

Te Karaka Group

Allocation of Share of Collective Harvest

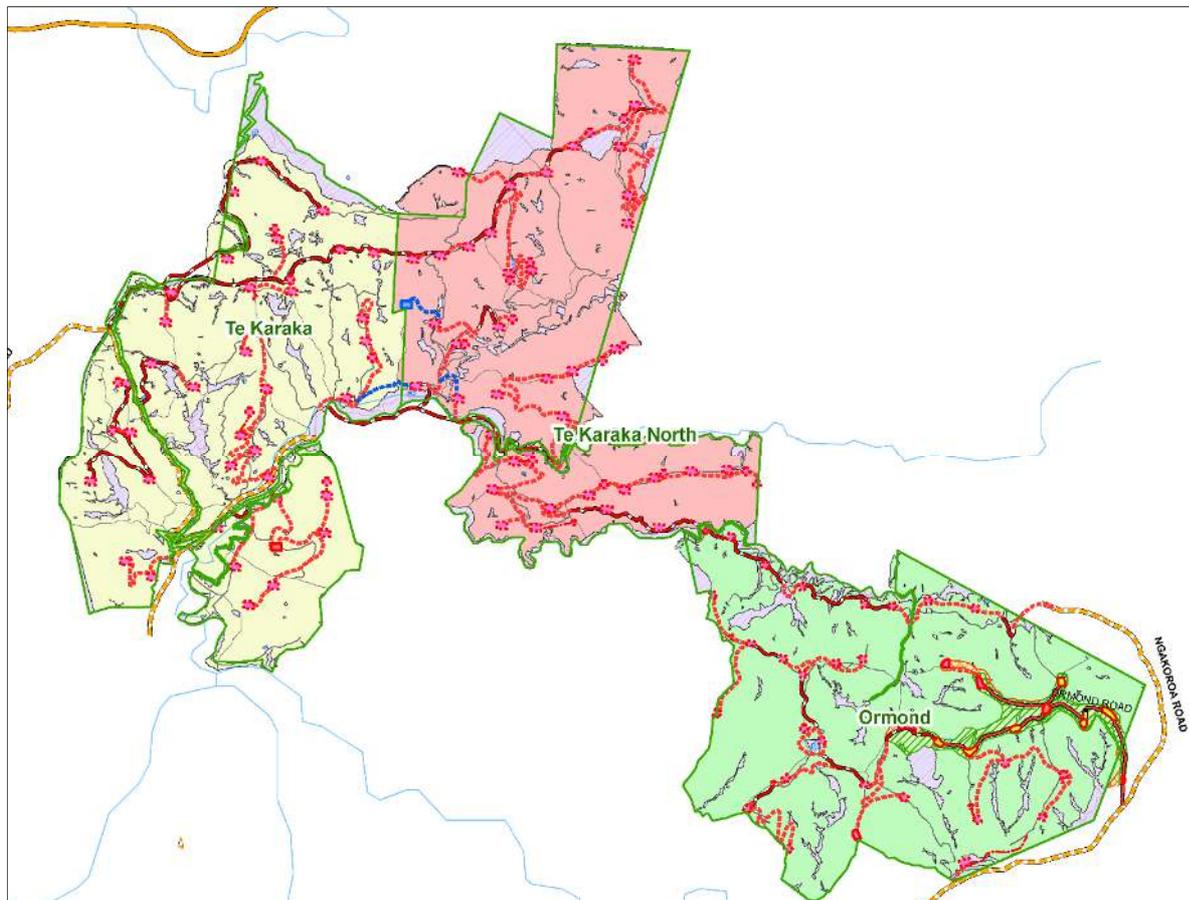


Table of Contents

Investments in the Te Karaka Group	2
Background	2
Calculated Harvest Share Percentages.....	2
Net Stocked Area Comparison	2
Forest Differences Identified	3
Age Class Mix Differences	3
Projected Stumpage Differences.....	3
Projected Stumpage Differences from Annual Report.....	5
Appendix 1 – Notes on Harvest Share Methodology.....	6
Appendix 2 – Projected Stumpage Summaries	7

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Investments in the Te Karaka Group (for Collective Harvest by Joint Venture)

Ormond Forest Investment
Te Karaka Forest Investment
Te Karaka North Forest Investment

Background

The Te Karaka Group of investments will be voting on a proposal to implement collective harvest by joint venture of their mature forest. The underlying rationale of the proposal is that each investment is better off receiving a percentage share of the total revenue from the collective harvest of the forests owned by each investment in the joint venture than 100% of the revenue from the harvest of their forest.

The harvest revenue sharing methodology to be used is the *Forest Crop Value* as set out in *Appendix 1 - Notes on Harvest Share Methodology* adjusted by the lower discount rate of 5.2% (see below). These notes are the relevant sections extracted from the comprehensive report entitled *Collective Harvest by Joint Venture - for Forest Enterprises Managed Investment Schemes*.

The purpose of this document is to report to the Investors in the Te Karaka Group investments -

1. the calculated harvest shares for each investment; and
2. to identify and discuss the differences in the participant forests impacting on the calculated harvest shares.

Calculated Harvest Share Percentages

The methodology used calculates the harvest share percentages set out in the table below -

Investment Name	Forest Crop Value	Calculation of Harvest Share %	Calculated Harvest Share %
Ormond Forest Investment	\$12,026,694	$\$12,026,694/\$35,820,621$	33.6%
Te Karaka Forest Investment	\$13,609,999	$\$13,609,999/\$35,820,621$	38.0%
Te Karaka North Forest Investment	\$10,183,928	$\$10,183,928/\$35,820,621$	28.4%
Total Forest Crop Value	\$35,820,621		100.00%

The output is that the Ormond Forest Investment will receive 33.6%, Te Karaka Forest Investment 38.0% and Te Karaka North Forest Investment 28.4% of the actual harvest revenue arising from the collective harvest.

Separate to this report, the Forestry Auditor (Forme Consulting Group) has reviewed the assumptions for the forestry inputs, and the Financial Auditor (Staples Rodway) has reviewed the Cashflow used, to arrive at the calculated *Forest Crop Values*. Deloitte has also reviewed the discount rate assumption and the appropriateness of reducing it to 5.2% for the purposes of the harvest share calculation. These reports are on the TKG Webpage.

Appendix 1 refers to a discount rate of 10%. As noted, Deloitte provided an opinion supporting the use of a lower discount rate for the purposes of the calculation, which has subsequently been used.

Net Stocked Area Comparison

As expressed in the Notes in Appendix 1, the key measure against which the calculated harvest share percentage is reported is by comparison with the net stocked area percentage of each forest. This is because, all other factors being equal, the calculated harvest share percentage for each forest would be the same percentage as the net stocked area percentage. Any differences in the calculated harvest share percentages must be explained and rationalised with reference to actual differences between each participant forest.



The table below compares the calculated harvest share percentage with the net stocked area percentage.

Investment Name	Net Stocked Area	Net Stocked Area %	Harvest Share %	Difference
Ormond Forest Investment	417.2	33.6%	33.6%	0%
Te Karaka Forest Investment	435.0	35.0%	38.0%	+3.0%
Te Karaka North Forest Investment	390.2	31.4%	28.4%	-3.0%
Total Forest Crop Value	1242.4	100.00%	100.00%	

The comparison highlights that Te Karaka Forest has forest differences compared with Te Karaka North which result in a small harvest share percentage shift from Te Karaka North to Te Karaka, relative to net stocked area. The balance of this report identifies and discusses these forest differences.

IMPORTANT NOTE - The differences in the calculated harvest share percentage compared with the net stocked area percentage are **NOT** a measure of the investment return for each of the Te Karaka Group Investments. The investment return is a factor of both the income to be received from the harvest share percentage, PLUS the costs incurred by each forest from land purchase to the conclusion of the investment, and each investment has a different cost history.

Forest Differences Identified

The differences between the Te Karaka Group Forests impacting on the calculated forest crop value (therefore the calculated harvest share percentages) are found in -

1. the age class mix; and
2. the projected stumpage.

Age Class Mix Differences

The table below analyses the Te Karaka Group Forests net stocked areas by age class, and the resulting totals -

Forest Name	1993		1994		1995		Total Net Stocked Area Hectares	Total Net Stocked Area %
	Ha's	%	Ha's	%	Ha's	%		
Ormond Forest	194.3	46.6%	222.9	53.4%			417.2	33.58%
Te Karaka Forest			170.2	39.1%	264.8	60.9%	435.0	35.01%
Te Karaka North Forest			165.7	42.5%	224.5	57.5%	390.2	31.41%
							1,242.4	100.00%

The Ormond Forest has the oldest trees with 46.6% of its crop in the 1993 age class. This has a positive impact on Ormond's calculated share relative to Te Karaka and Te Karaka North. With 42.5% of its crop in the 1994 age class Te Karaka North Forest has more older trees than Te Karaka Forest with 39.1%, therefore this has a positive impact on the calculated harvest share of Te Karaka North relative to Te Karaka.

Projected Stumpage Differences

The table below repeats the projected stumpages for each forest. The summary information of these updated projected stumpages are set out in *Appendix 2 - Projected Stumpage Summaries* on page 7

Forest Name	Projected Stumpage
Ormond Forest	\$36,441
Te Karaka Forest	\$41,874
Te Karaka North Forest	\$35,107

The Te Karaka Forest has the highest projected stumpage which impacts positively on Te Karaka's calculated harvest share.



The differences between the three Forests impacting on their projected stumpages are found in the following elements of the total.

Projected Recoverable Volume and Log Types

The inventory analysis of each forest has identified the following projected recoverable volumes for each forest -

Forest Name	Projected Volume m3 / ha
Ormond Forest	742.36
Te Karaka Forest	764.26
Te Karaka North Forest	768.82

The Te Karaka Forests are the more productive with projected volumes of 764.26 and 768.82 m3 per hectare and Ormond is a little less at 742.36 m3 per hectare.

The projected percentage of log types (log grades) generally reflects the relative productivity of the three Forests. The Te Karaka and Te Karaka North Forests therefore have a marginal bias to the higher value log grades relative to the Ormond Forest.

Logging Costs

The logging costs used for hauler and ground-based logging are the same in both projected stumpage calculations, therefore the difference in the average logging cost for each Forest reflects the difference in the mix between ground-based (less cost) and hauler logging (higher cost) as follows -

Forest Name	Logging Cost	Ground Based	Hauler
Ormond Forest	\$38.88	16%	84%
Te Karaka Forest	\$37.83	31%	69%
Te Karaka North Forest	\$38.88	16%	84%

The Ormond and Te Karaka North Forests have a projected higher percentage of the more expensive hauler harvesting (84%) than Te Karaka Forest (69%). The Ormond and Te Karaka North Forests therefore have the higher average logging cost at \$38.88 per tonne, compared with Te Karaka Forest at \$37.83 per tonne.

Roading Costs (including processing areas crossings, entranceways and maintenance)

A total of 45.44 kilometres of roads, 134 processing areas, 9 crossings and 9 entranceways are required across the Te Karaka Group Forest.

Given the geographical relationship of the three forests, the Ormond Forest roading costs are 100% attributed to Ormond. Because of the geographical interrelationships between the Te Karaka and Te Karaka North Forests, the roading costs are shared based upon the tonnes of logs, or the tonne kilometres of logs (for the roads), which will use each cost element.

The resulting calculated percentage share per forest has then applied to the projected total cost, and that total then divided by the total tonnes projected to be harvested from each forest, which results in each Forest's roading cost per tonne set out in the table below.

Forest Name	% Share	Resulting Cost Share	Cost per Tonne
Ormond Forest	30.7%	\$3,222,279	\$10.41
Te Karaka Forest	27.2%	\$2,856,067	\$8.63
Te Karaka North Forest	42.1%	\$4,420,075	\$14.76
Total	100.0%	\$10,498,422	

The projected harvest cost is highest for the Te Karaka North Forest and lowest for the Te Karaka Forest.



Cartage Costs

The cartage cost for the Te Karaka and Te Karaka North Forests is the same but higher than the cartage cost for the Ormond Forest. The cartage cost for the Ormond Forest is less because the public road access to Gisborne is a shorter distance.

Projected Stumpage Differences from Annual Report

For the Te Karaka and the Te Karaka North Forests the *Forest Crop Value* data reported in the December 2017 Financial Reports has been used unchanged as the base data for the calculation of the harvest share percentages.

For the Ormond Forest, the *Forest Crop Value* data reported in the December 2017 Financial Reports was the base data used, after the following adjustments -

Net Stocked Area

The harvesting completed to 31 December 2017 was added back into the total net stocked area.

Harvest Year Standardised

The harvest year was assumed to be the 28th year for the total net stocked area i.e. any harvesting completed, or projected for the December 2018 year, was accounted for in its respective 28th year.



Appendix 1 – Notes on Harvest Share Methodology

Calculation of each MIS's Equitable Share of Collective Harvest

Overview of Collective Harvest Share Calculation

The underlying principle behind sharing the total revenue from collective harvest is that each MIS is better off receiving a percentage share of the total revenue from the collective harvest of the forests owned by the multiple MIS in the joint venture than 100% of the revenue from harvest of their forest.

A sharing methodology is required, and the methodology used is to calculate each MIS's forest crop value at the same date using the same assumptions, and to input the calculated figures into the following formula -

$$\text{Percentage Shares} = \frac{\text{The percentage of each MIS forest crop value to the total of the forest crop values for all MISs in the joint venture}}{\text{Total Forest Crop Value}}$$

Worked example of formula -

MIS Name	Forest Crop Value	Calculation of % Share	Calculated % Share of Collective Harvest
MIS 1	\$10.5 million	\$10.5/\$43.0	24.42%
MIS 2	\$15.0 Million	\$15.0/\$43.0	34.88%
MIS 3	\$17.5 million	\$17.5/\$43.0	40.70%
Total Forest Crop Value	\$43.0 million		100.00%

Forest Crop Value

The benefit of using forest crop value is because the methodology is -

- Prescribed by International Accounting Standard IAS 41, the accounting standard for valuation of biological assets.
- Complies with the New Zealand Institute of Forestry valuation standard.

The calculation uses a subset of each MIS's projected Cashflow.

Given the application of the calculated value, a valid question is *Does IAS 41 result in a logical value of a forest crop, especially for comparison purposes with other forest crops?* As the name expresses, international accounting standards apply internationally and are arrived at via a consultation process. Sometimes these processes can produce a less than optimal result in specific circumstances. In the case of a New Zealand plantation Radiata pine forest crop, IAS 41 produces a logical value for a forest crop, especially for comparison purposes.

The figures in the Cashflow are gross (before tax) therefore the discount rate used is 10%. This gross rate is equivalent to approximately 7.5% on the net after tax Cashflow, which is an historically used targeted after-tax return for forestry investments.

Calculation, Checking and Reporting Shares to Investors

Forest Enterprises prepares the forestry and other inputs, enters these into each MIS's Cashflow, and calculates the resulting shares for each MIS in the joint venture.

The assumptions for the forestry inputs are reviewed by the Forestry Auditor (Forme Consulting Group Limited).

The Cashflow, the calculated forest crop value, plus the resulting shares of the collective harvest joint venture revenue are reviewed by the Financial Auditor (Staples Rodway).

Forest Enterprises prepares a report to Investors in each MIS setting out the relevant forestry assumptions, the calculated forest crop values, plus resulting calculated shares of the collective harvest revenue. Supporting this report are the review letters received by the Supervisor from the Forestry and Financial auditors.

The key measure against which the calculated harvest shares is reported is comparison with the percentage of net stocked areas of each MIS in the joint venture. This is because, all other factors being equal, the percentage allocation of harvest to each MIS would be the same percentage as the net stocked area. The differences in the calculated percentage shares is therefore explained and rationalised with reference to the actual hard data relating to valid actual differences between each participant forest in the joint venture.



Appendix 2 – Projected Stumpage Summaries

Ormond Forest Projected Stumpage

Log Type	Projected Recoverable Volume (m ³ / ha)	Percentage	FEL Price at Point of Sale (\$ / m ³)	Logging	Roading	Cartage	Cont	Man & Mark	Total Production Costs (\$ / m ³)	Net Return Stumpage (\$ / m ³)	Contribution to Stumpage (\$ / ha)
Export P40	115.26	16%	\$177.30	\$38.88	\$10.41	\$15.80	\$2.77	\$4.34	\$72.19	\$105.11	\$12,114
Export P30	56.79	8%	\$142.65	\$38.88	\$10.41	\$15.80	\$2.77	\$4.34	\$72.19	\$70.46	\$4,001
Export A	269.30	36%	\$118.50	\$38.88	\$10.41	\$15.80	\$2.77	\$4.34	\$72.19	\$46.31	\$12,474
Export K	153.36	21%	\$104.50	\$38.88	\$10.41	\$15.80	\$2.77	\$4.34	\$72.19	\$32.31	\$4,957
Export KI	90.99	12%	\$96.30	\$38.88	\$10.41	\$15.80	\$2.77	\$4.34	\$72.19	\$24.11	\$2,192
Export KIS	56.66	8%	\$84.60	\$38.88	\$10.41	\$15.80	\$2.77	\$4.34	\$72.19	\$12.41	\$702
Totals	742.36	100%									\$36,441

Te Karaka Forest Projected Stumpage

Log Type	Projected Recoverable Volume (m ³ / ha)	Percentage	FEL Price at Point of Sale (\$ / m ³)	Logging	Roading	Cartage	Cont	Man & Mark	Total Production Costs (\$ / m ³)	Net Return Stumpage (\$ / m ³)	Contribution to Stumpage (\$ / ha)
Export P40	146.04	19%	\$177.30	\$37.83	\$8.63	\$17.20	\$2.77	\$4.48	\$70.91	\$106.39	\$15,539
Export P30	61.61	8%	\$142.65	\$37.83	\$8.63	\$17.20	\$2.77	\$4.48	\$70.91	\$71.74	\$4,420
Export A	309.35	40%	\$118.50	\$37.83	\$8.63	\$17.20	\$2.77	\$4.48	\$70.91	\$47.59	\$14,740
Export K	168.48	22%	\$104.50	\$37.83	\$8.63	\$17.20	\$2.77	\$4.48	\$70.91	\$33.59	\$5,668
Export KI	36.61	5%	\$96.30	\$37.83	\$8.63	\$17.20	\$2.77	\$4.48	\$70.91	\$25.39	\$930
Export KIS	42.17	6%	\$84.60	\$37.83	\$8.63	\$17.20	\$2.77	\$4.48	\$70.91	\$13.69	\$577
Totals	764.26	100%									\$41,874

Te Karaka North Projected Stumpage

Log Type	Projected Recoverable Volume (m ³ / ha)	Percentage	FEL Price at Point of Sale (\$ / m ³)	Logging	Roading	Cartage	Cont	Man & Mark	Total Production Costs (\$ / m ³)	Net Return Stumpage (\$ / m ³)	Contribution to Stumpage (\$ / ha)
Export P40	129.85	17%	\$177.30	\$38.88	\$14.76	\$17.20	\$2.77	\$4.25	\$77.86	\$99.44	\$12,912
Export P30	67.15	9%	\$142.65	\$38.88	\$14.76	\$17.20	\$2.77	\$4.25	\$77.86	\$64.79	\$4,351
Export A	294.86	38%	\$118.50	\$38.88	\$14.76	\$17.20	\$2.77	\$4.25	\$77.86	\$40.64	\$11,995
Export K	166.44	22%	\$104.50	\$38.88	\$14.76	\$17.20	\$2.77	\$4.25	\$77.86	\$26.64	\$4,446
Export KI	56.55	7%	\$96.30	\$38.88	\$14.76	\$17.20	\$2.77	\$4.25	\$77.86	\$18.44	\$1,041
Export Pulp	53.97	7%	\$84.60	\$38.88	\$14.76	\$17.20	\$2.77	\$4.25	\$77.86	\$6.74	\$362
Totals	768.82	100%									\$35,107

