Report **PE-04.598**
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Committee **Utility Services**
Author **Barry Leonard, Plantation Forestry Manager**

Plantation Forestry Operational Annual Report for Year Ended June 2004 and Proposed Programme for Financial Year Commencing June 2006

1. Purpose

To appraise Councillors of the results of Plantation Forestry operational activities in the year ended 30 June 2004 and to advise of the activities proposed for the financial year commencing 1 July 2006.

2. Exclusion of the Public

Grounds for exclusion of the public under section 7(2)(h) of the *Local Government Official Information and Meetings Act 1987* are:

> *That the public conduct of the whole or relevant part of the proceedings of the meeting would be likely to result in the disclosure of information for which good reason for withholding would exist, i.e.; to allow the carrying out of, without prejudice or disadvantage, commercial activities.*

3. Background

This is the fifth "Annual Report" on the activities of the Plantation Forestry Department. The report summarises the activities of the previous year, highlighting any variances from planned activities. It also outlines and seeks approval for those activities proposed for the 2006/7 financial year.

Approval for 2006/7 activities is required, so that forward orders can be placed for planting stock. This would be planted in July to September 2006 and June 2007.

4. Review of Operations - Year Ended 30 June 2004

4.1 Harvesting

Having learnt the folly of trying to log Puketiro in the winter, logging moved to Valley View just prior to the start of the financial year when the pruned prices collapsed. This move was about 4 to 6 weeks earlier than planned. Unfortunately, when the weather improved sufficiently to contemplate returning to Puketiro, pruned prices were still depressed and the decision was taken to remain in Valley View.

In contrast to the poor pruned prices offered through Rayonier, Forest Asset Management Ltd (FAM LTD) approached us with an offer to harvest pruned logs from the Hukinga for supply to JNL at Masterton. Out of courtesy we offered Rayonier an opportunity to bid for this harvest but, as they were unable to gain access to JNL, their bid was significantly inferior. FAM Ltd harvested in the Hukinga from June until JNL ceased accepting pruned logs in December. They returned to complete the harvest April.

The February storms caused severe damage in the Clarkes Creek stand and lesser damage to the Glider and Martins stands in Pakuratahi. As the windthrown logs blown over in the storm only had a limited merchantable time period before sapstain set in, the main crews in Valley View commenced felling in Clarkes Creek and an additional ground based crew was engaged to recover the worst of the windthrow in the Pakuratahi stands.

At year end all three crews were still working in the windthrow. Between March and June we harvested a total of 19,778 tonnes. At least 50 percent of this would have been windthrown logs, which would have been worthless if they were not harvested quickly, and the balance was getting access to the windthrow and "squaring off" the areas to give logical planting boundaries.

As a consequence of these forced changes to the harvest plans, Reservoir Ridge is yet to be completed and neither Blow Fly nor Kaika Mako in Puketiro have been commenced.

Total production for the year is detailed in table 1, page 3.

Generally, as part of each annual report, we report on actual production against the forest inventories (MARVL). For the current year, where the planned harvest programme had to be abandoned to permit the recovery of windthrown logs following the February storms, no complete blocks have been harvested. For this reason, accurate comparisons between actual production and inventories cannot be made.

A comparison of Reservoir Ridge and Clarkes Creek based on partial data only is set out in table 2, page 3.

Grade outturn compared with the predicted outturn is shown in table 3, page 3.

When estimates are prepared using the Marvl system, it is usual to utilise a simplified grade range or dictionary. This is normally made up of about 8 grades, whereas in "real life" there may be three times that number of options and the marketing companies are always "tweaking" grade parameters to gain the highest return for their clients.

In the case of Glider Club and Martins, only a total of 3,940 tonnes of windthrown logs were harvested. This was out of a total standing volume of over 31,000 tonnes. Although it is intended to clearfell the Valley View blocks by year end, only about 50 percent of the blocks had been cleared. For this reason, some variation between achieved output and projected output is unavoidable.

Table 1 - Total Production for the Year

	Mill/Port Price $	Cartage $	Harvest Costs $	Comm $	Export Adj. $	Net Return $	Volume m³	Average B4 Roads $
July	315,771	53,905	146,522	28,722	-3,092	**83,530**	5,613	**14.88**
August	301,805	49,443	129,946	22,723	-784	**98,909**	4,666	**21.20**
September	390,022	58,630	160,279	26,865	0	**144,248**	5,425	**26.59**
1st Quarter	**1,007,598**	**161,978**	**436,747**	**78,310**	**-3,876**	**326,687**	**15,704**	**20.80**
October	382,782	54,944	162,489	27,266	634	**138,718**	5,564	**24.93**
November	345,235	46,243	135,543	22,902	5,642	**146,190**	4,614	**21.68**
December	206,506	30,436	84,084	14,911	0	**77,075**	2,996	**25.73**
2nd Quarter	**934,523**	**131,623**	**382,116**	**65,078**	**6,276**	**361,983**	**13,173**	**27.48**
Half Year	**1,942,121**	**293,601**	**818,863**	**143,388**	**2,400**	**688,670**	**28,881**	**23.85**
January	203,344	53,046	148,042	26,846	0	**67,788**	3,381	**20.05**
February	316,530	49,276	133,865	26,415		**106,974**	5,173	**20.68**
March	303,384	44,339	119,054	23,672		**116,320**	4,580	**25.40**
3rd Quarter	**823,257**	**126,126**	**338,905**	**67,145**	**0**	**291,081**	**13,134**	**22.16**
Year to Date	**2,765,378**	**419,727**	**1,577,495**	**210,533**	**2,400**	**979,751**	**42,015**	**23.32**
April	381,074	53,046	148,042	26,846	-1,473	**151,668**	5,201	**29.16**
May	351,829	48,707	144,986	26,748	0	**131,388**	5,040	**26.07**
June	315,960	47,252	155,244	25,460	19	**88,023**	4,957	**17.76**
4th Quarter	**1,048,864**	**149,005**	**448,271**	**79,054**	**-1,455**	**371,079**	**15,198**	**24.42**
Total	**3,814,242**	**568,732**	**2,025,766**	**289,587**	**945**	**1,350,830**	**57,213**	**23.61**

Table 2 - Reservoir Ridge and Clarkes Creek Comparison

Grade	Description	Glider	Martins	V/View	Hukinga	Total	Percentage
51	Pruned			1,628	1,848	3,476	6.08
52N2	S Grade	401	101	9,728	1,671	11,901	21.8
52N7	7.3m S	128	31	755	45	959	1.68
53K/C	Export s/log	308	85	7,041	475	7,909	13.82
53N	Dom S /log		41	4,715	1,072	5,828	10.79
54	Posts and Poles			51		51	0.09
57K/C	Export S/log	145	29	409	919	1,502	2.63
57N	Dom S /log	90	13	3,624	909	4,636	8.1
58K/C	Export Rough	155	58	10,280	243	10,736	18.76
58N	Dom Rough			32		32	0.05
59K/C	Export Pulp			296	996	1,292	2.26
59N1	Dom Pulp	144	71	6,735	117	7,066	12.42
59N2	O/S/ Pulp	56		1,754	15	1,825	3.18
Other	D/Fir			0	70	70	0.12
Total		**1,427**	**428**	**47,048**	**8,310**	**57,213**	

Table 3 - Grade Outturn Compared with Predicted Outturn

	Glider			Valley View			Hukinga			Martins		
	Marvl	Actual	Diff.	Marvl	Actual	Diff.	Marvl	Actual	Diff.	Marvl	Actual	Diff.
	%											
51				12.50	3.46	-9.04	33.08	22.24	-10.84			
52	47	31.76	-15.24	17.62	22.28	4.66	13.96	20.65	6.69	46.9	30.76	-16.14
53	24	21.68	-2.32	24.23	24.99	0.75	9.58	18.61	9.03	19.26	29.47	10.21
54				0.00		0.00			0.00			0.00
57	10	16.57	6.57	30.17	8.57	-21.60	9.5	21.99	12.49		9.68	9.68
58		13.30	13.30	3.73	21.92	18.18	13.23	2.93	-10.30	14.5	13.56	-0.94
59	19	13.95	-5.05	11.73	18.67	6.94	20.65	13.40	-7.25	19.26	16.54	-2.72
O/S		2.75	2.75	0.03		0.03		0.19	-0.19			0.00
Other Sp.				0.00		0.00		0.84	0.84			0.00

We were fortunate to be allowed to access one of the Reservoir Ridge blocks through Gratton Brothers' property. This avoided over 3 km of roading adjacent to Clarkes Creek and a significant climb into the block proper. Because of the windthrow, we were unable to complete this setting and we propose to return later in the year. While this would be an ideal winter block with only a 1.5 km haul to the public road, we have to arrange work to avoid the Gratton Brothers' own harvesting. This normally takes place between June and September each year.

The main issues that arose in the past year related to the depressed market for pruned logs which prevented a return to complete stands in Puketiro in late spring as planned, and the effect on export prices of the New Zealand dollar, shipping costs, and the oversupply of logs after the February storms. The need to recover windthrown logs prevailed over any other options which may have been available. In summary, stumpage for the year arose as follows:

	$	Tonnes	$/tonne
Martins	4,132.33	428	9.65
Valley View	1,010,300.00	47,048	21.47
Glider Club	31,590.27	1,427	22.14
Hukinga	304,808	8,310	36.67
Total	1,350,830	57,213	23.61

4.2 Replanting

During the 2003/4 planting season a total of 180,400 trees were planted. At a stocking of 1500 stems per hectare this equated to 120 ha planted. All trees were GF 17–19. The areas replanted were in the Harris block at Puketiro and Reservoir Ridge/Clarkes Creek at Valley View, with a small area of Green Knob in Valley View replanted after windthrow had been harvested.

4.3 Silviculture

The 2003/4 silviculture programme consisted of 15 tasks within Pakuratahi and Hukinga Forests. The successful tenderers were Forest Developers and Management of Upper Hutt, which initially won 13 of the 14 blocks, with the other going to Green Gold Forestry of Porirua. As in the previous year, Forest Developers and Management transferred their Pakuratahi blocks to Green Gold Forestry, which completed at the rates tendered by Forest Developers. All silviculture was completed within the financial year.

The final programme was as follows:

Pakuratahi West	3.03	Medium prune	13.5 ha
Pakuratahi West	3.03	Thin to 350 spha	13.5 ha
Pakuratahi West	7.01	Medium prune	19.0 ha
Pakuratahi West	8.01	Medium prune	25.1 ha
Pakuratahi West	8.02	Medium prune	11.0 ha
Pakuratahi West	9.01	Medium prune	21.5 ha
Hukinga	1.01	Medium prune	3.8 ha

Hukinga	1.01	Thin to 350 spha	3.8 ha
Hukinga	1.02	Medium prune	13.3 ha
Hukinga	1.02	Thin to 350 spha	13.3 ha
Hukinga	11.02	Medium prune	3.4 ha
Hukinga	11.02	Thin to 350 spha	3.4 ha
Hukinga	15.01	High prune	5.8 ha
Hukinga	15.01	Thin to 350 spha	5.8 ha
Hukinga	15.02	High prune	12.7 ha
Hukinga	15.02	Thin to 350 spha	12.7 ha

Note: The thinning of block 15.01 was omitted from the tender documentation and added at a later date.

The contract price for the work was $89,480.75. An additional $4,750.00 was spent thinning windthrows and misshapen trees out of the macrocarpa stand at Curtis Flat.

4.4 Forest Health

The annual forest health survey was carried out be Forest Health Dynamics during December 2003. As with previous years, the survey was first conducted by air followed by specific investigation on land of any problems identified and a "drive by" inspection at the rate of 20 m per hectare. Inspection plots are carried out at random locations at 0.5 percent intensity. In some areas this intensity of random inspection could not be achieved because of wet ground and fallen trees.

The survey did not identify any new insect or fungal infestations within the forest. In summary, their findings were:

Akatarawa	*Dothistroma pini* is present and causing some needle cast.
Hukinga	Some infection by *Armillaria sp.* in the 1997 plantings and isolated instances of *Dothistroma pini.* Otherwise all trees are making good growth.
Maungakotukutuku	Low level *Dothistroma pini* in the main valley bottom. Some defoliation of individual trees but unable to isolate the cause. Suspect it may be "ecophysiological disorder " or *Strasseria.* Further work on this disorder is under way by FRI. Some evidence of wind damage.
Mangaroa	Forest in good health with some low levels of upper mid-crown yellowing.
Pakuratahi	General nutrient deficiency as evidenced by pale foliage was reported but this was not evident in inspections later in the year following receipt of the report. (The inspections were carried out in

December and the compliance certificates for the inspections signed in April with the report not being received until May.) Foliage analysis will be carried in February 2005 to check out nutrient levels. These blocks were treated with pelletised fertiliser in year 2.

There is evidence of damage through *Armallaria* and isolated pest animal damage (deer).

Puketiro	Generally reasonable growth with some animal pest damage (rabbits) among the new plantings, isolated defoliated trees and evidence of Cyclaneusma in fallen needle under older trees.
Spicer	No access available but viewed from the boundary the trees appeared in good health with only a trace of the previously reported *Dothistroma pini.*
Valley View	A number of defoliated trees are suspected to be infected with "Ecophysiological disorder" and other show the effects of *Dothistroma pini* and *Cyclaneusma minus.* Some *Seiridium unicorne* damage evident in the macrocarpa stands. Some damage from the eucalyptus tortoise beetle in the eucalyptus stands. This forest suffered serious *Dothistroma pini* damage when it was young and the higher stands were treated with copper oxychloride.
Whakatikei	Some pathogen damage among the new plantings and *Dothistroma pini* evident in the older trees. Macrocarpa stands attacked by *Seiridium unicorne* and thus future pruning should be restricted to the winter months. Some evidence of wind damage in exposed areas.

Although the comments above may suggest that there are health problems within the forest, the results are not out of line with other local forests. Staff will continue to monitor the suggested fertility deficiency in Pakuratahi.

4.5 Forest Access

The weather in spring was reasonable although rainfall levels appeared to remain relatively high. Because of market issues, the main logging operation had remained in Valley View and no pressure was placed on the longer route into Puketiro. The logging out of Hukinga used a well-settled road and no problems were encountered up to December when logging was suspended because of the lack of markets.

The February storms proved to be the beginning of ongoing roading problems caused in the main by either windthrown trees or the high moisture levels in the soils. The "Paekak" storm, while not causing too much damage, ensured

that moisture levels in the soils were far higher than normal and exacerbated the effects of the three storms in February. Physical road damage is estimated at around $15,000 but there were ongoing instances of "nuisance" slips which, while they are only random and small, still entail expenditure to clear.

There have been a large number of trees blown over in these events which have blocked access tracks. The major routes have been cleared as necessary but many minor routes remain obstructed.

With the significant area of windthrow, especially in Clarkes Creek, new shunt roads and skids have been constructed to enable the trees to be salvaged. In general, we have been able to use on site metal for these roads with the one exception being Martins block where it was necessary to purchase 900 tonne of road metal.

We have yet to gain access from the two MOT blocks to Paekakariki Hill Road and further discussions on options will take place in the next few months.

Elsewhere in the forest estate only the Maungakotukutuku block remains without four wheel drive access or better.

5. The Current Year

Harvesting

There has been little improvement in the market situation, with the domestic markets oversupplied with sawlog because of windthrow recovery operations; the pruned markets still depressed and - although prices started to rise in the central North Island - this is not expected to filter south because of the reversal of previous demand growth reported in the "Crow's report" which relates to finished timber and mouldings demand in the United States.

The export market rallied briefly before the New Zealand dollar strengthened again and shipping costs, which had drifted back to the early forties, climbed towards $US50/tonne again.

The market remains fickle and to date there does not appear to be an early improvement in the price of pruned logs. At the same time, while there have been some "real" price increases at destination for export logs, these benefits have to date been nullified by increases in freight and currency fluctuations.

Despite these market movements, we have had little option with our harvesting strategy but to continue to recover windthrown trees for as long as we can.

The latest estimate is that, provided there is not too much sapstain damage, we will continue recovery of windthrown logs until Christmas.

Overall we have been remarkably lucky because:

- The greatest area of damage was within a mature stand

- The stand was adjacent to the block we were harvesting
- Access was good - only minimal roading was required.
- We had two crews on-site and were able to obtain a third crew.

For the balance of the year, it is still our intention to try and concentrate on the Puketiro stands and retain Valley View for winter. This requires an acceptable market for pruned logs as all the mature Puketiro blocks have been pruned. However, as set out above, these plans may have to be amended to meet market demand.

The "best guess" scenario is:

October to December

Continue recovering windthrow from Clarkes Creek/Upper Long Spur (Valley View) and Martins (Pakuratahi West)

Harvest Green Knob (Valley View) - 15 ha

Complete Harris South (Puketiro) provided pruned prices from CNI acceptable - 12 ha

Move to Blow Fly (Puketiro) on completion of Harris South - 60 ha

December – April (providing the weather holds)

Concentrate on harvesting that part of MOT blocks, which can be accessed without significant roading and where tree quality is reasonable. (This assumes access through both Rallywoods and through Battle Hill.) Liaison with Parks and Forests will be necessary to minimise disruption to the public using Battle Hill.

May – June

Complete Reservoir Ridge (Valley View) with access through Gratton Brothers' property.

6. Proposals for the 2005/6 Year

6.1 Harvesting

On the assumption that markets return to "normal", with reasonable demand for all grades, harvesting for the 2005/6 year will be centred on the blocks below.

Of the blocks in the current contract, Harris North has been completed and it is likely that the last 12.1 ha of Harris South will have been completed. At present it is estimated that around 50 ha of the Reservoir Ridge block have been harvested to date, so it is reasonable to assume that about half of the remaining 56.5 ha will be felled in the current year leaving 28 ha for the winter of 2005/6. On this assumption the balance of the Martin block will

remain. Over the summer of 2004/5 it is likely that at least half of the Blow Fly block will be harvested and hopefully at least half of the MOT blocks. If this scenario proves correct, the likely remaining blocks at the beginning of the 2005/6 year will be:

Reservoir Ridge	28 ha	Structural
Blow Fly	35 ha	Maybe either pruned or part pruned
Martins (two blocks)	40.6 ha	Structural
Castle Ridge	2.6 ha	Structural
Lower Spur	11.3 ha	Structural
Beech Spur	7.5 ha	Structural
Total	125.0 ha	

It is unlikely that this area can be clearfelled within one year, so the blocks will be allocated to meet market preference, bearing in mind the wisdom of harvesting with a minimum cart distance during winter.

6.2 Replanting

6.2.1 General

It is recommended that the above areas be replanted in the winter following harvest. All blocks have produced reasonable trees to date, with parts of the Blow Fly block producing exceptional pruned butts. The good growth of pruned stems in the Clarkes Creek block suggest that similar results could be achieved in the adjoining Reservoir Ridge, Lower Spur, Beech Spur and Castle Ridge blocks under a full silvicultural regime. Martins block, although only an unpruned stand, has produced exceptional trees with regular net returns exceeding $30 per tonne. With the improved genetics and a full silvicultural regime, even better results can be anticipated in the next rotation.

6.2.2 Environmental Issues

There are no specific environmental issues with these blocks.

In the first rotation crop trees were planted right up to the stream banks. When replanted, standard riparian margins will be left to regenerate. Because of the alteration to the cutting plan following the storms, the harvest of the area adjacent to Clarkes Creek has not been completed. During harvesting the opportunity is being taken to remove any fallen trees obstructing the waterway. The sowing of the steep faces reported last year will occur in the winter after harvesting.

We will continue our present practice of regular monitoring of harvesting and replanting by an independent soil scientist. Any issues that may arise will be dealt with in accordance with “best industry practice” and on advice from the Regional Council's Environment Division.

6.2.3 Heritage Issues

There are no known heritage issues within the blocks proposed for harvest.

6.2.4 Recreational Issues

We are not aware of any issues relating to the interface between commercial forestry operations and recreational activities. When the harvesting of the MOT blocks take place there will need to be strategies in place to allow the movement of logging trucks through the recreational area in a safe manner. This will be developed in conjunction with Landcare Divisional staff at Battle Hill. The Reservoir Ridge areas recreational activities are generally motorised and we have an ongoing liaison with the main groups. Any effect on other groups is minimal, as only equipment maintenance is permitted on weekends unless special arrangements are made, and this is the most popular period for recreational activities. In the Reservoir Ridge the walking track has been upgraded to maintain the segregation between the two activities.

6.2.5 Suitability for Replanting

Present returns confirm that these areas will produce enhanced volumes in the second rotation. In some cases non-merchantable trees on ridgelines will not be harvested but will be retained to provide shelter from the prevailing winds for the new crop. Returns in the vicinity of 550–600 M3 per hectare can be anticipated.

6.2.6 Financial

Attachment 1 sets out the projected returns on a sample of each of the blocks that may be subject to replanting.

The net present values of the second rotation with sensitivities are:

Net Present Values

Forest Block	8% [$]	9% [$]	10% [$]
Martins	55,792	26,787	5,836
Reservoir Ridge	37,988	19,097	5,455
Blow Fly	45,220	24,701	9,668
Other	47,538	27,531	13,034

Internal Rates of Return

Forest Block	Base Case [%]	+10% Revenue [%]	-10% Revenue [%]
Martins	10.35	10.96	9.64
Reservoir Ridge	10.52	11.16	9.76
Blow Fly	10.88	11.58	10.05
Other	11.31	12.00	10.49

These figures set out the improved returns that can be anticipated from a well tended second rotation.

6.3 Silviculture

The following silviculture is programmed for the 2005/6 year.

Block		Year	Activity	ha
Whaka	2.01	1999	Medium prune	38
Whaka	3.01	2000	Low Prune	36.2
PakW	10.02	1998	High prune	17.0
PakW	11.02	1998	High prune	39.9
PakW	15.03	1998	High prune	13.0
PakW	16.03	1998	Medium prune	13.0
PakW	17.04	1998	Medium prune	45.6
PakW	18.03	1998	Medium prune	6.3
PakW	18.04	1999	Medium prune	28.5.
PakW	18.05	1999	Medium prune	6.4
Total area				243.90

Monitor growth factors and apply fertiliser if required.

Replanting as set out above.

7. Harvest Contracts 2001-2004, 2004-2009

The present harvest contract is intended to cease on 31 August 2005. I have agreed with the Contractors that, as production has been severely constrained since February of this year because of operations being focused on the recovery of windthrown logs, the termination can be based on volume rather than a calendar date. The volume in the contract documents was 385.4 ha. Assuming that production was constant between 1 March 2004 and 31 August 2005, they would have anticipated felling an area of 144.5 ha and the contract will not terminate until this has been achieved.

In the meantime it is proposed to invite tenders for the harvest programme to run from 1 September 2005 to 31 August 2009. The blocks to be included will depend on those clearfelled between now and the end of the present contract but will be drawn from:

		ha
Pakuratahi	5.01 5.02 4.01 12.01	19.6 3.2 23.9 28.1
Valley View	5.01 5.02 2.01/02 12.01 4.01 13.01 13.02	15.7 30.7 27.8 90.1 40.2 29.8 51.7
Hukinga	9.01/02 10.01 9.03/13.03 5.01 9.01	17.6 11.7 9.5 64.5 77.5
Total		541.6

This will permit an annual harvest of 135 ha per annum, which should equate to 67,500 tonnes per annum. The invitation to tender will allow the tenderer to nominate the form of any contract. This is done to ensure that the multinational companies do not dominate the process to the detriment of smaller companies. Tenderers are required to provide costings for the first two years of the programme and these are used to provide comparative revenues to Council. To ensure that bids are realistic we use grade volumes produced by our valuation consultant as a cross check. Tenderers are advised that the decision on the tender will be made on price, quality and reputation, and their tender should address the matters set out below:

- Harvest methodology.
- Experience with a tender of this size.
- Current prices for predominant grades and the arrangement for price or volume changes.
- Harvest cost and cartage to likely destinations.
- Harvest personnel and qualifications.
- Details of "audit" procedure to ensure all product is accounted for.
- Terms of payment and arrangement to protect monies due to Greater Wellington Regional Council.
- Arrangements for harvest planning, roading and tracking, together with indicative prices.
- Any costs required to be met by Greater Wellington Regional Council.

No contract arising from this tender will be offered until the proposed review of Council forest holdings has been completed and considered by Council.

8. Recommendations

That:

(1) The report be received and the information noted.

(2) The Committee approve the replanting of the areas specified within this report in the winter following harvest.

Report prepared by: Report approved by:

Barry Leonard **David Benham**
Plantation Forestry Manager Divisional Manager, Utility Services

Attachments:

1 Analyses of Financial Returns
2 Photographs of Windthrow