	144.2	15%
	Cw	127.8	13%
	Fd	105.3	11%
	Hw/Hm	498.0	52%
	Yc	66.2	7%
	Other	8.2	1%
Silviculture System	Selective	16.8	1%
	Clearcut	980.3	82%
	Retention	209.4	17%
	Commercial Thin *	0.0	0%
Logging Type	Conventional	1179.4	98%
	Unconventional	27.1	2%
Stand Age	Mature	963.3	80%
	Second Growth	214.9	18%
	Immature	21.7	2%
	NP or NF **	6.5	1%
Structural Stage	Not Applicable	5.0	0%
	Sparse	1.0	0%
	Shrub/Herb	9.3	1%
	Pole/Sapling	9.6	1%
	Young Forest	199.5	17%
	Mature Forest	140.7	12%
	Old Forest	841.5	70%
Seasonal	Winter	444.5	37%
	Intermediate	342.9	28%
	Summer	419.2	35%
Economic Operability	Economic	1026.4	85%
	Marginal	128.3	11%
	Uneconomic	45.2	4%
	NP or NF **	6.5	1%
Physical Operability	Operable	1116.0	97%
	Inoperable	40.5	3%
Terrain	Stability Class I	105.3	9%
	Stability Class II	327.8	27%
	Stability Class III	594.9	49%
	Stability Class IV	159.0	13%
	Stability Class V	19.5	2%
	Colluvium	37.4	3%

** Estimated area*

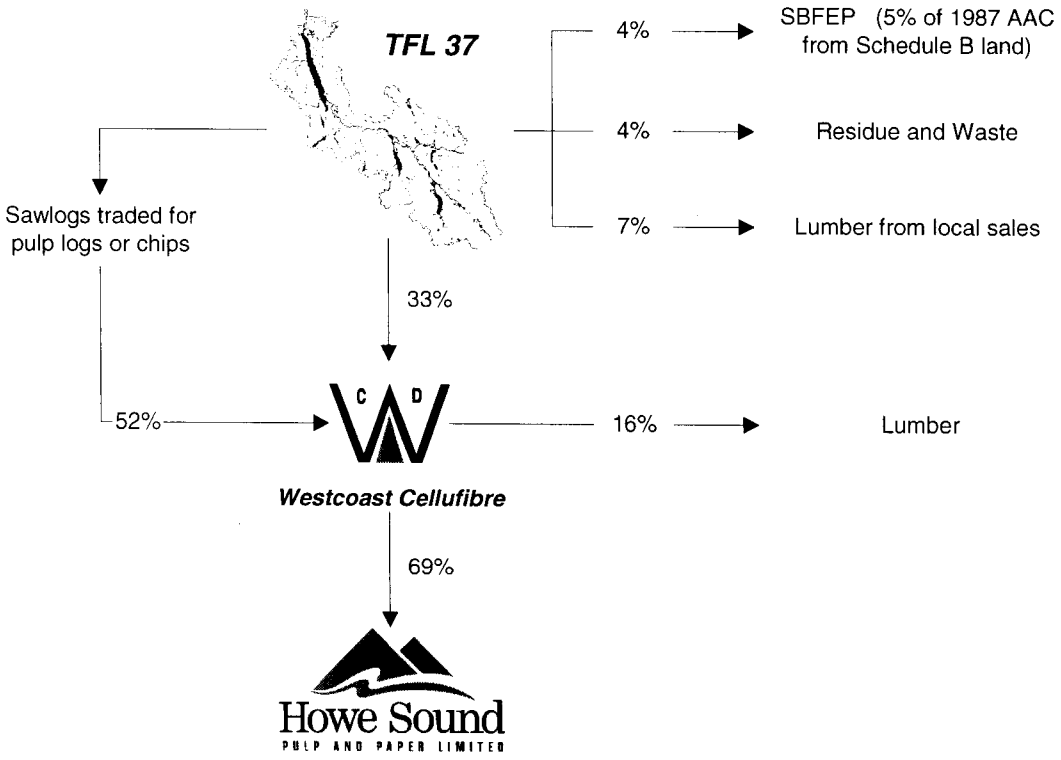
*** Areas classified as Non-Productive or Non-Forest*

Contract Harvesting

Full and phase contractors are involved in all aspects of development. Each year, Canfor is obligated to ensure that at least 50% of the annual timber harvested from Schedule B land involves independent logging contractors. In 2003 the minimum contractor harvest compliance was exceeded by 6.2% (Appendix I).

Timber Processing

No significant changes in timber processing have occurred since MP 8 was approved in 1998. Most of the timber volume harvested from TFL 37 leaves North Vancouver Island for processing in the B.C. Lower Mainland area. This supports substantial employment opportunities in that area. Two major processing facilities located in the Vancouver area



are heavily dependent on volumes from TFL 37 – Howe Sound Pulp and Paper (HSPP) and Westcoast Cellufibre. The flow of fibre from TFL 37 to the various processing facilities is illustrated in Figure 1. Fibre flow from TFL 37

HSPP requires an annual fibre input of approximately 2.2 million m^3. This is approximately *twice* the current AAC from TFL 37. All logs manufactured from TFL 37 are directly or indirectly allocated to supply HSPP with chips. Pulp logs are sent directly for chipping while higher quality logs are traded and leveraged for additional pulp logs and/or chips. Canfor's ability to distribute logs to their highest potential use is largely determined by the market conditions and trade agreements in place at the time.

Westcoast Cellufibre has an annual fibre input requirement of approximately 1.0 million m^3. Its primary function is to provide chips to HSPP from the direct and indirect distribution of low quality logs from Canfor and other suppliers.

Approximately 75,000 m^3 from TFL 37 are sold annually to local mills in Port Hardy, Port McNeill, Woss, Campbell River, Courtenay and Nanaimo. This mostly involves low grade or high-grade western red cedar, cypress and Douglas-fir.

Silviculture

Table 6 lists the silviculture accomplishments for 2003, followed by discussions below.

Table 6 Silviculture Accomplishments

Activity		Description	Amount
			2003
BASIC	Seed Procurement	Seed Collected (hl)	0.0
		Seed Purchased (kg)	15.72
	Site Preparation	Pile & Burn (ha)	10.0
		Broadcast Burn (ha)	0.0
		Mechanical (ha)	0.0
	Reforestation	Seedlings (#)	1,356,253
		Area (ha)	1267.4
	Surveys	Regen (ha)	1151.3
		Walkthrough (ha)	749.0
		Free Growing (ha)	1707.7
	Basic Spacing	Area (ha)	0
	Vegetation Management	Mechanical (ha)	28.1
		Chemical (ha)	78.0
	Road Rehabilitation	Area (ha)	10.7
INCREMENTAL	Tree Improvement	See Table 8	
	Site Rehabilitation and Deciduous Conversion	Area Assessed (ha)	See Bellow
		Area Converted (ha)	0.0
	Juvenile Spacing	Area (ha)	0.0
	Pruning	Area (ha)	6.5
	Aerial Fertilization	Area (ha)	2451.0
		Volume of Urea (kg)	1,097,428

**Includes seed purchased for 2004 Sowing.*

Table 8 outlines orchard production by species. Much of this seed is stored for use on TFL 37 however some material may be sold to other licensees. Additional details of Seed Orchard operations are outlined in the Tree Improvement section below.

Site Preparation

Piling and burning slash along roadsides was the only site preparation technique used in 2003. Neither mechanical scarification nor broadcast-burning methods were deemed necessary to prepare harvested sites for planting or to reduce fire hazard.

Reforestation

Basic silviculture activities were completed in accordance with legislation and TFL Management Plan 8 Silviculture Strategy. As in previous years, planting programs continued to occurred in two stages. The majority of low elevation blocks were planted in spring (March – May) while high elevation blocks were completed during late summer (September). This schedule reduces the risk of long storage periods while waiting for snow to recede on scheduled cutblocks. Late summer planting allows seedlings on high elevations to garner the benefits of favourable soil temperature for root growth. Canfor continues to use the best seed available for our reforestation program. Seed use by block records will be used in subsequent timber supply analysis. Table 7 shows genetic gain by species[4].

[4] Estimated by MoF Research Scientists – Tree Improvement / Research Branch

Table 7 Genetic Gain by Species Planted

Species	Genetic Gain	Trees Planted 2003	% GI 2003 (% of Total)	% GI of Species
Ba	0	125,899	0	0
Bn	0	44,671	0	0
Bg	0	7,465	0	0
Cw	0	103,860	0	NA
	2	212,785	15.7%	NA
	5	69,630	5.1%	NA
	Total Cw	*386,275*	*NA*	*73.1%*
Fdc	0	0	0	NA
	2	99,960	7.4%	NA
	5	245,802	18.1%	NA
	7	11,545	0.9%	NA
	Total Fdc	*357,307*	*NA*	*100%*
Hw	0	8,625	0	NA
	5	46,215	3.4%	NA
	16	40,502	3.0%	NA
	17	11,550	0.9%	NA
	Total Hw	*106,892*	*NA*	*91.9%*
Pw	50% res.	21,950	0	NA
Yc	0	151,000	0	NA
	12	134,300	9.9%	NA
	Total Yc	*285.330*	*NA*	*47.1%*
Ss	Weevil Res.	18,610	0	NA
	Total Ss	*18,610*	NA	0
Total TFL 37		*1,356,293*	*64.3%*	*NA*

Surveys

Stocking and free growing surveys did not indicate any notable difficulties in plantation performance. Any shortfalls in stocking (NSR[5] areas) are tracked and fill-planted where required. No overstocked (greater than 10,000 stems per hectare) stands were identified in free growing surveys therefore no basic spacing treatments took place.

Basic Spacing

In some circumstances, excessively dense stocking of regenerated stands can repress growth. Where required, basic spacing measures can prevent this from occurring. In 2003 though, no basic spacing treatments were necessary.

Vegetation Management

A Pest Management Plan for forest vegetation management was prepared for and approved by the BC Ministry of Environment Lands and Parks (MoELP) in 1999. This plan is in effect until 2005 and is based upon the principles of integrated vegetation management. The plan covers both mechanical and chemical treatments.

Rehabilitated Roads

In order to meet area net down targets of 3.5%, 10.7 hectares of roads were rehabilitated in 2003.

Tree Improvement

Canfor accomplished the following with its tree improvement program in 2003:

Canfor's Sechelt Seed Orchard recorded a good production year in 2003.

- *Produced western white pine crops of 500,000 MGR potential seedlings; red cedar crop with reduced selfing of 500,000 potential seedlings; 7,500 potential*

high gain (18% GW) Douglas fir; 1,000,000 mid gain western hemlock and 200,000 high elevation Douglas fir.

- *Grew and cultured 700 weevil resistant Sitka spruce donors at Surrey Nursery to produce enough cuttings for 20,000 stecklings.*
- *Grew and cultured 2000 high gain yellow cedar donors at Cairnpark Nursery to produce enough cuttings for 150,000 stecklings.*

Table 8 Seed Orchard Production

Year	Orchard	Species	Elevation (m)	Genetic Worth (%)	Kg Produced	Seedling Equivalent
2002						
	174	Pw	0-1300	MGR 50% Res	25.4	500,000
	133	Hw	0-600	13%	4.0	1,000,000
	186	Cw	0-600	9%	2.2	600,000
	186	Cw	0-600	5%	2.6	700,000
	116	Fdc	700+	3%	16.1	650,000
	177	Fdc	0-700	18%	.12	7,500
				2003 Totals	*50.4*	*3,457,500*

Orchard Improvements

- *Added 28 producing ramets to Orchard #177 to increase production and genetic worth (FIA6201015).*
- *Added 400 new slow canker ramets to Orchard #174 from holding beds.*
- *Added 150 new Hw to Orchard # 179 from holding beds to replace mortality.*
- *Removed 50% of potted Orchard #186 to increase the GW of 2003 and beyond cedar crop.*
- *Removed 58 ramets from Orchard #133 leaving 98 ramets with weighted average GW of 14.*
- *Removed 600 red cedar ramets from the holding beds as a result of Series 2 test results leaving the top 25%.*
- *Added the top donors from the Ministry of Forests Series 2 yellow cedar tests with breeding values of 10 or better*

Research initiatives

- *Co-ordinated the white pine breeding program on Orchard #174 parent trees.*

Site Rehabilitation and Deciduous Conversion

Map base analysis has identified scattered deciduous-leading stands totalling 557 ha (0.3% of productive forest) within TFL 37. Some field assessments where completed in 2003 on individual polygons but forest cover was not updated. Many of the areas identified are located within riparian management zones where conversion to conifer stands assumed. Utilizing alder concurrent with harvesting operations where feasible and plan to consider these unique areas as we implement Canfor's Forestry Principles around ecosystem-based management.

Juvenile Spacing

No juvenile spacing was completed in 2003.

Pruning

In 2003, 6.5 ha of pruning were completed by the Community Forestry Student Crew (Comfor Crew).

Aerial Fertilization

In 2003, Canfor fertilized 2451.0 hectares of Douglas-fir leading second growth stands. Stands were selected using a combination of inventory and ecosystem data according to parameters outlined in Management Plan 8. All fertilization treatments were completed with FIA funding.

Forest Health

Overall for 2003, there were no significant events that occurred which resulted in losses to the forest inventory. Low volumes of wind thrown timber are generally discovered each year. Canfor's objective is to salvage 100% of wind thrown timber within 2 years of discovery, where economically and ecologically appropriate. Minor fire-related damage was experienced in 2003. Table 9 lists the non-recoverable timber losses due to catastrophic events observed in 2003.

Canfor completed ortho-photographic imaging of the TFL in 2002. These new images will allow for better inventory of any salvageable/unsalvageable losses.

Table 9 Estimated Non-Recoverable Timber Losses in 2003

Year	Category	Hazard	Losses to Hazards (m^3)		
			Gross	Salvage	Net Loss
2003	Fire *	Man-caused	0	0	0
		Natural	0	0	0
	Disease		0	0	0
	Insects		0	0	0
	Wind		21,268	21,268	0
	Snow	Press	0	0	0
		Slide	0	0	0
		Totals	21,268	21,268	0

**3 minor fires were reported in 2003, however there was no timber loss associated with these fires.*

INTEGRATED RESOURCE MANAGEMENT

Fisheries and Aquatic Resources

In 2003, work continued on restoring and enhancing fish habitat within various drainages in TFL 37. Activities included: Yookwa fan stabilization, maintenance of in-stream structures, lake and river fertilization and monitoring past in-stream installations. Funding was provided by FIA (Forest Investment Account) and the Habitat Rehabilitation and Salmon Enhancement Program (HRSEP).

Canfor has initiated a project to classify streams where the classification was unknown. Approximately 1,032 km of streams were classified as unknown in 1999. As of December 2003, 1,028.5 km have been classified. The strategic stream classification project will be complete in early 2004. Sample results are incorporated into operational plans and the sample data is stored in a database.

Wildlife Program

Five research and/or inventory projects were conducted in TFL 37 during 2003. These included projects on marbled murrelet, Queen Charlotte goshawk, forest songbirds, owls, and riparian effectiveness monitoring indicators. A total of 106.5 km of streams were classified in 2003. Consequently, all previously unclassified streams in TFL 37 have now been classified, thereby completing the Objective for stream classification.

Marbled Murrelet

Fifty dawn audio-visual (A/V) surveys for murrelets were conducted at 13 A/V sites in the TFL during the summer of 2003 (Harper et al. 2004a). These surveys provided information on presence, absence and breeding occupancy of murrelets in these locations. There were 617 total detections of Marbled Murrelets and of those, 83 were occupied detections. Twelve of the 13 study sites that were fully sampled were considered "occupied" by breeding murrelets according to RISC (2001) standards (Harper et al. 2004a). As well, a total of 19 habitat transects (1 ha) were established that documented potential nesting platforms in 1010 trees. The average density of potential nest platforms >15 cm in diameter within the 19 habitat transects was 383 per ha (range 56 to 979 per ha) (Harper et al. 2004b).

Low-level aerial surveys from helicopter to assess murrelet nesting habitat (i.e., mossy branch platforms in the canopy) were conducted in the TFL in 2002 (Deal and Smart 2003) and 2003 (Deal and Smart 2004). Areas evaluated included potential OGMAs, protected areas, and areas of interest identified by aerial photograph interpretation. This technique proved useful because large areas can be surveyed relatively quickly. All high priority areas with potential nesting habitat (i.e. mature and old growth stands in the TFL) have now been evaluated (Deal and Smart 2004). Helicopter-based habitat assessments (Deal and Smart 2004) explained about 50% of the variation in the density of nesting platforms measured by ground surveys, compared to less than a 30% correlation for polygons rated by a predictive habitat model (Harper et al. 2001) based primarily on forest cover ratings for tree height and forest age (Harper et al. 2004b). The average density of helicopter-rated Class 1 nesting habitat of 459 platforms per ha was significantly higher than Class 2 habitat (277 per ha). Helicopter-rated Class 3, 4 and 5 habitats (130, 126, and 87 per ha, respectively) were significantly lower than Class 1 and Class 2, but did not differ significantly amongst themselves (Harper et al. 2004b). The combination of bird detection and habitat data will be used to refine the conservation plan for murrelets currently under preparation.

Marine surveillance radar was used to monitor murrelet populations as part of the long-term conservation program for Tree Farm Licence 37. In 2003, there were 6462 radar detections from 34 morning surveys at 19 sites (Harper and Schroeder 2004). Most sites were surveyed on consecutive days, and consecutive-day variability (CV - coefficient of variation) ranged from 4 to 61% depending on the site. Average consecutive -day variability was less at coastal sites (20%) compared to inland sites (29%) but was similar for data collected by the tilted scanner (26%) and untilted scanner (30%). Tilting the radar scanner allowed more murrelets to be detected, which could be useful for monitoring populations where lower numbers are detectable (e.g. inland sites).

Canfor has developed the framework for an adaptive management strategy to conserve suitable marbled murrelet nesting habitat in the Upper and Lower Nimpkish LU (Wilson 2002). A key component of this strategy is developing the conservation plan due by June 2004. The strategy will be complete by December 2004. Radar monitoring of marbled murrelet populations will be part of the implementation of this strategy.

Queen Charlotte Goshawk

Forty-eight nest sites (13 territories) have been identified to date on the TFL. Two new territories (Sutton and Tlakawa) were discovered during the summer of 2002. Surveys at these territories and other potential territories were conducted again during the summer of 2003. No new or active nests were discovered in 2003. It is hypothesized that higher than normal precipitation levels during March-April 2003 may have had a significant negative influence on whether or not goshawks

attempted to breed in 2003, and on the productivity of those pairs that may have attempted to breed (Manning et al. 2003a).

The goshawk adaptive management strategy (Manning et al. 2003) was revised in January 2003 and approved by government on March 13, 2003, with the establishment of 10 goshawk Wildlife Habitat Areas (WHAs). These are the Loon, Toad, Rona, Claude Elliot, Lukwa, John Road, Klaklakama, Vernon, Hoomak and Kaipit territories. WHAs vary in size from approximately 135 ha to 538 ha. Core areas have been identified as reserves in four of the WHA's (Vernon, Klaklakama, Claude Elliot, and Loon). Outside the core, single stem selection may take place once a management plan is prepared and approved by government.

Recommendations set forth in the adaptive management strategy include annual monitoring of goshawk territories for territory occupancy and use of nest trees and fledging success, over a minimum period of five years, beginning in the summer of 2002. Mean number of young fledged per nest territory per year will be used as a measurable indicator of goshawk habitat suitability, pre- and post-establishment of the WHAs. In addition, two goshawk territories located in nearby Strathcona Provincial Park will be monitored as controls. Monitoring of goshawk nest territories is scheduled to continue again during the summer of 2004.

Goshawk habitat suitability mapping for the TFL along with a species-habitat model for Queen Charlotte goshawk, was completed in December 2002 (Manning et al. 2002). This model uses four variables: leading tree species, biogeoclimatic unit, stand age with a site index modifier, and crown closure to generate a predictive algorithm which rates forest polygons for habitat suitability. The goshawk model correctly predicted the suitability ratings for the 13 known goshawk territories in TFL 37 (based on comparisons with field verified suitability ratings at goshawk territories). This model was only applied to 2002 forest conditions and was not projected into the future since block forecasting has not been completed for MP 9 to date.

Black Bear

In 2003, 18 black bear den trees were identified and retained. In 2002, 24 black bear den trees were identified and reserved from harvest. The habitat supply model developed by Wilson (2003) will be used to plan and manage areas for denning and seasonal foraging habitat. In turn this will facilitate implementation of habitat supply-driven stand level practices for retaining den trees when encountered within cutblocks.

The most limiting factor to a stable black bear population may be long term forage supply across the four distinct feeding seasons; early spring, late spring, summer and fall. Based on the research in the DFA, forage potential (habitat suitability) can be modeled by using forest age and bio-geoclimatic variant/site series. A preliminary model completed in February 2003 (Wilson 2003) presents current foraging habitat suitability for four feeding seasons across the TFL. This model will be used to forecast habitat availability once MP 9 is complete.

Ungulate Winter Range

An ungulate winter range (UWR) strategy (including boundaries and practices associated with UWRs) was ready for government review on July 3, 2001 and was submitted to government on July 17, 2001. The strategy received government approval on Sept. 13, 2001 under section 69 of the BC Forest Practices Code Operational Planning Regulation. In total, 6,205 ha of ungulate winter range were approved in TFL 37.

Monitoring of UWRs is limited to monitoring windthrow along the edges of each range. No windthrow was observed in UWRs in 2003.

Biological Diversity

The implementation of Canfor's Forestry Principals (FP), the application of ecosystem management, scale, and old growth principles is ongoing. As of January 1, 2001, all block layout in the Special Management Zones (SMZ) met Forestry Principles criteria. By June 1, 2003 all layout in new blocks will meet Forestry Principles criteria. In terms of harvesting objectives, >50% of all blocks harvested in 2005 and all blocks harvested in 2006 will meet Forestry Principles targets. In 2002, eleven blocks were engineered to meet Forestry Principles targets and six FP blocks were harvested.

Regarding stand level biodiversity, wildlife tree patch targets were applied across the landscape, by biogeoclimatic variant, to allow more flexibility to conserve areas with greater biodiversity values. Table summarises the results from Silviculture Prescriptions approved in 2002.

Table 10 Wildlife Tree Patches

Landscape Unit	BEC variant	Pre-LU Objective %	Post-LU Objective %	Current % (n=96)[1]	
Tsitika (Canfor portion only) (High biodiversity emphasis)	CWHvm	10%	8%	n/a	(n=0)
	MHmm	10%	2%	10.0	(n=1)
Upper Nimpkish (Intermediate biodiversity emphasis)	CWHxm	14%	11%	14.3	(n=5)
	CWHvm	13%	10%	13.7	(n=47)
	MHmm	9%	6%	16.8	(n=2)
Lower Nimpkish (Low biodiversity emphasis)	CWHxm	14%	11%	18.6	(n=5)
	CWHvm	13%	10%	13.9	(n=32)
	MHmm	9%	6%	10.7	(n=4)

Recreation

In 2000, Canfor completed an update to the Recreation Features Inventory and Recreation Opportunity Spectrum Inventory to the latest standards. By 2001, a subsequent Recreation Analysis and Management Strategy was completed and submitted to the Port McNeill Forest District. This information is primarily used for guidance with operational planning, but where appropriate, will also be incorporated within MP 9.

Visual Resources

The North Island Highway transects TFL 37 and accesses the communities of Port McNeill, Port Hardy and other smaller settlements on the North Island and adjacent islands reached by ferry. Port Hardy is the departure point for ferry travel to Bella Coola, Bella Bella, and Prince Rupert. In addition there are numerous sport fishing and adventure tourism ventures in the area. This has lead to increasing traffic on the highway. The visual resource along this corridor is an important part of the tourist's "experience".

Although much less travelled, the corridor to Zeballos was designated a visual corridor as one of the primary values in the *Special Management Zones*.

Water

There are no community watersheds within TFL 37. Domestic water is taken from a deep well at the hamlet of Woss. Protection of water quality is important to fish stocks using the water systems. Roads and bridges are engineered and constructed to maintain water quality. Temporary roads are deactivated to reduce the risk of failure and siltation of water bodies. Silt fences are used during construction near fish bearing streams to reduce siltation.

First Nations

In the past, Canfor has supported First Nation's projects by supplying logs for carving and canoes. Canfor has also supplied boom sticks for dock repairs at Alert Bay.

In 2003 Canfor employed First Nation peoples in watershed restoration and Cultural Heritage Inventory Surveys. We also partner in the training of a Namgis Band member to become a forester. This First Nation student attended classes at the University of British Columbia from September to May and was employed by Canfor in the Nimpkish Valley during the summer months.

The Nimpkish Resource Management Board was established jointly by Canfor and the Namgis, primarily to co-ordinate fisheries enhancement and restoration projects in the valley. The Board is co chaired by Lawrence Ambers (Namgis Band Manager) and Martin Buchanan (Canfor).

Forest Development Plans and Major Amendments for TFL 37 are reviewed with Namgis, Tlowitsis, and Mowachaht/Muchalaht First Nations.

Cultural Heritage

In 2003 proposed harvest blocks identified in the Archaeological Overview as having a high potential of containing evidence of First Nation activity were inventoried by a member of the Namgis First Nation employed by Canfor. Since the fall of 2001, Canfor has contracted a Namgis crew to conduct Cultural Heritage Inventory Surveys on proposed harvest blocks identified in the Archaeological Overview as having a high potential. All evidence that was found was reviewed with the Band. Block boundaries were adjusted to protect some artefacts.

Trapping and Guide Outfitting

No issues or concerns involving trapping and guide outfitting were raised in 2003.

Mining

Three notable mining initiatives are currently being explored within TFL 37. Continental Lime is considering Canfor's infrastructure in its exploration of limestone from the Noomas area. In the Storey Creek area, Doublestar Resources is exploring copper deposits. Similarly, Boliden is considering copper resources in the Oktwanch area. No formal proposals have been submitted as yet.

Fish Farming and Packing

No new fish farming or packing initiatives were processed in 2003.

Non-Timber Products

Non-timber forest product harvest continues to provide employment and generate revenue and economic opportunities for individuals harvesting such products as cedar boughs, white pine limbs, salal and mushrooms. In the past honey producers routinely entered a formal agreements with Canfor regarding road access and protection of beehives. As these non-timber forest products are not regulated, we have no means to measure the types or amounts harvested from TFL 37. In 2003 Canfor participated with WFP in a Non-timber Forest Product Mushrooms of Northern Vancouver Island study for TFL 37 and TFL 6 prepared for the Royal Roads University Centre for Non-Timber Resources.

PLANNING AND INVENTORY

Three significant multi-year resource inventory projects were completed in 2003. Each project will contribute towards improving our management assumptions for the next timber supply analysis.

Since 2000, Canfor has implemented a project to address 1,032 kilometres of unclassified streams, according to Canfor's strategic-level stream inventory. With the exception of 3.5 kilometres scheduled for early 2004, this project is complete. Meanwhile, streams assessed during detailed harvest planning are added or revised as required.

Since 1996, through several initiatives, Canfor has been working to improve the forest inventory for TFL 37. In 2003, Canfor augmented a Net Volume Adjustment Factor (NVAF) ground-sampling project initiated in 2001, with additional samples. A total of 79 trees were sampled and analyzed to provide NVAF adjustment ratios. These were then used to adjust the net merchantable volume predicted through the ground sampling and inventory adjustment phases of Canfor's Vegetation Resources Inventory (VRI) project.

Canfor also completed a planning-level karst inventory of TFL 37 that began in late 2002. This developed karst vulnerability potential ratings to assist in addressing operational planning requirements and providing forest-level management assumptions.

EMPLOYMENT AND ECONOMIC OPPORTUNITIES

Canfor employed approximately 365 persons directly in 2003. Contract and seasonal contract employment remained stable at 160 persons on contract and 100 seasonal on contract in TFL 37 in 2003. These high paying jobs provide spin-off employment in the supply and service industries, primarily on northern Vancouver Island.

Currently a viable fertilizer business supported by Canfor is operating near Beaver Cove. This venture uses waste wood from the Beaver Cove Dryland Sort combined with fish waste from Englewood Packing to produce domestic fertilizer. The fertilizer will be bagged and distributed through Canadian Tire stores.

In 2003, a chipping plant was constructed and began operating near Beaver Cove. Canfor supports this business. The venture uses waste wood from the Beaver Cover Dryland Sort as well as waste logs from Canfor's harvested blocks.

Salvage opportunities continue to provide a further 20 jobs in the TFL, primarily in the salvage of cedar shack blocks.

PUBLIC INVOLVEMENT

Canfor consulted the public through advertised public sessions on forest development in the TFL. The Nimpkish Woodlands Advisory Committee was formed in February 2000, as part of the certification process (see Sustainable Forest Management Certification above), and consists of public representatives, First Nations and local government.

Canfor continues to support the North Island Discovery Forestry Tour Centre, which enables members of the public to participate in forestry tours and to increase their general awareness of forestry management.

Appendices

Appendix I CONTRACTOR CLAUSE PERFORMANCE

Under the Timber Harvesting Contract and Subcontract Regulation as well as Tree Farm Licence 37, at least 50% of the annual timber harvested from Schedule B land must involve independent logging contractors. The following contractor harvest compliance was met in 2003:

CONTRACTOR CLAUSE PERFORMANCE		
1.	TOTAL APPROVED AAC OF TFL #37 (m^3) MP#8	1,024,816
2.	AAC ATTRIBUTABLE TO SCHEDULE "A" LANDS (m^3) MP#8	209,063
3.	AAC ATTRIBUTABLE TO SCHEDULE "B" LANDS (m^3) MP#8	815,753
4.	VOLUME OF TIMBER HARVESTED (m^3) (excluding waste) 2003 SCALED & BILLED VOLUMES	977,002
5.	HARVESTED VOLUME ATTRIBUTED TO SCHEDULE "A" LANDS (m^3) (#2/#1) x #4	199,309
6.	HARVESTED VOLUE ATTRIBUTED TO SCHEDULE "B" LANDS (m^3) (#3/#1) x #4	777,693
7.	MINIMUM HARVESTED VOLUME ATTRIBUTED FULL + PHASE CONTRACTS (#6 X 50%)	388,845
8.	TOTAL VOLUME CONTRACTED (m^3) FULL + PHASE	413,129
9.	TOTAL VOLUME CONTRACTED AS % OF SCHEDULE "B" HARVESTED (%) (#8/#6) x 100	53.1%
10.	VOLUME CONTRACTED UNDER FULL CONTRACTS (m^3) 2003 SCALED AND BILLED VOLUMES	306,934
11.	VOLUME CONTRACTED UNDER FULL CONTRACTS AS % OF TOTAL VOLUME CONTRACTED (5) (#10/#8) x 100	74.3%
12.	VOLUME CONTRACTED UNDER PHASE CONTRACTS (m^3) PHASE VOLUMES	106,195
13.	VOLUME CONTRACTED UNDER PHASE CONTRACTS AS % OF TOTAL VOLUME CONTRACTED (%) (#12/#8) x 100	25.7%
14.	PERCENT COMPLIANCE OF TOTAL VOLUME CONTRACTED (%) (#8/#7) X 100	106.2%