



caring about you & your environment

Public Excluded

Report PE-01.591

3 September 2001

File No.: O/3/2/4

gk:\Reports\PE-01.591

Report to the Utilities Services Committee
From Barry Leonard, Manager, Plantation Forestry

Plantation Forestry Annual Report and Harvesting and Replanting Proposals for 2002/2003 Year

1. Purpose

To appraise Councillors of the results of Plantation Forestry activities in the year ended 30 June 2001 and to advise Councillors of the activities proposed for the financial year ended 30 June 2003.

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 second 'Annual Report' on the activities of the Plantation Forestry Department. The report will summarise the activities of the year just completed and set out the intentions for the financial year commencing 1 July 2002.

4. Review of Operations Year Ended 30 June 2001

4.1 Harvesting

Although the harvest of the Pakuratahi East forest was programmed for completion within the financial year, at 30 June approximately 22,000 tonnes remained to be harvested. The harvest of this volume will take until around Christmas to complete. This includes 7,000 tonnes in block 7/01 from the 1999 harvest. The harvest of this timber requires the reinstatement of the river crossing and for this reason it will be programmed for as late into summer as possible.

The harvest of the Upper sections of the Pakuratahi East forest impinged on the use of the Incline walkway, necessitating midweek closures from time to time as the machinery worked the adjacent areas. These appeared to work well with no adverse comment being received. Of concern was the number of people who ignored the safety barriers and entered the work area.

The year commenced quietly with only average volumes and prices over the first quarter, these improved for the second and third quarters by which time it appeared that budget returns could be achieved, however the market collapsed for the final quarter with a resultant shortfall in revenue of \$2.4M. Part of the shortfall related to the remaining stands as logging was slowed through the last quarter.

The table below sets out the gross income at wharf or millgate for the logs and identifies the costs associated with harvesting and cartage to produce a net income to Council.

**Logging Income : Rayonier Contract
2000/2001**

	Mill/Port Price	Cartage	Harvest Ground	Harvest Hauler	M'ment CFH	Comm Rayonier	Net Return	M3	Average
	\$	\$	\$	\$	\$	\$	\$	\$	\$
July	184,009	24,519	48,651	26,645	4,338	8,704	71,152	3,387	21.00
August	159,276	18,004	45,853	16,420	3,717	7,401	67,881	2,791	24.32
September	214,002	22,864	45,710	34,225	4,969	10,314	95,920	3,703	25.90
October	219,890	25,510	10,611	69,271	4,942	10,532	99,024	3,726	26.58
November	257,687	31,358	67,351	34,413	5,244	11,751	107,570	3,815	28.20
December	121,913	15,284	31,634	16,723	2,421	5,516	50,335	2,383	21.12
January	210,451	20,830	38,721	30,702	3,519	7,878	108,801	2,627	41.42
February	411,415	55,666	102,653	63,964	8,921	18,476	161,735	6,923	23.36
March	550,164	77,280	74,493	158,925	11,627	24,554	203,285	8,847	22.98
April	250,993	51,573	28,467	116,356	6,608	11,964	36,025	5,102	7.06
May	287,327	53,737	24,861	144,605	6,869	11,541	45,714	5,667	8.06
June	294,115	53,459	14,391	174,292	6,858	10,767	34,348	5,467	6.28
Total	3,161,242	450,084	533,396	886,541	70,033	139,398	1,081,790	54,438	19.87

The latter three months on this table clearly demonstrate the effect of a market collapse combined with the harvest of the worst block in the forest.

3.2 Results Compared MARVL'S

In order to estimate the volume of logs by grade within a forest stand an analysis process known as MARVL (Method of Assessment of Recoverable Volume by Log type) is carried out.

In the process each standing tree within the plot is visually assessed and expressed in terms of the likely output by log grade if the tree was felled. This requires consideration of height, sweep, branching, branch size, spikes, knot clusters, and diameter

This process is based on observations of one percent of the trees in a stand and can be "grown on" by other computer programmes. The results, as well as being dependent on the quality or accuracy of the observation, relies on the technician increasing the level of observation where there is a significant variation in quality within the stand.

In the normal course of events variations of $\pm 15\%$ would not be considered unusual.

3.3 Results Achieved Versus Results Predicted By MARVL

Pakuratahi (Completed Stands Only)

Stand No.	Area	Grades						
		Pruned	S & L	K	R	Pulp	R'wood	Total
1001	18.1	709	6,617	2,008	827	1,654	0	11,815
Actual		339	4,072	2,462	720	1,926	82	9,601
Variation		-52.2%	-38.5%	+22.6%	-12.9%	+16.4%	+100%	-18.7%*
1101	9.2	293	683	780	439	2,682	0	4,876
Actual		231	1,153	749	980	2,594	58	5,764
Variation		-21.2%	+68.8%	-4.0%	+123.2%	-3.3%	+100%	+18.2%
1201	5.3	681	1,067	415	237	563	0	2,963
Actual		0	1,208	816	327	914	0	3,265
Variation		-100%	+13.2%	+96.6%	%	141.30%		+10.2%
1301	3	432	148	114	250	193	0	1,137
Actual		198	289	33	182	116	0	825
Variation		-54.2%	+95.3%	-71.1%	-27.2%	-39.9%	0%	-27.4%
1401	36	0	3,778	3,549	572	3,434	0	11,448
Actual		0	2,642	2,390	2,893	4,654	0	12,579
Variation			-30.1%	-32.7%	+405.8%	+35.5%		+9.9%
1702	3.6	0	1,296	124	142	213	0	1,775
Actual		0	1,012	389	314	213	0	1,928
Variation			-21.9%	+213.7%	+121.1%	0	0	+8.6%
1704	6.7	0	1,479	586	370	431	216	3,082
Actual		0	977	821	586	1,524	0	3,908
Variation			-33.94%	+40.10%	+58.3%	+253.6%	-100.00%	+26.8%

		Grades							
Stand No.	Area	Pruned	S & L	K	R	Pulp	R'wood	Total	
2203	1.5	0	199	217	62	81	62	621	
Actual		0	250	106	77	530	0	963	
Variation			+25.6%	-51.2%	+24.2%	+554.3%	-100.00%	+55.1%	
2204	4.7	582	1,248	250	333	360	0	2,773	
Actual		79	1,141	118	276	354	0	1,968	
Variation			-86.4%	-8.5%	-52.8%	-17.1%	-1.6%		-29.0%
2205	3.3	271	916	170	153	187	0	1,696	
Actual		171	1,608	308	616	719	0	3,422	
Variation			-36.9%	+75.5%	+81.2%	+302.6%	+284.5%		+101.8%
2501	6.7	0	2,241	657	348	618		3,684	
Actual		169	3,128	665	908	1,485		6,355	
Variation			+100%	+39.6%	+1.2%	+160.9%	+140.3%		+72.5%
2601	2.7	0	1,000	262	62	154	62	1,540	
Actual		0	1,050	412	418	595	0	2,475	
Variation				+5%	+57.3%	+574.2%	+286.4%	-100%	+60.7%
2602	9	0	2,272	967	97	1,111	386	4,833	
Actual		0	1,812	1,029	343	1,665	49	4,898	
Variation			0	-20.2%	+6.4%	+253.6%	+49.8%	-87.3%	+1.3%
2702	1.8	0	430	171	73	114	24	812	
Actual		0	738	167	84	167	237	1,393	
Variation				+71.6%	-2.3%	+15.1%	+46.5%	+887.5%	+71.6%
Total	111.6	3,137	23,374	10,270	3,965	11,795	750	53,055	
Actual		1,187	21,080	10,465	8,724	17,456	426	59,344	
Variation			-62.2%	-9.8%	+1.9%	+120.0%	+48.0%	-43.2%	+11.9%

Although a margin of error in a MARVL analysis of 15% would be considered reasonable, the variation within individual blocks suggests a less acceptable result. Some of the reasons for this level of variation include:

- Areas not felled for riparian and other reasons;
- Areas not felled for economic reasons;
- A far greater range of log grades available at harvest time than included in the MARVL assessment;
- Market variations.

Those blocks, which were not harvested or only partially harvested at year-end, have been excluded from this analysis and those blocks which were partially harvested at the end of the 1999/2000 year have been included.

3.2 Replanting

One hundred and twenty one hectares were replanted following harvest with GF 17 *pinus radiata* seedlings at a planting density of 1500spha. As with the previous year, riparian set backs were applied to waterways and a 40metre setback applied to the eastern side of the Incline Walkway. This 40metre band of regenerated native vegetation will shield the next rotation harvest from people using the walkway.

The stand (12/01), between the walkway and the Pakuratahi River, has been replanted in Douglas Fir. As this area matures it will be developed by Landcare for recreational uses.

3.3 Silviculture

We were unable to complete all the programmed silviculture within the year. Some work was delayed as the blocks were not sufficiently advanced at the time and some delays arose through the weather. All blocks should be completed by the time of this meeting.

Silviculture completed this year:
(Including those areas carried over into 2001/02)

Whakatikei	Hydro Valley	83.6ha	Thin to 350spha
Puketiro	Battle Hill	157.0ha	Prune 4 – 6M @ 350spha
Puketiro	Battle Hill	157.0ha	Thin to 350spha
Puketiro	Whakatikei Face	53.1ha	Prune 2 – 6M @350spha
Puketiro	Whakatikei Face	53.1ha	Thin to 350spha
Akatarawa	Akatarawa Saddle	12.9ha	Prune 4 – 6M @350spha

The contracted price for this work was \$197,191.30.

3.4 Forest Health

As our forests are within 60km of a port, we receive double the standard intensity of inspection with aerial inspection at 1 km transects, a 20km drive through survey, and 21 intensive inspection points. To date inspections have not revealed any “imported” insects or diseases. Like most forests there are a range of fungal and insect based health issues within the forest but these are such that no direct action is warranted at this time.

This year was the first year with a new forest health assessment contractor. The Forest Owners Association had re-tendered all the health assessment contracts and Forest Health Dynamics were successful in the lower North Island area.

As could perhaps be expected with a new contractor, a number of issues were raised in the report but when these were considered in conjunction with the earlier reports no new diseases or insects were detected.

Although there has been increased interest in possum fur which has resulted in a number of trappers seeking rights to take possums from the forests, we have still undertaken 1080 drops through Puketiro and have them proposed early in the new year for Valley View and Hukinga. Both these operations have been carried out in conjunction with Landcare to enable a larger contiguous block to be treated.

The necessary permissions, as well as the application of the baits, are managed by the Biosecurity Section of the Wairarapa Division.

The post application trap assessments in Puketiro suggested up to 100% kill.

3.5 **Forest Access**

Access to the Pakuratahi block has been maintained throughout the year without significant further expenditure. Pig Gully Road was upgraded and extended within Pakuratahi in response to the decision of Council not to permit the use of the walkway as access for logging trucks. This area of the forest has now been harvested and replanted and the connection over the walkway has been broken. Pig Gully Road access to the walkway has been reinstated.

In preparation for the forthcoming Puketiro harvest, significant lengths of Airstrip Drive, Parry's Bush Road and Puketiro Road, have been upgraded to a standard suitable for logging trucks. As part of this project, the road through Rallywoods has been upgraded for about half its length and realigned for the balance. A key part of this project was to achieve acceptable grades up the hill from the new Rallywoods bridge. Originally the alignment was to follow the old route but after commencing the upgrade the contractors suggested a deviation for the top section of the route which gave better grades and a wider road. While this increased the cost the result is an improvement on the original proposal and given the volumes to be carried over the route was a wise investment.

A new "lowline" bridge was constructed to replace the ford over the Wainui stream so that access would be available during all but the most serious "freshes", and to overcome any problems with logging trucks fording the stream during spawning.

It is proposed to carry out some further curve easement on upgraded sectors of the route to ensure trucks can achieve three return trips to the Centreport within a legal working day.

Access to all other parts of the forest except Maungakotukutuku is good. There has been no progress with the reinstatement of Maungakotukutuku Road from the point at which it washed out to the gate of the forest. This issue is not an immediate concern from a forestry perspective but is a concern for others who need access such as the maintenance crews for the high-tension power pylons.

4. **Overall Financial Results**

Overall a disappointing year financially with returns well under budget. This was largely as a result of a collapse in the market in the last quarter and poorer quality trees being harvested. The overall result means that debt has increased by \$1.3M to \$10.3M.

On the positive side, considerable expenditure on building access roads and bridges is now largely completed.

The financial implications and options will be traversed at the Forestry Workshop on 20 September.

5. Current Year Programme

This year will see the completion of the Pakuratahi East harvest including the two blocks yet to be harvested below Commission Siding. This together with two stands in the Hukinga forest will complete the current contract between Rayonier New Zealand and the Council.

In April, tenders were sought for a four-year harvest contract for blocks in Puketiro, Valley View and Pakuratahi West. Although around ten sets of documents were sent out only two substantive bids were received. Of these the bid from Rayonier New Zealand Ltd was considered the most favourable and negotiations were commenced to reach agreement. One of the aspects of the offer from Rayonier, which was unacceptable, was the commission structure. Initially the company was not prepared to move on this aspect and it took around a month of negotiating before a compromise acceptable to both sides was reached. The documentation is now being reviewed by the respective legal representatives, prior to being submitted for signing.

Harvesting in Puketiro is anticipated to commence in mid October.

Areas of Pakuratahi East which were harvested in the past year have been replanted as agreed with a 40metre setback from the western side of the walkway and Douglas Fir planted on the eastern side. Replanting has continued as blocks have been completed through to mid September.

Both the Soil Scientist used by Plantation Forestry and the Regional Soil Conservator agreed that due to the soil conditions, there was a need to replant block 20/01 behind Summit Yard even though it was not programmed for replanting as a commercial crop. After discussions with Landcare it was decided to plant the upper areas with radiata at a density of 800spha and the lower third of the block with Douglas Fir at similar densities. Landcare agreed to meet the cost difference between radiata and Douglas Fir. Landcare intend to progressively thin out the radiata as the native ground cover becomes dense enough to protect the soils.

6. Proposals for 2002/03 Year

6.1 Harvesting

The contract with Rayonier presumes that the Harris North and Harris South blocks are harvested during 2002/03. These blocks are 20 and 99.5 hectares respectively and are expected to produce 49,000 tonnes of logs.

In reality the four-year contract will run continuously and not stick rigidly to the calendar. The progress of the harvest will be dictated by the number of crews available, the ability of the markets to accept the level of production and the weather.

Following the completion of the MOT blocks and Hukinga, approved by Council in last year's report, the following blocks are scheduled for harvest.

Block	C'partment	Year	Area	Volume
			ha	m ³
Harris North	8/01	1975	20	5,820
Harris South	8/02	1975	99.5	43,285
Blow Fly#	1/01	1976	65.3	26,447
Reservoir Ridge*	3/03	1976	33.0	20,097
Total			217.80	95,649

Currently programmed for 2003/04.

* Currently programmed for 2004/05.

6.2 Replanting

It is recommended that the area set out in *Attachment 1* be replanted in the winter following harvest. The approval for the replanting of the Pakuratahi East forest was given by recommendation PE US 35 and the financial justification for the other blocks is set out in *Attachment 2*.

Environmental Issues – There are no specific environmental issues associated with the blocks proposed for replanting. The usual riparian setbacks will be applied and, as usual, a soil scientist will monitor all harvesting and replanting activity. Any issues that may arise will be dealt with in accordance with “best industry practice” and on advice from the Environment Division.

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

Recreational Issues – These blocks are within high use recreational areas. Insofar as the Hukinga block is concerned the area to be replanted is on the ridgeline and remote from the road so no effect on recreational activities is envisaged. The blocks in Puketiro have only moderate recreational usage and there are alternative areas available. It is not anticipated that the replanting will have any significant effect. In terms of recreational access it is presumed that these blocks will be developed for greater recreational use when the Battle Hill block falls due for harvest so they should be replanted as early as possible.

Suitability for replanting – The Hukinga Valley contains some of the best quality soils within the Plantation Forest estate and replanting to date has confirmed that this is a suitable area for plantation forestry and that an excellent crop can be anticipated.

There is some variability within the two MOT blocks but it is reasonable to expect that a tended crop would produce similar returns to the adjacent Battle Hill block. Current expectations for this block anticipate returns of 557M3 per hectare. As the MOT blocks are not as exposed and will in fact be sheltered by the Battle Hill block for the first 15 years after planting it should not be difficult to match these results.

Financial – Attachments 2 – 5 set out the projected returns by block and in total from replanting the areas proposed. These assume additional fertiliser applications in all blocks except Hukinga and the volume outputs are an assessment based on the conclusions within the annual valuation for tended blocks of similar genetic tree stock.

The Net Present values of the second rotation with sensitivities are:

Net Present Values

Forest	8%	9%	10%
Pakuratahi East	32,832	17,789	6,930
Hukinga	38,245	24,506	14,479
Puketiro	109,475	5,909	17,267
All Blocks	244,112	135,772	57,370

Internal Rates of Return

Forest	Base Case	+10% Revenue	-10% Revenue
Pakuratahi East	10.87%	11.84%	10.07%
Hukinga	12.45%	12.27%	10.35%
Puketiro	10.58%	12.01%,	10.33%
All Blocks	11.02%	12.10%	10.38%

These figures demonstrate that Council can expect an improved return from a second rotation of pinus radiata on these blocks.

6.3 **Silviculture**

The following blocks are programmed for silviculture during the 2002/03 year. This programme may be modified if any of the blocks fail to demonstrate anticipated growth.

Pakuratahi West	79.1ha Prune
Pakuratahi West	65.6ha Thin
Hukinga	39.2ha Prune
Hukinga	6.0ha Thin
Land Preparation	Pakuratahi East/Hukinga/Puketiro
Planting	Pakuratahi East/Hukinga/Puketiro
Fertiliser	New plantings at 18 months.
	Other areas as required following nutrient analysis

6.4 **Recreation Implications**

The harvest of the Puketiro forest has been planned in recognition of its proximity to the Battle Hill block and the numbers of recreational visitor who use the area. The contract with Rayonier New Zealand has specific clauses which recognises the need to both protect the work sites from recreational visitors and to minimise the disruption to traditional recreational activities in the area. The Battle Hill Ranger will be kept informed of activities in the area and will be consulted as to suitable alternative areas and recreational routes as it becomes necessary to close sectors of the forest.

By far the most popular block is the Battle Hill block itself and this is not included in the harvest although it may be necessary to use the roads in the block to transport the logs out from the lower sector of both MOT blocks.

The main Puketiro Road will be used by logging trucks and there will be an ongoing need to ensure the safe use of the road by both groups. In general there is good visibility and sufficient room to pass so no insurmountable problems are anticipated.

7. **Recommendations**

It is recommended:

- (1) *That this report be received and the contents noted.*
- (2) *That Council approves the replanting of the areas specified within this report in the winter immediately following harvest.*

Report prepared by:

Approved for submission by:

BARRY LEONARD
Plantation Forestry Manager

DAVID BENHAM
Divisional Manager, Utility Services