

Tasman District Council

Review of Commercial Forestry Activity

August 2007

Overview

This report is a review of Tasman District Council's (TDC) commercial forestry activity.

The report has being prepared as a result of the resolution passed at the meeting of the Council Enterprises Subcommittee held on Wednesday 11 July 2007

Resolution: **FN07/07/25**

THAT Council prepares a business case of Council's forestry assets and operations for consideration by the Enterprise Subcommittee.

CARRIED

The report provides Council with information to help it decide whether it should continue with its forestry investment in its current form, sell its forestry investment and utilise the funds elsewhere, or increase its forestry investment.

We have addressed this matter by providing the following information

- Details of TDC's forest estate.
- Historical performance of TDC's forest investment
- Details of the Nelson/Marlborough forest industry and future outlook
- Details of the International forestry industry and future outlook
- Public good aspect of holding forestry
- Details of the value of TDC's forest investment
- Forecasted future performance of TDC forests.
- Increase, hold or dispose conclusion.
- Suggested structure

This report has been written by the staff of Tasman District Council and is for the purposes of providing information to its management team and Councillors only. It is intended solely for the use of Council in assessing the commercial performance of the forestry activity and is not for the use of any other party. This report is based on information we have available to us at 10 August 2007.

Council wishes to acknowledge the contribution of PF Olsen and Company Ltd and Peter Wilks towards the information contained in this report. A lot of the information contained in this report has been sourced from their knowledge and TDC forest estate management reports.

Executive Summary

A strategic review was undertaken of Tasman District Council's (TDC) commercial forestry activity. The results of this review are set out in this report.

In this Executive Summary we present the conclusions of our review. The summary and conclusions set out in this section should not be read in isolation but must be read in conjunction with the entire report.

- Tasman District Council made its initial investment in forestry as a result of the vesting of Rabbit and Rough Islands in its predecessor for planting purposes in 1921. TDC have made many forestry investments in succeeding years building up to their current planted forest estate of 2,691.1 hectares.
- These forests have been self funding over the years.
- The outlook for forestry is positive.
- The current TDC forestry policy is for a non-declining annual harvest. Half of the net forestry each year, after meeting the costs of maintenance of Rabbit Island recreation reserve, will be used for expansion of Council's forest resource, and the other half of the surplus is to be used for supporting the general rate. A contribution equivalent to 25% of the general rate has been set as the ultimate target.
- It is not possible at present to meet the objectives of the current TDC forestry policy. This is because the age of the TDC forest estate is skewed towards younger trees. Over a 30 year life-cycle there are numerous peaks and troughs in the age of the trees planted.
- There are three options available to Council with regards to the forestry estate.
 - Sell the forests. The last valuation as at 1 July 2006 valued TDC tree crop at \$14.035 million.
 - Leave the forestry estate as it is and accept that there will be no contribution to general rates in some years.
 - Fully implement the forestry policy and work towards the ultimate goal of having 25% of the general rate being funded from forestry.
- From the review we recommend that Council endorses the current forestry policy, runs the forestry estate as a commercial business unit, and works towards funding 25% of the general rate from forestry.

Recommendation 1:

Council directs the Chief Executive to undertake actions to achieve full implementation of the forestry policy in due course. Any proposals to vary the forestry estate will be brought to the Enterprises Subcommittee for its consideration.

Recommendation 2:

Council directs the Chief Executive to report back to the Enterprises Subcommittee on a Business Unit Structure and Plan for Forestry.

TDC Forest Estate

Forestry is one of Council's commercial assets. These assets, for example, include investments in:

- Port Nelson Limited
- Nelson Airport Limited
- Port Tarkohe
- Motueka Aerodrome.

As at 1 July 2006, Tasman District Council's forestry assets had a standing tree crop of \$14.035m made up of \$14.012m for the Radiata pine and Douglas Fir trees, and \$0.023m for the Cupressus stands. (Note: This excludes the value of the land the forests are on).

Tasman District Council Forests

Tasman District Council's forests are as follows:

Borlase Forest:

Located off State Highway 6, along Old School Road, near Kohatu, approximately 44 km from Richmond. Rolling to steep hill country. Slopes range from 15 degrees to above 30 degrees in places. About 80% of the block will require cable system hauler machinery for harvesting, while 20% could be harvested with ground-based systems. Altitude ranges from 200m to a high point of 643m. Majority about 400m.

Eves Valley:

Located opposite the office complex of Baigent Eves Valley Sawmill, and adjacent the Tasman District Council's landfill, approximately 15 km from Richmond. Moderately rolling hill country. Slopes range from 10 degrees to 25 degrees and facilitate easy ground-based logging at harvest. Altitude ranges from 60m to a high point of 141m. Majority about 80m.

Howard Forest:

Located on both sides of the Howard Valley Road approximately 6 km from the junction with State Highway 63 between Lakes Rotoiti and Rotoroa, some 20 km west of St Arnaud Village and 91 kilometres from Richmond. Strongly rolling to moderately steep dissected terraces. Slopes are short and range from 20 degrees to 35 degrees with large areas of flat terrace tops. The majority of the property is suited to ground-based logging systems. Altitude ranges from 460m to a high point of 700m. Majority about 540m.

Kingsland Forest:

Located off Hill Street, Richmond, at the southern end of Hart Road, on the Richmond Hills, approximately 4 km from Richmond. Slopes are relatively steep, ranging from 20 degrees to above 45 degrees. Cable hauler systems would be the only practical method of harvesting. Altitude ranges from 160m to a high point of 513m. Majority about 350m.

Rabbit Island Forest:

Located on the coastal sand country in Tasman Bay, 11 km from Richmond. Covering most of Rabbit and Rough Islands. These two islands have multiple use, in so far as the predominant land use is plantation forestry, but large areas are also gazetted as recreation reserve open for public use. The entire forest is very flat affording the opportunity to use cheap ground-based harvesting systems. All of the forest is about 5-10m above sea level.

Sherry River:

The property is located in the Sherry River Valley approximately 15 km south west of Tapawera. It is situated 10 km west of the Tasman District Council's Borlase Forest, approximately 59 km from Richmond and 73 km from Port Nelson. The predominant slope on this property is rolling to moderately steep, but there are large areas of flat river terraces. A small section on the western boundary is steep (25 degrees to 38 degrees). Harvesting would be by way of a mix of ground-based, and cable systems. Altitude ranges from 190m to a high point of 660m. Majority about 250m.

Tunnickliff Forest:

Located just off State Highway 6 at the Wai-iti Bridge near Wakefield, approximately 21 km from Richmond. Rolling to moderately steep. Slopes range from 15 degrees to a maximum of 30 degrees. The majority of the block could be harvested with ground-based systems, although hauler systems could also be utilised effectively. Altitude ranges from 150m to a high point of 220m. Majority about 175m.

The forests are all accessible from country roads with access on to the State Highway system close by. Most have reasonably well developed internal access tracks which will require to be upgraded and, in some cases, to be extended before harvesting.

Ownership

Rabbit Island forest is situated on Crown Land which has been vested in the TDC for plantation purposes under the provisions of the Reserves and Other Land Disposal and Public Bodies Empowering Act 1920.

All other forest land is owned freehold by the TDC.

Forestry Rights

Howard River: Part of the blocks are subject to a transfer grant of forestry rights for 30 years (Pinus Radiata) and 40 years (Douglas Fir) involving a joint venture with M Wells. Total forest rights area total 20 ha (6.6 ha pine, 11.1 ha Douglas Fir). TDC receives 16% of stumpage at harvest.

Howard River: Part of the blocks are subject to a transfer grant of forestry rights for 40 years involving a joint venture with D & AM Bier. Total forest rights area total 67.1 ha (31.1 ha pine, 36.0 ha Douglas Fir). TDC receives 20% of stumpage at harvest.

Sherry River: This property has a 99.4 ha forestry right on it (of which 47.2 ha is planted) in the south western corner of the block. The forestry right involves:

- The grantee harvesting pine prior to the trees reaching 30 years of age, and Douglas Fir/Larch prior to age 45.
- Rates are payable by the grantee until clearfill.
- TDC receive no percentage share of stumpage at harvest.
- The land reverts to TDC after clearfelling.

18.6 ha of pine on this forestry right was harvested from mid January to early March 2001, and was replanted in winter 2002. A further 7.7 ha was harvested in the summer of 2001/2002, and replanted in winter 2003 by TDC.

Forestry Areas

The forest areas have been estimated by PF Olsen and Company Ltd from stand maps, stand record information, and aerial photography. The forest resource is summarised as below.

Forest Resource Area Summary (excludes amenity areas)

Area (hectares) as at 1 July 2006. (OLB = outside legal boundary)

Forest	Planted TDC	Planted Joint Venture	Awaiting Planting	Total Legal Area	Planted OLB	
					Private Road	Private Land
Borlase	742.3			971.2		
Eves Valley	17.8			42.0		
Howard	449.4	84.7		955.3		1.8
Kingsland	96.9			171.9	1.3	1.0
Rabbit Island	933.4		73.6	1,196.9		
Sherry	358.4	47.2		623.4	7.8	4.6
Tunncliff	92.9			133.4		0.5
TOTAL	2,691.1	131.9	73.6	4,094.1	9.1	7.9

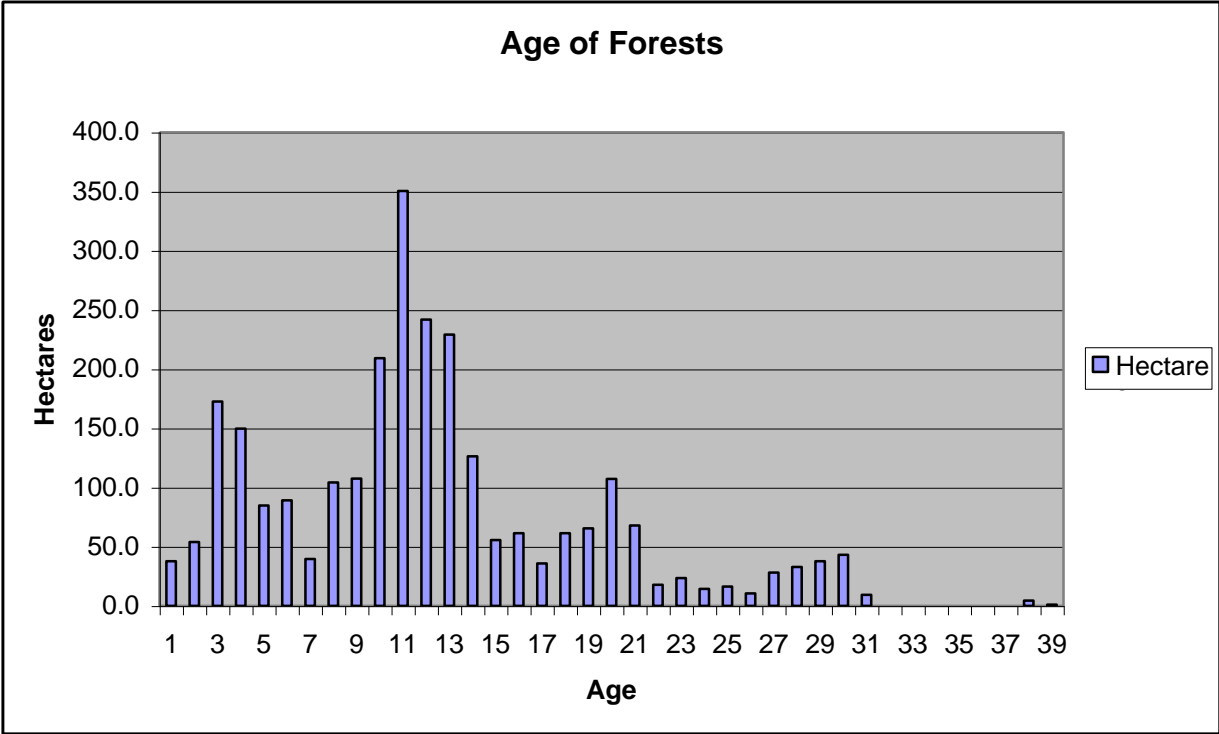
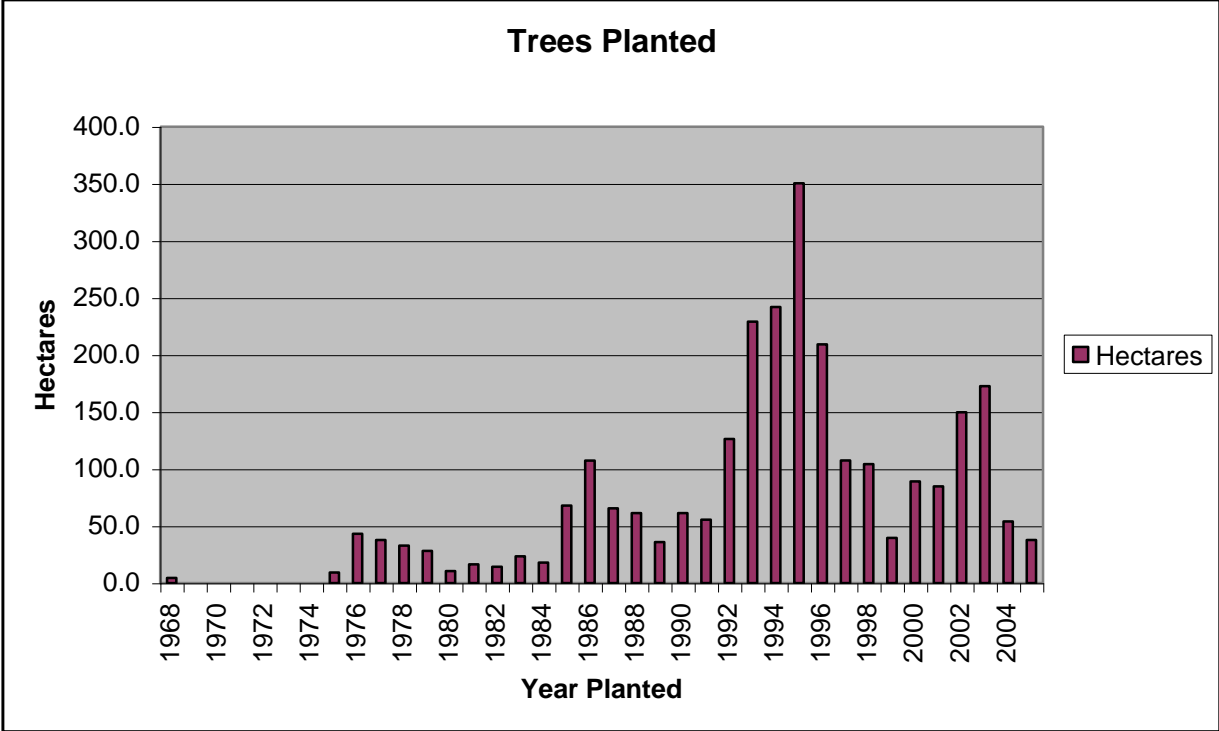
Note: The "Awaiting Planting" column relates to areas that were planted subsequent to 1 July 2006.

The forest comprise largely radiata pine with small areas of Douglas Fir and Cupressus species.

The Rabbit Island areas include the Recreation Reserve

Forest Area by Forest and Planting Year (all species)

Planted Year	Age of Trees at 1 July 2006	Borlase	Eves Valley	Howard	Kingsland	Rabbit	Tunncliffe	Sherry River	Total
Awaiting						73.6			73.6
									0.0
1953	53	1.1							1.1
1968	38					4.5			4.5
1969	37								0.0
1970	36								0.0
1971	35								0.0
1972	34								0.0
1973	33								0.0
1974	32								0.0
1975	31					9.3			9.3
1976	30					43.2			43.2
1977	29					37.8			37.8
1978	28				32.9				32.9
1979	27					28.2			28.2
1980	26	1.0				9.5			10.5
1981	25					16.4			16.4
1982	24					14.3			14.3
1983	23	23.5							23.5
1984	22					17.9			17.9
1985	21					67.9			67.9
1986	20					107.3			107.3
1987	19	26.1				39.4			65.5
1988	18	19.8			3.6	38.0			61.4
1989	17	13.1				22.8			35.9
1990	16				34.5	26.9			61.4
1991	15					55.6			55.6
1992	14	48.2				78.1			126.3
1993	13	106.3	17.8	79.8		25.3			229.2
1994	12	2.1		179.7	24.1	36.0			241.9
1995	11			166.9		23.4		160.2	350.5
1996	10	1.2				80.9	9.8	117.3	209.2
1997	9	17.0		8.5		31.2	9.9	40.9	107.5
1998	8	3.0		10.7	1.8	7.5	69.5	11.8	104.3
1999	7	34.0					3.7	1.9	39.6
2000	6	89.1							89.1
2001	5	84.8							84.8
2002	4	118.1				13.1		18.6	149.8
2003	3	148.8				16.1		7.7	172.6
2004	2			3.8		50.2			54.0
2005	1	5.1				32.6			37.7
TOTAL		742.3	17.8	449.4	96.9	933.4	92.9	358.4	2,691.1



Planted Areas summarised by Species

Area (hectares) as at 1 July 2006

Species	Area (ha)	Percentage
Radiata Pine	2,447.1	91
Douglas Fir	221.6	8
Cupressus Species	19.9	1
Other Species	2.5	
TOTAL	2,691.1	100

Radiata Pine is usually harvested between 25 and 35 years, Douglas Fir between 40 and 50 years, and Cupressus Species at a minimum of 35 years.

Forestry Management

The forestry plantations are currently managed by PF Olsen and Company Ltd from the Nelson Branch office with back-up from the company head office in Rotorua. PF Olsen and Company Ltd have been employed to manage TDC's forestry operations since June 1992.

Prior to June 1992, Council forests were managed by Council staff on an ad-hoc basis. Since 1992 a professional silviculture programme has been implemented with proper tending and quality control procedures. This has resulted in better quality logs, with a higher density ratio being bred into the trees.

The forestry managers report directly to the Parks and Reserves Manager of the Tasman District Council and quarterly to the TDC Enterprises Subcommittee.

Harvesting Plans

The forest estate is to be managed on a sustained yield basis, with the aim of similar timber volumes to be harvested each year in perpetuity.

Cutting plans comprise a prediction of the volumes by grades over a period of 2-3 years. Cutting plans are based on pre-harvest inventory and log outturn from similar stands if available. The objective of the long term cutting plan is to produce an even flow of timber with rotation ages of not less than 25 years for unpruned stands and 27 years (preferably 30 years) for pruned stands. The ultimate objective is to achieve a non-declining annual volume cut from the forests with an average stand rotation of 30 years. The current cutting plan for the TDC estate is set for the clearfelling of 20-24,000 m³ of timber per annum. This level of clearfelling is sustainable in the long term, apart from zero harvest in 2010/2011, and will see a gradual increase of clearfell rotation age throughout the TDC forest estate from age 25 currently to age 30.

In the current long term forestry management plan the annual cut proposed is 20,000 m³ to year 2013, then 40,000 m³ to year 2023, 120,000 m³ to 2029, 85,000 m³ to

2035. After 2035 the annual cut will fall back to a long term sustainable level of about 45,000 m³.

Proposed Harvesting Plan Commencing 1 July 2007

Year	Volume (m ³)	Forests Harvested	Area Harvested (ha)	Area Harvested with Tree age < 30 years (ha)	Average Tree Age
2007/2008	23,000	Rabbit	46	8.3	31
2008/2009	23,000	Rabbit & Kingsland	45	0	30
2009/2010	22,000	Rabbit & Borlase	51	19.2	29
2010/2011	0		0	0	0
2011/2012	24,000	Rabbit & Borlase	56	56	28

Comment

The next 10 years harvest will be from trees planted from 1975 to 1985. As can be seen by the graph entitled Trees Planted there is a shortage of trees planted in the period 1975 to 1985. PF Olsen recommends cutting some of the 1986 crop early to mitigate this shortage. This situation is sub-optimal but is required to meet the current forestry policy. However, there will be no harvesting at all in the 2010/2011 year as there is not enough area to harvest. This has been reflected in the Long Term Council Community Plan (LTCCP). The next 6-7 years will be very tight for harvesting.

To fill this shortage in harvest, TDC would need to buy 20 year plus trees. As these trees are close to harvesting age the price would be high as recent sales of forests have been at a discount rate of around 7 to 8 percent. Buying trees close to harvest can also be 'speculative' in nature as the price will be factoring in short term international prospects which may or may not happen.

A better option to smooth out future cut levels could be to buy land now and plant new forests, as with a larger estate it is easier to have a long term sustainable cut.

There were a large quantity of trees planted by TDC in the 1990s. Virtually all the silviculture and pruning has been done on these trees with only maintenance type work required on them.

Through the harvesting regime mentioned earlier, over the long term, tree planting should become more consistent which will allow a more consistent harvest each year.

TDC's current policy is to put aside half of the net forestry surplus each year, after meeting the costs of maintenance of Rabbit Island recreation reserve, for expansion of Council's forest resource, and that the other half of this surplus is to be used for supporting the general rate. A contribution equivalent to 25% of the general rate has

been set as the ultimate target. (Tasman District Council Forest Management Policy Review – June 1998).

The ability to meet this target depends on market conditions, harvesting locations and forest costs. As the Tasman District has grown, and subsequent rates demands have increased, PF Olsen has estimated that a minimum estate of at least 3500 hectares would be a reasonable long term target and would provide better economies of scale.

The current discount rate used for the annual valuation is 8 per cent post-tax. At current log prices and land prices, the real rate of return from forest investment in the Nelson region is around 5 to 7 percent post-tax. Accordingly, a 6 percent real rate of return post-tax is considered realistic for investment decisions. In reality, unless land prices fall and long-term prices increase it will be difficult to find investment opportunities that will allow the forest estate to expand beyond its current size. Also, any land/forest acquisition should take account of that approximately 40% of the forest area is age 10 or younger.

Historical Performance

In this section we review the historical economic performance (both operational and cashflow) of the forestry investment since 1993.

Tasman District Council has invested in forestry for many years prior to 1993. However, separate accounting records were not kept for the forestry activity until 1 July 1992. The forestry activity was first recorded as an asset in the financial year 30 June 1992 using a market valuation performed at the date by PF Olsen & Company Ltd. (The market value of the TDC forests first recorded as an asset in June 1992 was \$13,832,546 using a cashflow basis with an 8% discount rate, on a 1816 ha estate).

The Coopers & Lybrand report commissioned in 1995 indicated that returns in the range of 7 percent to 12.6 percent would be appropriate. Current indications are that a return of between 7 percent and 9.5 percent is still an appropriate return for forestry assets. (Source: Franklin Rural Management – Franklin Rural Management are a promoter of forestry schemes).

As a comparison the rate of return on 90 day bank bills from 1993 to 2006 was 6.81 percent. (Source: Reserve Bank of New Zealand).

It should be noted that the last few years have been difficult for forestry with weak export log demand and downward pressure on domestic prices. The main factors affecting exports have been:

- Record high shipping costs
- Strong exchange rate
- Weak demand in Korea caused by a diversion of shipping, steel and other resources to China as it prepares for the 2008 Olympic Games.
- Strong competition from Russia in the Chinese log market.

Domestic log demand has been steady although saw millers have been coming under strong financial pressure due to declining residential and commercial construction, as well as costs associated with the introduction of new timber grading standards.

Council's operating return (which is profit divided into original forest cost) from 1993 to 2006 in percentage terms was an average of 5.2 percent per annum.

Return on assets which takes into account unrealised gains and losses (that is, revaluation movements) was an average of 8.2 percent per annum.

FORESTRY ANALYSIS														
OPERATING														
ACTUAL														
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Revenue														
Forestry Revenue	1,711,351	2,759,361	2,020,748	3,191,155	2,720,205	3,303,936	2,891,059	2,891,498	4,900,739	3,356,119	3,275,120	2,506,382	1,761,272	1,897,789
Less														
Operating Costs	958,533	1,602,915	1,261,538	1,729,094	1,574,749	2,232,692	2,213,756	2,250,740	3,257,094	2,849,473	2,580,005	1,877,265	1,393,309	1,252,438
Forestry operating surplus	752,818	1,156,446	759,210	1,462,061	1,145,456	1,071,244	677,303	640,758	1,643,645	506,646	695,115	629,117	367,963	645,351
Operating rate of return	4.5%	6.9%	4.5%	8.7%	6.8%	6.4%	4.0%	3.8%	9.8%	3.0%	4.2%	3.8%	2.2%	3.9%
Revaluation Gain/(Loss) on Land & Crop (\$)	11,459,289	324,019	3,071,659	(491,000)	(2,736,253)	(840,000)	(107,000)	(300,502)	(2,177,498)	718,000	(432,000)	(1,074,000)	(1,099,180)	4,298,933
Total return on assets	72.9%	5.2%	13.4%	3.1%	-5.1%	0.8%	2.1%	1.2%	-2.0%	4.9%	1.0%	-1.8%	-3.0%	21.4%
Operating return average 1993 - 2006	5.2%													
Total return on assets average 1993 - 2006 (Includes unrealised gains & losses)	8.2%													
Benefits to Rate Payers														
Contribution to General Rate	275,000	525,000					400,000	600,000	600,000	600,000	600,000	600,000	700,000	400,000
Contribution to Parks & Reserves			140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000
	275,000	525,000	140,000	140,000	140,000	140,000	540,000	740,000	740,000	740,000	740,000	740,000	840,000	540,000
Opening Market Value (Land & Crop)	16,749,000	28,651,289	29,306,308	31,603,967	33,978,967	28,376,714	27,536,714	27,429,714	26,829,212	24,951,714	28,589,714	25,237,714	24,163,714	28,270,534

**FORESTRY ANALYSIS
CASHFLOW
ACTUAL**

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Revenue														
Forestry Revenue	1,711,351	2,759,361	2,020,748	3,191,155	2,720,205	3,303,936	2,891,059	2,891,498	4,900,739	3,356,119	3,275,120	2,506,382	1,761,272	1,897,789
Less														
Loan Principal Costs	-	-	-	384,057	-	289,506	-	-	116,537	-	-	-	-	-
Contributions to other Council Activities	275,000	525,000	140,000	140,000	140,000	140,000	540,000	740,000	740,000	740,000	740,000	740,000	840,000	540,000
Operating Costs	958,533	1,602,915	1,261,538	1,729,094	1,574,749	2,232,692	2,213,756	2,250,740	3,257,094	2,849,473	2,580,005	1,877,265	1,393,309	1,252,438
Forestry Cashflow surplus	477,818	631,446	619,210	938,004	1,005,456	641,738	137,303	(99,242)	787,108	(233,354)	(44,885)	(110,883)	(472,037)	105,351
Revaluation Gain/(Loss) on Land & Crop (\$)	11,459,289	324,019	3,071,659	(491,000)	(2,736,253)	(840,000)	(107,000)	(300,502)	(2,177,498)	718,000	(432,000)	(1,074,000)	(1,099,180)	4,298,933
Benefits to Rate Payers														
Contribution to General Rate	275,000	525,000					400,000	600,000	600,000	600,000	600,000	600,000	700,000	400,000
Contribution to Parks & Reserves			140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000	140,000
	275,000	525,000	140,000	140,000	140,000	140,000	540,000	740,000	740,000	740,000	740,000	740,000	840,000	540,000
Opening Market Value (Land & Crop)	16,749,000	28,651,289	29,306,308	31,603,967	33,978,967	28,376,714	27,536,714	27,429,714	26,829,212	24,951,714	28,589,714	25,237,714	24,163,714	28,270,534

Nelson Forestry Industry

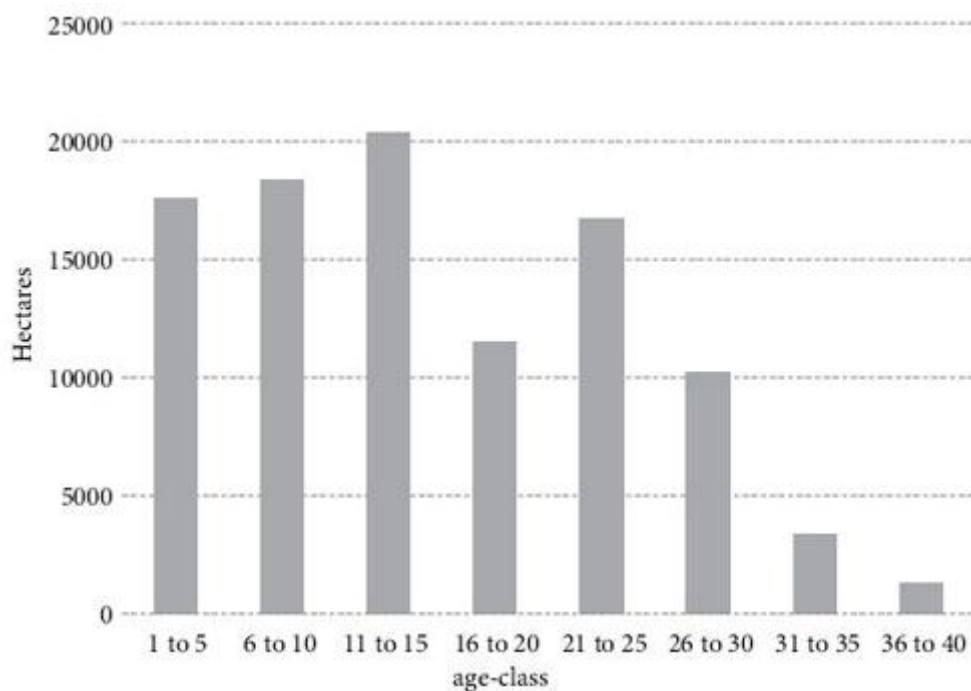
The following information has been predominately extracted from the Ministry of Agriculture and Forestry report “Nelson/Marlborough Forestry Industry and Wood Availability Forecasts – 2006”.

Owners and managers of planted production forests in Nelson/Marlborough (stocked area as at 1 April 2005)

	Nelson (ha)	Marlborough (ha)	Nelson & Marlborough combined (ha)	Percentage of total area
Weyerhaeuser New Zealand Inc	40 800	19 000	59 800	34
Carter Holt Harvey Forests	25 600	-	25 600	15
GMO Renewable Resources	3 700	-	3 700	2
Flight Forestry Ltd	-	5 000	5 000	3
Nelson Pine Industries Ltd	1 900	1 600	3 500	2
Marlborough Regional Forestry	-	3 100	3 100	2
Tasman District Council	2 700	-	2 700	2
Manuka Island Trust	-	2 000	2 000	1
UBS Resource Investments International	-	1 600	1 600	1
Matariki Forests	-	1 500	1 500	1
Wakatu Incorporation	-	1 300	1 300	1
Small-scale forest owners	25 100	39 000	64 100	36
Total	99 800	74 100	173 900	100

Age-class distribution for planted production forests as at 1 April 2005

Nelson

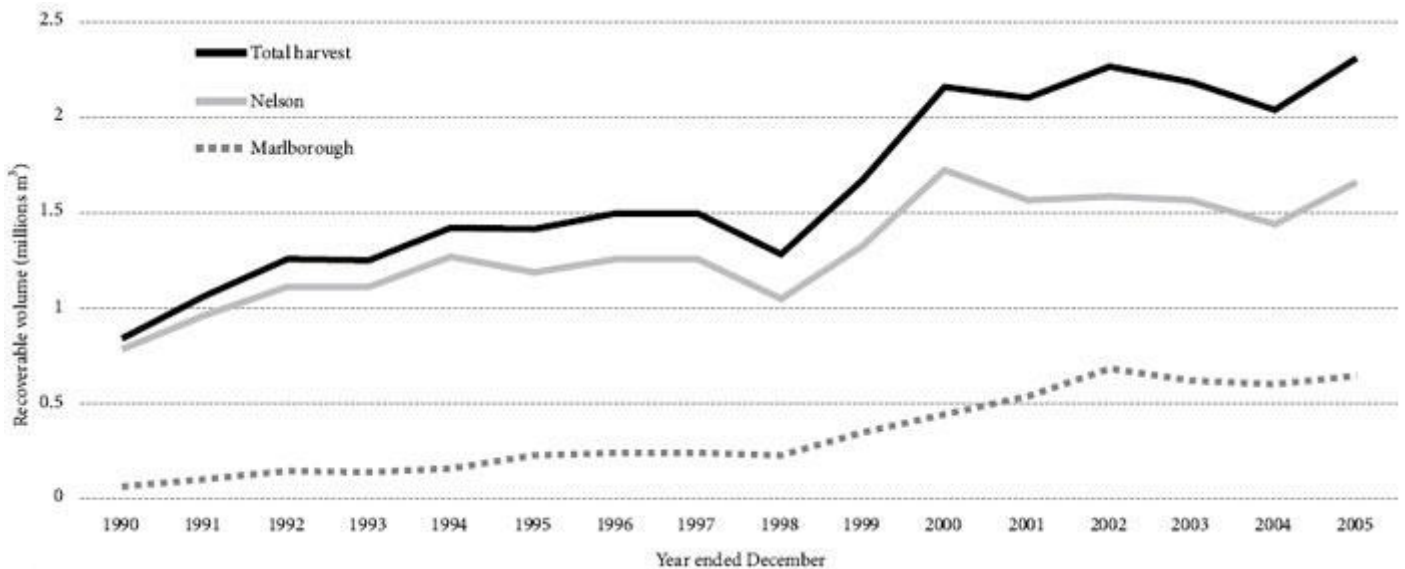


The Nelson/Marlborough region has a mature forest industry with a well-managed forest estate. The region also has a good mix of wood processing plants including sawmills, a laminated veneer lumber (LVL) plant, a world-scale medium density fibreboard (MDF) plant, and the largest post and pole processing plant in New Zealand.

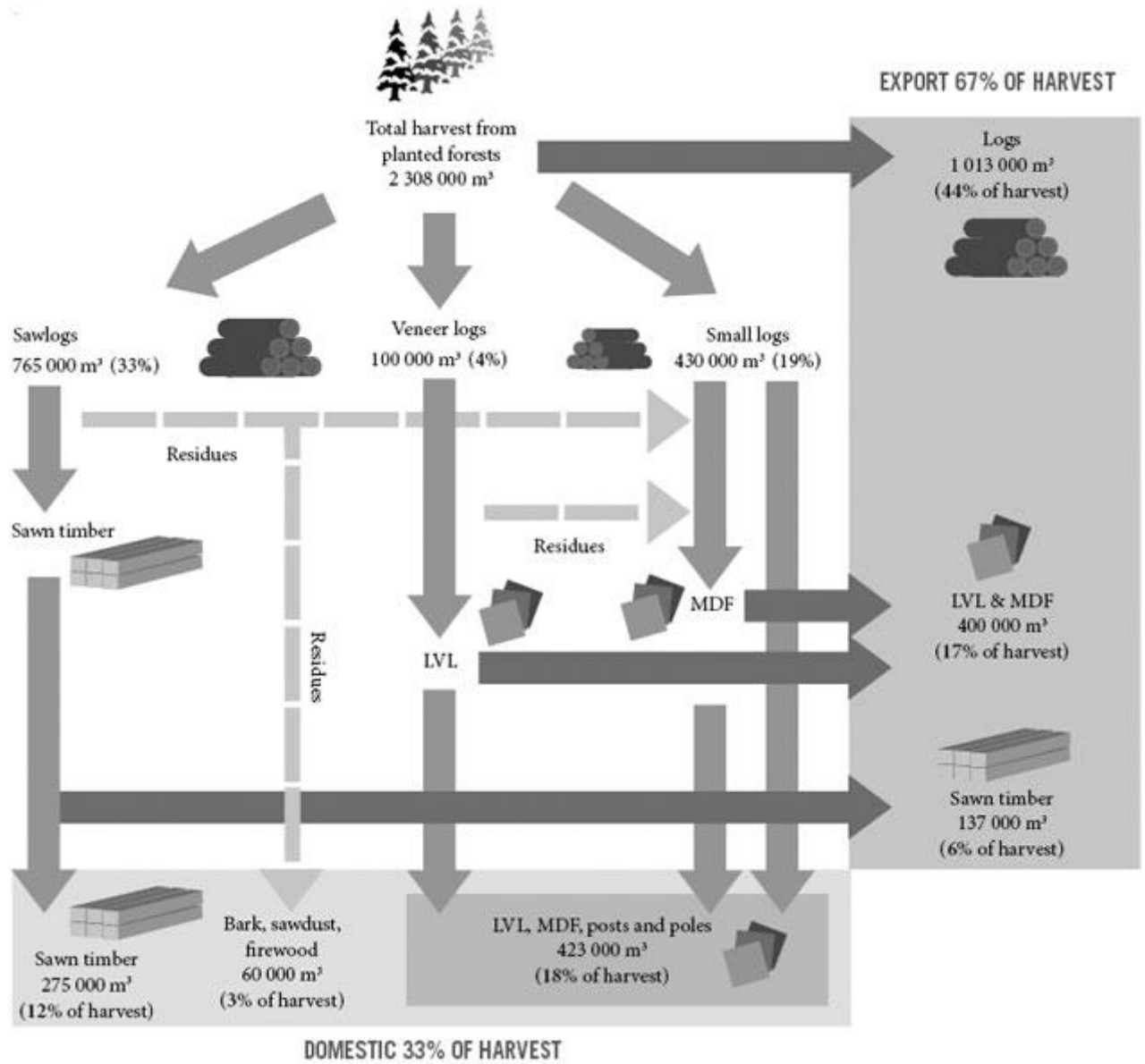
Harvest intentions survey

A harvesting intention survey of the 11 large-scale forest growers was completed in January 2006. Growers provided data on the actual level of harvest from these forests for 2004, and the expected harvest for 2005. Their harvesting intentions for the next 10 years were recorded by species; for pruned, unpruned and chip logs; and for the area harvested. The harvest intentions of large-scale forest owners in Nelson and Marlborough show little change in the level of harvest over the 10-year period to 2015. Their intended harvest does, however, provide a very important component of the future forest harvest. The large-scale forests are well-managed and the data provided has a high degree of reliability.

Estimated harvest, Nelson and Marlborough



Log flow in the Nelson/Marlborough forest industry for the year ended 31 December 2005 (provisional)



Note

The estimated harvest is derived from export data and forest processing data in Nelson and Marlborough. It does not include logs harvested in Nelson or Marlborough and processed on the West Coast, which are estimated to be about 50 000 cubic metres.

Port Nelson

Port Nelson lies at the head of Tasman Bay, in the shelter of Nelson Haven, a broad tidal expanse bounded by the Boulder Bank. The port is dredged to a guaranteed minimum depth of 9.8 metres, and the port facilities are situated on flat reclaimed land to the south of the harbour berths. The port is jointly owned by Nelson City Council and Tasman District Council, with each local authority holding 50 percent of the shares.

Forestry remains Port Nelson's major cargo, with the export of 599 000 tonnes of logs and 444 000 tonnes of MDF, timber and LVL. This equates to 40 percent of the throughput volume in the year ending June 2005. Log export volumes are expected to be flat over the next 10 years, while the volumes of processed forest products are projected by the port company to increase by 31 percent to 583 000 tonnes. In 2005, 59 percent of log exports went to Korea, 27 percent to Japan, and the bulk of the remainder to China.

Road transport

Nelson forests are well serviced by state highway and local authority roads. The forestry industry has also established a very extensive forest roading infrastructure.

Opportunities and constraints

Opportunities

Positive attributes of the region

The Nelson/Marlborough forest industry has many attributes that could help it develop over the next 15 to 20 years as wood availability increases. The advantages of the region for the forest industry include:

- the closeness of the forest resource to processing facilities and ports;
- a forest resource that has fairly uniform characteristics;
- a mature Douglas-fir resource;
- a mature pruned radiata pine resource (with about 10 000 hectares older than 25 years);
- the strength and stiffness of locally-grown radiata pine;
- a reasonable level of infrastructure (ports, roads, engineering);
- a diversified processing industry with potential to expand;
- a well-managed forest resource;
- a highly skilled workforce experienced in cable logging;
- land available for expansion at some existing processing sites;
- the potential to increase the level of processing and the area of forest;
- an absence of major land-use change pressures, compared with some other regions.

Constraints

The likely key constraints on the development of the forest industry in Nelson and Marlborough over the next 20 years are described below.

National constraints

Several national-level constraints will affect the Nelson/Marlborough region. These include, among others:

- requirements under the Resource Management Act (RMA);
- compliance costs;
- skill shortages;
- road and sea transport costs;
- the fluctuation of the New Zealand dollar;
- the fragmentation of the industry;
- New Zealand's distance from its markets;
- increased competition from low-cost producers;
- non-tariff barriers;
- market pressure from wood substitutes.

Processing expansion constraints

Increased wood availability will not automatically lead to new processing capacity. Timber companies will establish new processing facilities only if their product ranges can compete in the international market.

Attempts to zone land for forest processing, and the establishment of new greenfield facilities have often met with public resistance. This resistance has encouraged timber companies to expand existing plants rather than build new facilities.

Changes in the local industry structure

In the past the large forest owners and processors have provided important leadership for the forest industry. If forest sales and change of ownership result in more fragmentation of the forest industry it is likely to weaken the leadership and profile of the forest industry at a local level.

Need for infrastructure development

The increase in wood availability will require more infrastructure development. An increase in harvest of 300 000 cubic metres would increase the number of logging-truck loads by about 40 a day. The dispersed and more fragmented nature of this forest resource will have an impact on transport infrastructure.

At present all sawn timber is exported through Port Nelson. The storage areas for logs and processed forest products at Port Nelson are to some extent limited by the topography.

Requirements of the Resource Management Act

The detailed requirements for forest growing and processing under the Nelson/Marlborough Resource Management Plans can be obtained from the councils. The main points to note are as follows.

- In the Tasman District there are constraints on forestry in the Land Disturbance Area 2 which encompasses the Separation Point granite terrain.
- The planting and harvesting of production forests near rivers and the coast are governed by riparian zones and coastal marine areas which introduce constraints.
- Harvesting activity in most of Nelson/Marlborough is a permitted activity subject to constraints, such as permits for substantial earthworks and stream crossings.

Getting RMA approval for new processing facilities is often a costly and uncertain process which can take years. In some cases this cost and uncertainty has encouraged forest companies to expand existing plants instead of building new ones.

Resource Management Act issues that could arise in the Nelson/Marlborough forest industry in the future include:

- additional processing sites needing resource consents;
- pressure on processing sites to meet national air quality standards;
- the impact of forests on water availability;
- boundaries with rural lifestyle subdivisions providing a potential source of objectors to resource consent applications;
- the public's negative image of forestry driving objections to resource consent applications;
- fumigation requirements for export forest products;
- the impact of discharges to water from forestry activities on fresh and marine water quality.

Shortage of skilled labour

A training-needs analysis undertaken in 2003/2004 by Forme Consultancy identified the shortage of skilled labour as “a factor having the most significant impact on future employment in the industry”. It also “accepted that a poor industry image along with the need for better retention strategies and more targeted training are other factors that contribute to the shortage of skilled labour in the forest industry”.

Comment

Nelson has a strong processing industry and Council is a long term supplier to them. TDC has good links with local suppliers as they can supply them with the right quality logs. TDC exports the logs that are surplus to what the local market requires. In recent years TDC has exported less than 20% of their harvest. The Nelson domestic log price has stayed reasonably consistent over the last 10 years and has been better performing than export prices. This is partly because the logs produced for the domestic market are of higher quality than the export market demands due to the small average size of branch knots and high wood density.

International Situation and Outlook for New Zealand Forestry

The following information has predominately been extracted from Ministry of Agriculture and Forestry reports.

Log Prices have risen in recent months, benefiting forestry owners who have suffered over recent years. This is expected to be the beginning of a sustained rise in log prices.

International log prices have been improving since late 2006, in part because of the Russian Federation's decision to progressively increase its log export taxes. The Russian Federation accounts for about 40 percent of world softwood exports. On 5 February 2007, the Russian Federation Government announced its intention to increase export taxes on its softwood log exports to 80 percent by 2009. This will contribute to a steady rise in international log prices over the forecast period and benefit the forestry sector. The outlook for international log prices hinges on the implementation, enforcement, and longevity of these taxes.

Also, higher prices for hardwoods have caused Korean and Japanese manufacturers to substitute hardwoods with New Zealand logs, and they have bid up the price in the process. India and China have also increased demand for logs, which has reinforced higher prices.

More than 70 percent of roundwood equivalent produced in New Zealand is exported. Key destinations for forestry exports are South Korea for logs; Australia for paper products; and Japan for panels. New Zealand accounts for about 1 percent of the world's total supply of wood for industrial purposes.

Forest harvesting in New Zealand declined 16 percent between the years ended 31 March 2003 and 2006. Margins have been squeezed by relatively low international prices, a high exchange rate, and cost pressures from increasing transport and energy prices. A third of forests harvested in 2006 were not replanted; instead the land was converted to other uses.

The increase in log prices is lifting the costs of raw materials for wood and paper manufacturers. Manufacturers are facing increasing competitive pressures, particularly from new investments in manufacturing plants in South America, Asia and the Russian Federation. The continuing weakness in the US and Australian residential markets is also hindering the industry.

The availability of wood for harvest will increase in the short term because of the age structure of New Zealand's forestry estate. The increase in harvest is expected to be exported, mostly in the form of logs, because of low levels of investment in processing facilities.

Forestry prices and volumes

Year to 31 March	Actual				Forecast			
	2004	2005	2006	2007	2008	2009	2010	2011
Logs and chips								
FOB ¹ price (\$/m ³)	82	78	84	105	114	122	136	145
Export volume (000 m ³)	8 136	5 649	5 753	6 532	6 798	7 089	7 394	7 713
Timber								
FOB price (\$/m ³)	421	438	396	415	393	410	449	477
Export volume (000 m ³)	1 624	1 847	1 818	1 939	1 939	1 969	2 008	2 048
Panels								
FOB price (\$/m ³)	476	511	451	454	473	492	536	558
Export volume (000 m ³)	1 069	1 132	1 125	994	1 021	1 053	1 093	1 143
Pulp								
FOB price (\$/t)	594	585	559	734	680	668	719	763
Export volume (000 t)	716	839	854	810	815	815	815	814
Paper								
FOB price (\$/t)	897	810	798	981	919	977	1 084	1 152
Export volume (000 t)	458	625	682	521	507	506	506	506
Total forestry export value (\$ mil)								
	3 125	3 255	3 164	3 562	3 542	3 788	4 274	4 646

Note

1. Free on board – the value of the goods delivered to the port of export and loaded onto a vessel for transportation out of the country of origin.

Source Statistics New Zealand and MAF.

From the year ending 31 March 2007 to the year ending 31 March 2011, the value of forestry exports is projected to rise 30 percent to \$4.65 billion. Forty percent of the rise in export value will come from increasing volumes and prices of logs.

Comment

Presently it is not very profitable to export logs due to the depressed log price and the fact that New Zealand is so far away from markets. There are problems at present getting logs exported and log exporters are not well co-ordinated. There is also evidence that shipping companies are favouring other exports over logs as they are more lucrative and cause less damage to their ships. This situation should get better with the increase in log prices and the projected increase in demand for New Zealand logs.

Cartage costs have also increased recently due to the continued fuel price increases. PF Olsen and Company Ltd in their valuation of the TDC forestry estate as at 1 July 2006 noted that these costs were 10 percent higher than those for the 2005 valuation. (The cartage costs are based on historical and current data for operations undertaken by Olsen's and others in the Nelson/Marlborough region).

Public Good Costs

In assessing the 'value' of the TDC forest estate it is also relevant to take into account the public good aspects to the forests.

The forests are used by the residents of, and visitors to, the Tasman District region for a wide variety of purposes such as walking, horse riding, mountain biking, picnics, triathlons.

In the case of Rabbit Island, the provision of recreational facilities on some of the land is a condition of using the land for forestry, although it is possible that the land would be used for recreation irrespective of the forestry operation. The deed vesting the land in TDC includes a clause that requires 10% or more of the net profits from the forests to be used to maintain and improve the domain and reserves on Rabbit Island. For TDC's other forests the costs involved in allowing recreational use are minimal.

Other major forest owners in the Nelson region allow recreational use of their forests, but do not actively encourage it.

TDC gains certain advantages by providing recreational access to its forests. These include:

- Being viewed as a good corporate citizen by allowing access.
- Creating a positive image about the forests
- Letting ratepayers see where their money is invested

The forests are also valuable in that they have potential carbon credits and help Tasman District's carbon 'footprint'.

There are some costs involved in relation to the public good aspects of the forests such as increased administration and management costs.

TDC Forestry Valuation

The tree crop is valued using the following procedure:

1. A wood flow is forecast
2. Log prices are attached and harvest costs deducted to arrive at a revenue flow
3. Future costs including the notional rental are deducted from these revenues and pre-tax cash flow is constructed
4. The resulting pre-tax cash flow is converted to post-tax cashflow and discounted at 8 percent. This produces the forest value.

The annual cash flows associated with the forestry management strategy agreed between TDC and PF Olsen & Company Ltd have been computed using the Woodstock Forest Simulator Software. To satisfy the requirements of Woodstock each crop type is set up as a table with columns detailing areas, yields, and costs/revenues for each age class.

The value of TDC's Forest Estate as at 1 July 2006 is assessed to be:

Item	Value (\$m)
Tree Crop Value (Radiata Pine & D. Fir)	14.012
Cupressus Stands	0.023
TOTAL	14.035

PF Olsen & Company Ltd have conducted sensitivity analysis testing on the Tree Crop Value (Radiata Pine and Douglas Fir) for changes in log prices and discount rate.

The following table shows the effect on the tree crop value of varying the discount rate and log prices.

Sensitivity of Tree Crop Value to Changes in Log Prices and Discount Rate (\$m)

Discount Rate	Log Prices		
	+10%	Base Price	-10%
7%	19.968	16.293	12.614
8%	17.424	14.012	10.816
9%	14.947	12.149	9.348

As can be seen by the above table, if we assume the same discount rate, if log prices increase 10% over the base price used in the 1 July 2006 valuation then the forest value increases by \$3.412m to \$17.424m.

Assuming the same log base price, if the discount rate decreases by 1 percent (that is, the risk involved in investing in forestry decreases) then the forest value will increase by \$2.281m to \$16.293.

Therefore, the forest value is very sensitive to changes in log prices and risk rate. The risk rate of forestry investment based on recent forestry purchases has been reasonably stable. With the forecasted increase in log prices and the increasing maturity of the TDC forests the value of the TDC estate could increase substantially.

Note: Log prices used by PF Olsen & Company Ltd in the Valuation

Log Grade	Price (\$/m3)
Pruned	145
A Grade	N/A
N35	95
N20	75
K Grade	65
Chip	40
D30	115
D20	94

Note: The actual value depends on the Pruned Log Index (PLI) at the time of felling. The value given is the base price, assuming a PLI of 7.0. (A base of 7.0 has been used for the valuation. PF Olsen & Company Ltd from their analysis of the TDC forests have projected the average non-weighted PLI for the TDC forests to be 7.9 at age 30.)

Future Performance of TDC Forest Activity

FORESTRY ANALYSIS										
OPERATING										
ESTIMATED										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Revenue										
Forestry Revenue	2,232,821	1,734,391	1,890,860	1,962,050	-	2,141,847	2,277,264	2,613,933	2,566,368	2,588,091
Less										
Operating Costs	1,208,584	1,404,880	1,639,783	1,553,624	684,824	1,883,389	1,670,750	1,883,077	1,927,823	2,241,498
Forestry operating surplus	<u>1,024,237</u>	<u>329,511</u>	<u>251,067</u>	<u>408,426</u>	<u>-684,824</u>	<u>258,458</u>	<u>606,514</u>	<u>730,856</u>	<u>638,545</u>	<u>346,593</u>
Operating rate of return	6.1%	2.0%	1.5%	2.4%	-4.1%	1.5%	3.6%	4.4%	3.8%	2.1%
Revaluation Gain/(Loss) on Land & Crop (\$)	0	0	0	0	0	0	0	0	0	0
Total return on assets	3.7%	1.2%	0.9%	1.5%	-2.5%	0.9%	2.2%	2.7%	2.3%	1.3%
Benefits to Rate Payers										
Contribution to General Rate	200,000	200,000					400,000	400,000	500,000	500,000
Contribution to Parks & Reserves	140,000	142,800	145,656	148,569	151,540	154,571	157,662	160,815	164,031	167,311
	<u>340,000</u>	<u>342,800</u>	<u>145,656</u>	<u>148,569</u>	<u>151,540</u>	<u>154,571</u>	<u>557,662</u>	<u>560,815</u>	<u>664,031</u>	<u>667,311</u>
Opening Market Value (Land & Crop)	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>	<u>27,363,467</u>

Note:

2007 figures are provisional only

Figures from 2008 onwards have been extracted from the LTCCP and are estimates only.

No allowance has been made for any revaluation gains from 2007 onwards.

**FORESTRY ANALYSIS
CASHFLOW
ESTIMATED**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Revenue										
Forestry Revenue	2,232,821	1,734,391	1,890,850	1,962,050	-	2,141,847	2,277,264	2,613,933	2,566,368	2,588,091
Less										
Loan Principal Costs	-	-	-	-	-	-	-	-	-	-
Contributions to other Council Activities	340,000	342,800	145,656	148,569	151,540	154,571	557,662	560,815	664,031	667,311
Operating Costs	1,208,584	1,404,880	1,639,783	1,553,624	684,824	1,883,389	1,670,750	1,883,077	1,927,823	2,241,498
Forestry Cashflow surplus	684,237	(13,289)	105,411	259,857	(836,364)	103,887	48,852	170,041	-25,486	-320,718
Revaluation Gain/(Loss) on Land & Crop (\$)	0	0	0	0	0	0	0	0	0	0
Benefits to Rate Payers										
Contribution to General Rate	200,000	200,000					400,000	400,000	500,000	500,000
Contribution to Parks & Reserves	140,000	142,800	145,656	148,569	151,540	154,571	157,662	160,815	164,031	167,311
	340,000	342,800	145,656	148,569	151,540	154,571	557,662	560,815	664,031	667,311
Opening Market Value (Land & Crop)	27,363,467	27,363,467	27,363,467	27,363,467	27,363,467	27,363,467	27,363,467	27,363,467	27,363,467	27,363,467

Note:

2007 figures are provisional only

Figures from 2008 onwards have been extracted from the LTCCP and are estimates only.

No allowance has been made for any revaluation gains from 2007 onwards.

**FORESTRY ANALYSIS
CASHFLOW
ESTIMATED**

	2017	2018	2019	2020	2021	2022
Area Felled (ha)	64	66	67	64	54	48
Revenue						
Forestry Revenue	2,024,709	2,116,184	1,916,263	2,067,849	2,023,517	1,201,119
Less						
Forest and Annual Costs	133,779	130,499	125,667	121,492	117,521	114,173
Forestry Cashflow surplus	<u>1,890,930</u>	<u>1,985,685</u>	<u>1,790,596</u>	<u>1,946,357</u>	<u>1,905,996</u>	<u>1,086,946</u>

Note:

Forest and Annual costs include pruning, thinning, spraying, forestry management, administration, road maintenance, blanking, protection, property maintenance, insurance and rates expenses.

Forestry revenue has been inflation adjusted and is recorded in July 2006 dollars. An inflation rate of 3 percent was used

The above cashflow estimate does not take into account any council overheads, staff time, or contributions to Parks & Reserves, or general rates.

Comment

The above forecasts have been extracted from TDC Long Term Council Community Plan, and from PF Olsen & Company Ltd's valuation cash flow statement for the year 2016/2017 to 2021/2022.

The information from 2016/2017 to 2021/2022 is extracted from PF Olsen & Company Ltd's valuation cash flow statement used to calculate their tree crop valuation as at 1 July 2006. This information has been included to show 30 years of forestry data (being the average life cycle of a Pinus radiata tree). The data does not take into account council staff time, council overheads or any contributions to Parks & Reserves, or general rates.

The above forecasts show that there is no income from forestry in the 2010/2011 year which is consistent with PF Olsen & Company Ltd's cutting plan mentioned earlier. It should also be pointed out that there are no contributions to the general rate from forestry from the 2008/2009 year to the 2011/2012 year.

When assessing the above forecasts you also need to take into account the tree ages and cutting plans mentioned earlier. From the 2013/2014 year the annual cut increases dramatically. This will have a large impact on the quantum of the forestry surplus and the amount of the contribution to rates from forestry.

Increase, Hold or Dispose Decision

The analysis in the preceding sections lead us to the following conclusions with respect to the forestry investment.

- The forests have been self-funding with substantial Forestry Encouragement Loans being repaid. They have not required any contributions from ratepayers to either acquire, maintain or harvest the forests. (Since records were held July 1992).
- The outlook for the forestry sector appears to be improving, although as with any investment there are risks, both in relation to the physical state of the asset and economic performance.
- There is considerable value in the forests which is considerably enhanced by movements in log prices.
- TDC's forestry investment is a valuable asset. The current forestry management practices being applied to the forest estate should assist in ensuring that TDC receives top prices for its timber and so maximise the relative value of the forests.
- The forests also have a public good component which should be taken into consideration when assessing the value of the forest estate.
- There will be no harvesting at all in the 2010/2011 year as there is not enough area to harvest. The next 6 to 7 years are very tight for harvesting. From 2013/2014 onwards the situation changes dramatically.
- There seems to be no economic rationale for TDC to divest its forestry investment as forests have been self-funding and the land has been increasing in value.
- As the harvesting and replanting over the next 6 to 7 years is tight TDC could consider purchasing more land to plant in forestry over this period so that when the next harvesting cycle comes around it doesn't encounter the same issues as at present.
- Any purchases of land for planting forests, or purchase of forests need to take into account land prices, the age class of TDC's forest estate, the long term nature of forestry, any associated increase in public good, Council's required rate of return on investments, economies of scale and the strategic value of the acquisition, and any change in overall risk of the forestry investment.
- Equally the forestry resource size should only be reduced if the monies generated can be invested to increase public good, and achieve a higher rate of return. A sale should only be made of appropriate age class trees which will not upset the current policy to achieve non-declining annual yield from the forest estate.

Conclusion

There are three options which Council needs to consider with regards to the forestry estate.

1. Dispose. Sell the forestry estate and invest the monies elsewhere.
2. Hold. Leave the forestry estate as it is and change the forestry policy with regards to the goal of having 25% of the general rate being funded from forestry.
3. Increase. Fully implement the forestry policy with regards to having 25% of the general rate being funded from forestry.

With regards to the above options we do not believe that Option 1 (Dispose) is a good option as there is evidence that forestry has paid its way throughout its life and the forestry outlook is positive.

With regards to Option 2 (Hold) we do not believe that this would be in the long term interest of Tasman District Council's ratepayers. It doesn't allow for any contributions to general rates in some years or meet the terms of the forestry policy.

We recommend Option 3 (Increase). The forestry policy with regards to the goal of having 25% of the general rate being funded from forestry should be pursued. This could include some acquisitions (land for planting or forests of the right age class) which could be funded from selling some of our surplus capacity in future years. It may also involve swapping the cutting rights for some of our trees with other forest owners to 'smooth' out our cutting plan. Any options pursued by Council will be fully analysed and will be brought to the Enterprises Subcommittee for its consideration.

Suggested Structure

We believe that the most appropriate governance structure would be to operate the forestry estate as a Business Unit. The forestry estate would be run on a fully commercial basis reporting to a Board of Directors or Advisors. The suggested establishment of a Business Unit for the forestry estate would enable the business to operate for clearly defined purposes with regular reporting to Council. Recreational aspects and public good would still be provided and the cost of providing such services would be identified in the Business Unit accounts.

The forestry Business Unit should comprise a small commercially focused Board of Directors or Advisors. Care would be needed to ensure that the correct profile is established for the experience, knowledge and ability for these positions. It is anticipated that there would be two Council appointees plus the Chief Executive or his nominee. Reporting would be on a monthly basis to the Board which would report to the Enterprises Subcommittee (who would fulfil the role of shareholders) on a six monthly basis.

The Statement of Intent, Annual Budget and Annual Report would be presented to the Council via the Enterprises Subcommittee. The Board would be provided with the authority to operate the forest estate within the budget.