Nelson City Council
Te Kaunihera o Whakatū

Notice of the Ordinary meeting of

Forestry Subcommittee

Te Kōmiti Āpiti, Ngahere

Date:	Wednesday 29 September 2021
Time:	3.30p.m.
Location:	Council Chamber Floor 2A, Civic House, 110 Trafalgar Street, Nelson

Agenda

Rārangi take

Chairperson	Mr John Murray
Members	Her Worship the Mayor Rachel Reese
	Cr Kate Fulton
	Cr Tim Skinner
	Independent Forestry Expert Peter Gorman
	and Group Manager Infrastructure Alec Louverdis

Quorum: 5, comprising the Chair and two elected member (decision makers), plus one Council officer and the independent forestry expert (for advice only)

Pat Dougherty
Chief Executive

Excerpt from Nelson City Council Delegations Register (A11833061)

Forestry Subcommittee

This is a subcommittee that reports to Council.

Areas of Responsibility:

- All matters relating to the commercial forestry operational portfolio including environmental and recreational issues

Powers to Decide:

- In accordance with Council's Annual Plan and Long Term Plan:
    - Approval of forestry and harvesting management strategy and plans
    - Approval of the engagement of contractors/consultants and forestry tenders

Powers to Recommend to Council:

- Any actions relating to the oversight of all matters relating to the commercial forestry portfolio, falling outside the powers to decide, including:
    - Approval of forestry related budgets; and
    - Any other matters relating to continuing commercial forestry operations.

For the Terms of Reference for the Forestry Subcommittee please refer to document A1739267.

Page No.

1. Apologies

Nil

2. Confirmation of Order of Business

3. Interests

3.1 Updates to the Interests Register

3.2 Identify any conflicts of interest in the agenda

4. Public Forum

5. Confirmation of Minutes

5.1 23 June 2021 **5 - 7**

Document number M18743

Recommendation

That the Forestry Subcommittee

1. <u>Confirms</u> the minutes of the meeting of the Forestry Subcommittee, held on 23 June 2021, as a true and correct record.

6. Chairperson's Report

7. Forestry Update - Number 16 **8 - 66**

Document number R26006

Recommendation

That the Forestry Subcommittee

1. ***<u>Receives</u> the report Forestry Update - Number 16 (R26006) and its Attachments (A2738154, A2738155, A2742664, A2719738, A2738156 and A2742185); and***

2. ***<u>Notes</u> that the harvesting of blocks in the Maitai Valley will commence in October 2021; and***

3. ***<u>Approves</u> the harvesting of around 15Ha of Block 42.05 (Marsden Valley) to occur in 2021/22, one year ahead of schedule.***

Nelson City Council
Te Kaunihera o Whakatū

Minutes of a meeting of the

Forestry Subcommittee

Te Kōmiti Āpiti, Ngahere

Held in the Council Chamber, Floor 2A, Civic House, 110 Trafalgar Street, Nelson on Wednesday 23 June 2021, commencing at 1.00p.m.

Present:	Mr J Murray (Chairperson), Her Worship the Mayor R Reese, Councillors K Fulton and T Skinner, Independent Forestry Expert P Gorman, Group Manager Infrastructure A Louverdis
In Attendance:	PF Olsen representative (S Nuske), LandVision Ltd representative (L Grant), Governance Advisers (J Brandt and K McLean)
Apologies :	Nil

1. Apologies

There were no apologies.

2. Confirmation of Order of Business

There was no change of order.

3. Interests

There were no updates to the Interests Register, and no interests with items on the agenda were declared.

4. Public Forum

4.1. Teal Valley Residents Representation - Aerial Spraying Operations of Tasman Pine Forest Ltd That Covers Both Nelson and Tasman Forestry.

Nadine Connock spoke to the item on behalf of Teal Valley Residents. She noted their concerns about the Forestry Stewardship Council and the detrimental impact of agri-chemicals on fertile land and waterways. Speaking notes were tabled (A2692299).

The Subcommittee noted that the concerns raised by Ms Connock were regulatory in nature, such as noise pollution, environmental contamination, breaches of practices and standards, and therefore matters for the Environment and Climate Committee. However, Her Worship the Mayor and the Chair of the Environment and Climate Committee, Councillor Fulton, noted they would look into the matters raised by Ms Connock.

Attachments

1 A2692299 - Forestry Subcommittee 23Jun2021 - Public Forum - Speaking Notes - N Connock - Teal Valley Residents

5. Confirmation of Minutes

5.1 23 March 2021

Document number M16512, agenda pages 4 - 6 refer.

Resolved FS/2021/004

That the Forestry Subcommittee

1. Confirms the minutes of the meeting of the Forestry Subcommittee, held on 23 March 2021, as a true and correct record.

Skinner/Murray Carried

6. Chairperson's Report

Document number R25953

There was no Chairperson’s report.

7. Forestry Update - Number 15

Document number R23768, agenda pages 7 - 20 refer.

Team Leader Parks and Facilities Activity Management, Paul Harrington, supported by Manager Community Engagement, Paul Shattock, presented the report.

With regard to the Tantragee Block harvesting, Mr Shattock answered questions about communication and engagement undertaken with residents to address access, alternative accommodation and safety measures. Mr Nuske noted that one resident would remain within the exclusion zone during the harvest and that a specific risk management plan involving a bespoke barrier was being developed.

Mr Harrington answered questions about the future of the Brook blocks, retirement from commercial forestry post-harvest, and replanting plans.

Mr Nuske answered questions about weed-spraying programmes and chemicals being used, in accordance with the Nelson Plan and the Environmental Protection Agency.

Mr Nuske answered questions about the PF Olsen Quarterly Forest Report, including trends in log prices, global demand and operational aspects of forest management such as fertilising regimes. Mr Gorman answered questions about the long-term sustainable productivity of forest activity.

Resolved FS/2021/005

That the Forestry Subcommittee

1. ***Receives the report (R23768) and its Attachments (A2669723, A2669570 and A2679734).***

Fulton/Skinner Carried

There being no further business the meeting ended at 2.05p.m.

Confirmed as a correct record of proceedings:

_____ Chairperson _____ Date

Nelson City Council
te kaunihera o whakatū

Forestry Subcommittee

29 September 2021

REPORT R26006

Forestry Update - Number 16

1. Purpose of Report

1.1 To provide an update to the Forestry Subcommittee on forestry activities undertaken since Council adopted the Forestry Review recommendations in September 2016, and since the June 2021 update.

2. Recommendation

That the Forestry Subcommittee

1. ***Receives the report Forestry Update - Number 16 (R26006) and its Attachments (A2738154, A2738155, A2742664, A2719738, A2738156 and A2742185); and***

2. ***Notes that the harvesting of blocks in the Maitai Valley will commence in October 2021; and***

3. ***Approves the harvesting of around 15Ha of Block 42.05 (Marsden Valley) to occur in 2021/22, one year ahead of schedule.***

3. Harvesting

Bridges

3.1 An update of the progress with the bridges is shown below.

Maitai	Work is nearing completion. Scheduled to be completed within 3 weeks of coming out of COVID-19 lockdown.
Roding	Resource consent lodged. Design completed. Work will likely commence in spring subject to coming out of COVID-19 lockdown.

Brook harvesting

3.2 Brook harvesting (refer to attachment 1, A2738154) is well underway with:

3.2.1 Phase 1 - Atmore Terrace (blocks 22-8 and 22-2) – Scheduled to be completed one week following coming out of COVID-19 lockdown.

3.2.2 Phase 2 - Tantragee Block - see below for more information.

3.2.3 Phase 3 - Blocks 22-6 and 22-5 (situated above the P51 mountain bike trail including the Viral Flow trail). Will proceed after completion of phase 1 – likely to be completed end September.

3.3 Information on reserve closures due to the harvest is available on Council's website and stakeholders have been regularly updated. The public were informed through media articles following a press release on 29 April 2021. Articles were also included in the printed newsletter delivered to all households and on social media.

Tantragee Block harvesting

3.4 Tantragee harvesting, which commenced on 28 July, is complete and was undertaken with no issues and ahead of schedule reflecting the excellent and detailed harvesting planning (including the health and safety plan) undertaken by PFOlsen, and the excellent communication planning undertaken by officers. Refer to picture below showing removed trees and poisoned trees.

3.5 Native planting has commenced (approximately 30% completed). The remediation of the Dun Mountain track will follow on completion of all planting and dependent on coming out of COVID-19 lockdown.

3.6 The budget for this work was estimated at $500,000. Whilst actual costs are still to be determined, provisional costs are estimated to be $300,600 as detailed hereafter (and excludes $31,000 estimated income from logs harvested):

3.6.1 Harvesting costs (including transport and clean-up) - $137,000;

3.6.2 Planning/consultants (2018 to present)- $90,000;

3.6.3 Safety containers and traffic management (equipment and personnel) - $67,000;

3.6.4 Resident alternative accommodation - $5,600;

3.6.5 Bridge Street collective hot desk - $800;

3.6.6 Lunch/coffee vouchers - $200.

Maitai harvesting

3.7 Harvesting in the Maitai Valley (located up Bob Taylor Road) is scheduled to commence from early October to December 2021. This includes a total area of 20Ha on blocks 2/01, 2/03, 3/04, 3/03 and 4/05 (partial). Refer to Attachment 2 (A2738155) for layout.

Marsden Harvesting

3.8 Following the recent heavy rainfall at the end of August that resulted in many slips around the region, Block 42.05 in Marsden Valley was damaged not only from that rainfall event (and subsequent rain), but also from the accompanying high winds. Refer to Attachment 3.

3.9 The damage to the block includes a large number of trees knocked over (around 2 Ha) as well as damage to the access roads from slips. Those trees are valuable and if left to rot they will be worthless, and will pose a significant health and safety issue going forward.

3.10 Block 42.05 is around 25Ha, with the trees around 27 years old and at maturity age for harvesting. This block was scheduled for harvesting in 2022/23.

3.11 The area deemed to be economically harvestable now is around 15Ha. Harvesting these trees now has taken on a degree of urgency and it is recommended that this block be harvested now – a year ahead of schedule.

3.12 Work to remedy the slips will be undertaken at the same time. This work is expected to cost $60,000.

4. Tasman Pine Forests and Waahi Taakaro harvesting

4.1 When Tasman Pine Forests Ltd harvest the block adjacent to the Waahi Taakaro Golf Club, the work will also include harvesting the small area planted by them on Council land. This work is expected to take one month, and PF Olsen will monitor the work to ensure that the trees on Council owned land are harvested to the required standards. The small area will be replanted with indigenous species. No date as yet provided by Tasman Pine Forests for the harvesting.

5. Health and Safety

5.1 A Safe Work Observation (SWO) was conducted in relation to the Brook/Tantragee harvesting on 28 July 2021 attended by council officers, PF Olsen staff and the Chair of the Forestry Subcommittee. No issues were identified.

6. Finance

6.1 An updated summary of Council budgets to June 2021 is appended as Attachment 4 (A2719738) and PF Olsen’s Annual Report will be presented to the next Subcommittee meeting as it will only be ready in October.

6.2 A Valuation report is appended as Attachment 5 (A2738156).

7. Alternate Uses

7.1 Council agreed to retire approximately 140Ha of forestry and consider alternate uses and an Alternate Use Plan has been approved. Refer to Attachment 6 (A2742185) for an update. Lachie Grant (Landvision) will be in attendance to update the Subcommittee further.

8. Alternative Commercial Harvesting

8.1 Council set aside funding in Y1 of the 2021-31 Long-Term Plan (LTP) to consider the feasibility of alternative commercial species (other than pinus radiata).

8.2 Since then, a further issue relating to forestry was raised at the 24 June 2021 Council meeting, where it was resolved as follows:

> *Requests a report on the potential costs, scope, and high level implications (including financial) of undertaking an independent review of Council's approach to forestry in the 21/22 financial year, including considering developing a regenerative forestry plan prioritising indigenous forest opportunities, climate leadership and innovation to inform the Forestry Activity Management Plan and Treasury Management Policy.*

8.3 Officers will combine these two pieces of work (Items 8.1 and 8.2) that will then guide a high level report to be presented back to, in the first instance, the Forestry Subcommittee in 2021/22, noting that the information from this work only has to be ready to inform the next Forestry Activity Management Plan.

Author: Alec Louverdis, Group Manager Infrastructure

Attachments

Attachment 1: A2738154 - Brook Harvesting ⇩

Attachment 2: A2738155 - Maitai 2021 Harvest - location map ⇩

Attachment 3: A2742664 - Marsden Sketch Map ⇩

Attachment 4: A2719738 - NCC Forestry Accounts Summary at 30Jun2021 ⇩

Attachment 5: A2738156 - Forestry Valuation ⇩

Attachment 6: A2742185 - Alternative species update August 2021 ⇩

Important considerations for decision making

1. Fit with Purpose of Local Government

The regular updates support the effective and efficient management of Council's productive forests and through best practices and sustainability contributes to Local Government well-beings of social, economic, environmental, and cultural.

2. Consistency with Community Outcomes and Council Policy

The Group aligns with the following outcome: "Our Council provides leadership and is supported by an innovative and sustainable economy".

3. Risk

The Subcommittee has been set up to specifically have an oversight on all things relating to forestry to reduce the risk to Council. Key risks identified in this report relate to harvesting in the Brook and Maitai, which are adequately mitigated by planned safety measures.

4. Financial impact

The Subcommittee has been set up to monitor forestry activity and to manage income and expenses accordingly. Any expenditure recommended in this report is in line with this oversight.

5. Degree of significance and level of engagement

The report deals with several matters that have required individual engagement with individuals/groups.

6. Climate Impact

Commercial pine forestry and harvesting is a sustainable practice and contributes positively to climate change mitigation.

7. Inclusion of Māori in the decision-making process

Iwi have not been consulted in the preparation of this report.

8. Delegations

The Forestry Subcommittee's areas of responsibility include:

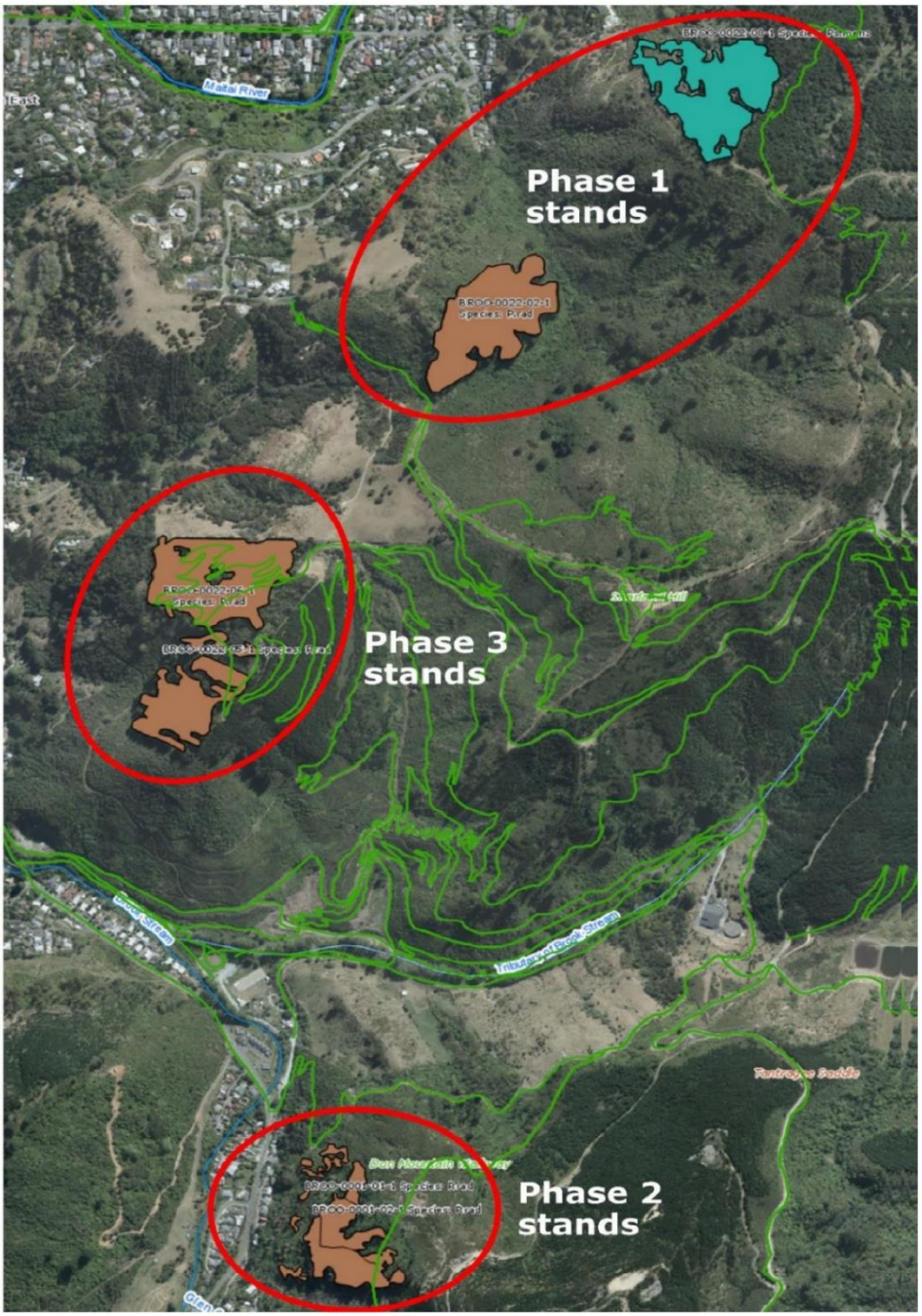
Areas of Responsibility:

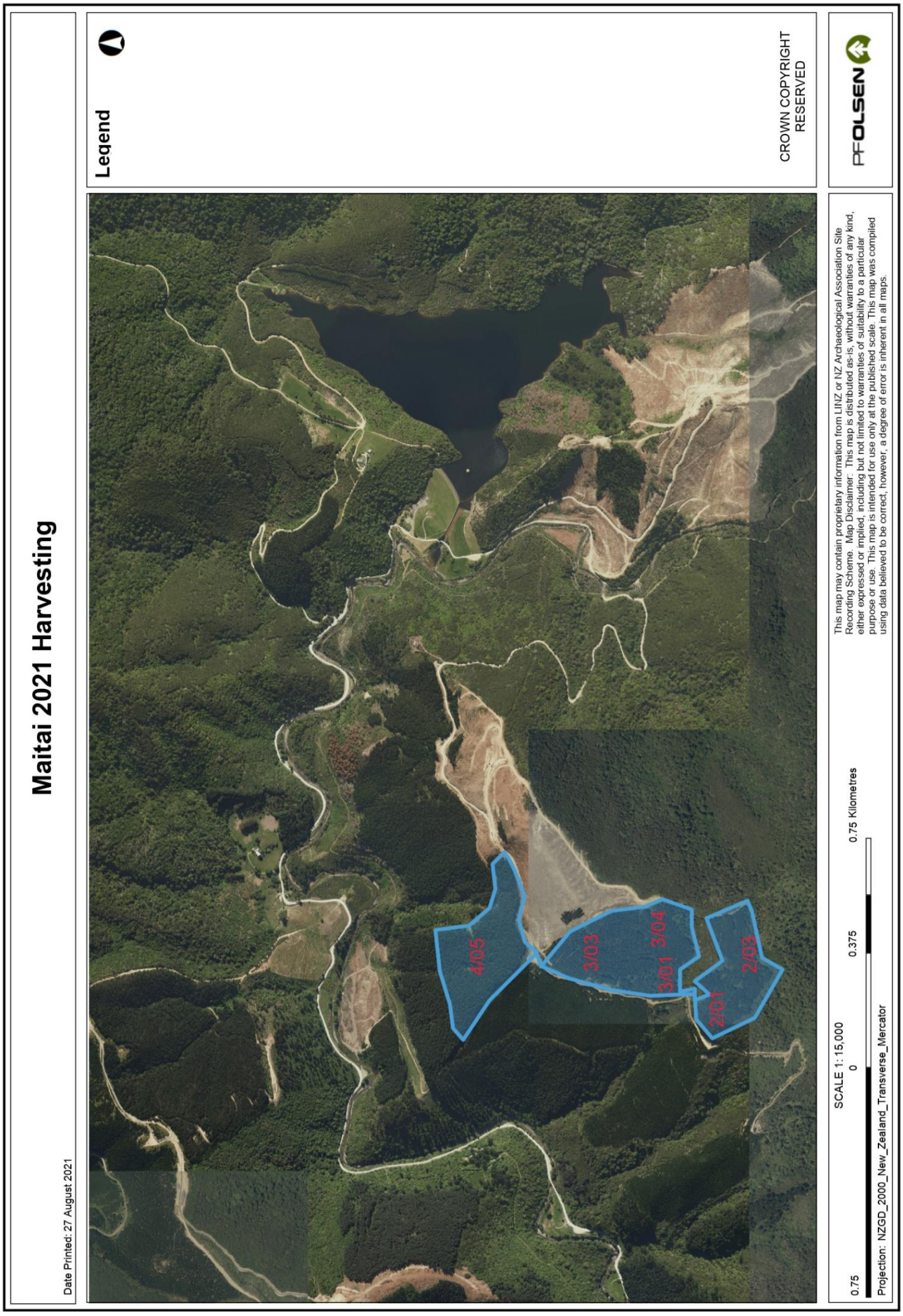
- *All matters relating to the commercial forestry operational portfolio including environmental and recreational issues*

Powers to Decide:

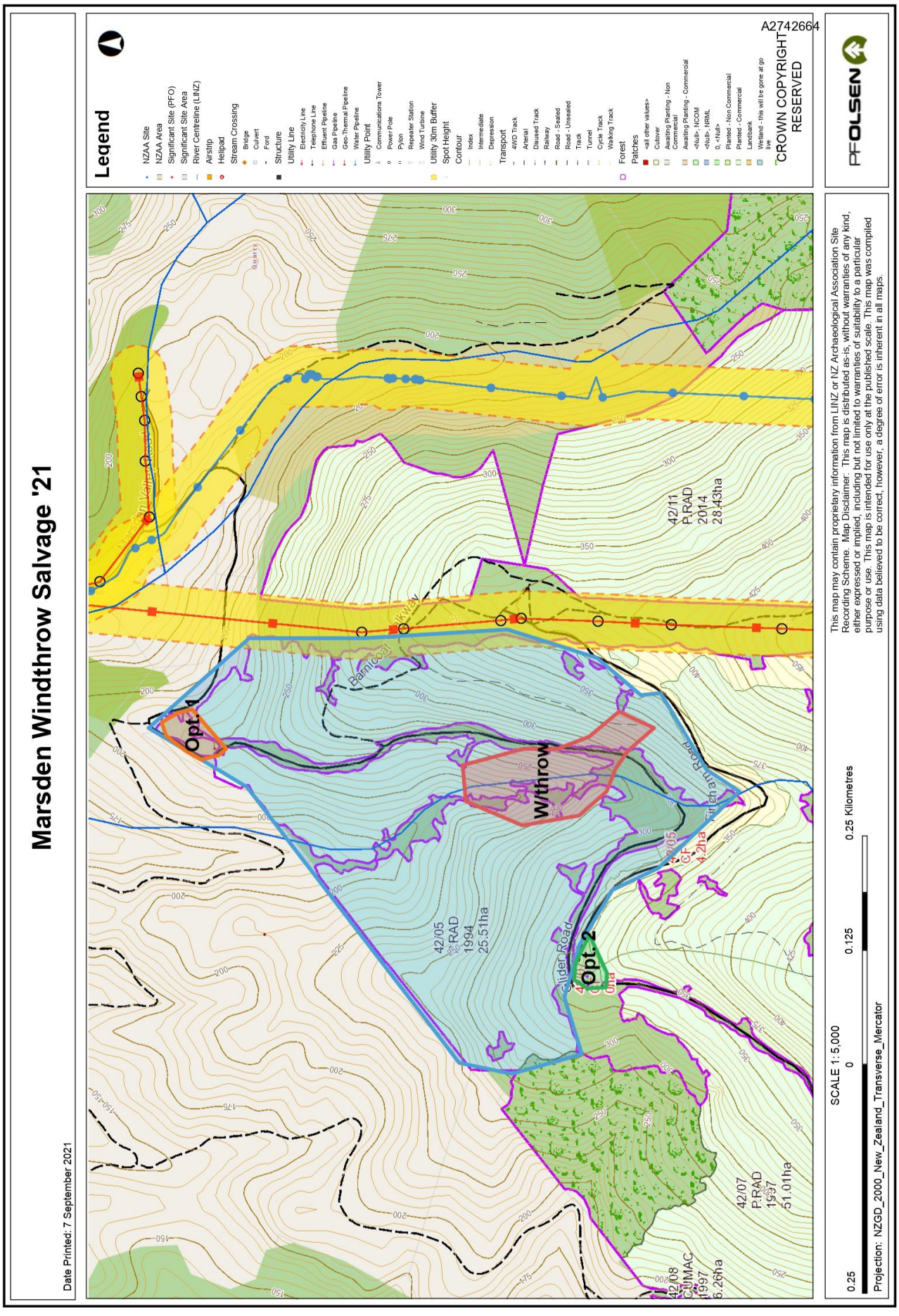
- *In accordance with Council's Annual Plan and Long-Term Plan:*
    - *Approval of forestry and harvesting management strategy and plans*
    - *Approval of the engagement of contractors/consultants and forestry tenders*

Brook Harvesting




Maitai 2021 Harvesting
Date Printed: 27 August 2021
Legend
CROWN COPYRIGHT RESERVED
4/05
3/03
3/01
3/04
2/01
2/03
SCALE 1: 15,000
0
0.375
0.75 Kilometres
0.75
Projection: NZGD_2000_New_Zealand_Transverse_Mercator
This map may contain proprietary information from LINZ or NZ Archaeological Association Site Recording Scheme. Map Disclaimer: This map is distributed as-is, without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. This map is intended for use only at the published scale. This map was compiled using data believed to be correct, however, a degree of error is inherent in all maps.
PFOLSEN

A2738155


Marsden Windthrow Salvage '21
Date Printed: 7 September 2021
Legend
A2742664
CROWN COPYRIGHT RESERVED
PFOLSEN
Opt 1
Opt 2
W/throw
42/11 P.RAD 2014 28.43ha
42/05 P.RAD 1994 25.51ha
42/07 P.RAD 1997 51.01ha
42/08 C.MAC 1997 6.26ha
Barnicoat Walkway
Slider Road
Smith Road
SCALE 1:5,000
0
0.125
0.25 Kilometres
0.25
Projection: NZGD_2000_New_Zealand_Transverse_Mercator
This map may contain proprietary information from LINZ or NZ Archaeological Association Site Recording Scheme. Map Disclaimer: This map is distributed as-is, without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. This map is intended for use only at the published scale. This map was compiled using data believed to be correct, however, a degree of error is inherent in all maps.

NCC Forestry Accounts Summary at 30 June 2021

Account	Full Year Actuals 2020/21	Total Operating Budget 2020/21	YTD Variance 2020/21	Final AP Budget 2020/21
Grand Total	**204,232**	**214,330**	**10,098**	**214,330**
Income	**(206,000)**	**(1,942,925)**	**(1,736,925)**	**(1,942,925)**
Other Income	**(206,000)**	**(1,942,925)**	**(1,736,925)**	**(1,942,925)**
154005100233. Maitai Forest	0	(1,942,925)	(1,942,925)	(1,942,925)
15400730. Revaluation movements	(206,000)	0	206,000	0
Expenses	**410,232**	**2,157,255**	1,747,023	**2,157,255**
Staff Operating Expenditure	**23,381**	**16,048**	**(7,333)**	**16,048**
15401602. Support Services Overhead	10,780	10,565	(215)	10,565
15401672. Parks & Facilities	12,601	5,483	(7,118)	5,483
Base Expenditure	**353,573**	**2,068,207**	**1,714,634**	**2,068,207**
154020190232. Forest management: Brook/York	15,545	5,000	(10,545)	5,000
154020190233. Forest management: Maitai	101,591	50,000	(51,591)	50,000
154020190234. Forest management: Marsden	220	9,000	8,780	9,000
154020190235. Forest management: Roding	39,560	53,172	13,612	53,172
154020190800. Forest management: General	42,315	69,300	26,985	69,300
154023100232. Brook/York Valley Harvest Costs	5,239	10,000	4,761	10,000
154023100233. Maitai Harvest Costs	102,093	1,500,000	1,397,907	1,500,000
154023100235. Roding Harvest Costs	2,893	350,000	347,107	350,000
15402621. Rates	5,193	6,242	1,049	6,242
15402637. Insurance	24,441	15,493	(8,948)	15,493
15402693. Admin (advertising, mapping, H&S)	14,483	0	(14,483)	0
Unprogrammed Expenses	**12,031**	**50,000**	**37,969**	**50,000**
154033100232. Tantragee Hazardous tree removal	12,031	50,000	37,969	50,000
Programmed Expenses	**21,247**	**23,000**	**1,753**	**23,000**
15404016. Land Prep/Establishment	0	23,000	23,000	23,000
154040160232. Forestry Disestablishment: Brook/York	2,315	0	(2,315)	0
154040160233. Forestry Disestablishment: Maitai	16,772	0	(16,772)	0
154040160235. Forestry Disestablishment: General	2,160	0	(2,160)	0

NELSON CITY COUNCIL

TREE CROP VALUATION

MAITAI
MARSDEN
BROOK
RODING

June 2021

PFOLSEN

P O Box 3353 | Nelson 7050 | New Zealand
T: 03 544 0066 | F: 03 544 0067
info@pfolsen.com | www.pfolsen.com

A2738156

NELSON CITY COUNCIL

TREE CROP VALUATION

MAITAI
MARSDEN
BROOK
RODING

June 2021

Commissioned by:

Mr Alec Louverdis
Nelson City Council
NELSON

PFOLSEN

Prepared by: David Crawley
P O Box 1127 | Rotorua 3040 | New Zealand
P: 64 7 921 7271 | F: 64 7 921 1020
info@pfolsen.com

A2738156

Table of Contents

SUMMARY

Market value

As at 30 June 2021, the market value of the tree crop owned by the Nelson City Council (NCC) is assessed for financial reporting purposes at:

$7.326 million plus GST (if any)

The current productive net stocked area of the NCC forest that is valued is estimated at 609.8 hectares. This is comprised mainly of radiata pine but includes 7.9 ha of macrocarpa planted in 1994 and 1997.

The assessed value is our estimate of the price in respect of the tree crop agreed between a willing seller and a willing buyer, both well informed and conducting an arm's length transaction. This value is for the tree crop only and does not include the value of the land or improvements thereon such as tracks and fences.

The value of the tree crop is estimated by assessing the net present value of estimated future costs and revenues pertaining to the standing crop, using a discount rate derived from recent forest transactions. A discount rate of 7.9% has been applied to the pre-tax costs and revenues pertaining to the tree crop.

The valuation methodology applied meets New Zealand Accounting Standard NZ IAS 41 and PBE IPSAS 27, Agriculture. We prepared this valuation following the New Zealand Institute of Forestry Forest Valuation Standards. These standards are currently under revision. We have prepared this valuation following the standards and exposure drafts.

Costs to sell

In accordance with NZ IAS 41 and PBE IPSAS 27, the tree crop value needs to be reported as its fair value minus costs to sell. The costs to sell including preparation of a sales memorandum, advertising, legal advice, and agents' fees are estimated at 2% of the above values or $147,000 plus GST.

These costs have not been deducted from the tree crop market value estimate. To comply with NZ IAS 41 and PBE IPSAS 27 these costs to sell should be deducted from the tree crop market value.

Insurance value

A secondary purpose of the valuation is to provide a basis for tree crop insurance for the purpose of securing appropriate insurance cover for the next insurance year.

The value for insurance purposes is the projected tree crop market value as at 30 June 2022, assessed using the assumptions for the June 2021 valuation at:

$8.030 million plus GST (if any)

In addition, three of the non-productive stands are included in the tree crop insurance valuation for their amenity and non-productive value. Based on approximate replacement cost, the insurance value of these stands is estimated at:

$4,800 plus GST (if any)

The tree crop is expected to gain value over the year from growth, a reduction in remaining silviculture costs, and a reduction in the net present value of annual costs. We recommend insuring the tree crop at a higher value than the current tree crop market value to allow for this.

Disclaimer

This document has been prepared by PF Olsen Limited specifically for the purposes stated in the document and is for your information only. PF Olsen Limited has used reasonable endeavours to ensure that the data and any other information in the document including any estimates, quotes, valuations and analyses is based on reliable sources and, where applicable, industry appropriate methodology and software. Although the information in this document is provided in good faith, PF Olsen Limited does not make any express or implied representations or give any warranties or guarantees as to the accuracy or completeness of the information. PF Olsen Limited does not accept liability for any claim, action, cost, loss or damage arising directly or indirectly from use or reliance on the information in this document and you agree to indemnify PF Olsen Limited against any losses, damages, costs, liabilities or expenses in relation to claims or disputes incurred as a result of you using or acting in reliance on the information in this document.

Author:

.....
DAVID CRAWLEY
NZIF Registered Forestry Consultant

15 July 2021

Reviewed by:

.....
ERIN JEFFREY
NZIF Registered Forestry Consultant

15 July 2021

1. INTRODUCTION

Client and purpose

This valuation has been carried out at the instruction of Alec Louverdis of Nelson City Council. The purpose of this valuation is to estimate the market value of the tree crops for annual financial reporting purposes. A secondary purpose is to provide a basis for tree crop insurance.

What is valued

The values stated in this report apply to the productive tree crop owned by the NCC. The value of the freehold land and improvements thereon other than the trees has not been included. The value estimate applies to the standing trees only.

The valuation represents an estimate of fair market value, that is, the price that could be realised between a willing buyer and a willing seller in an arm's length transaction.

If sold as a standing crop, or if the crop was felled and sold, the seller may attract a tax liability. The value of this tax liability has not been deducted from the tree crop value estimate.

This valuation applies the New Zealand Institute of Forestry Forest Valuation Standards. These standards are currently under revision. We have prepared this valuation following the standards and exposure drafts. This report does not meet all the disclosure requirements of these standards.

This valuation meets the applicable accounting standard NZ IAS 41 and PBE IPSAS 27, Agriculture.

Valuation date

The value of the tree crop is estimated as at 30 June 2021.

Conflict of interest

PF Olsen Ltd (PF Olsen) is independent of NCC. We do have a management agreement in place for forestry and harvesting management services, but this does not affect the independence of the valuation process.

Inspection

The NCC forests are regularly inspected by PF Olsen staff in the course of undertaking forest and harvest management functions.

2. VALUATION METHODOLOGY

Introduction

The valuation uses a method that is widely accepted by New Zealand forestry companies, insurers, consultants and investors. This method meets the New Zealand Institute of Forestry (NZIF) Forest Valuation Standards and NZ IAS 41 and PBE IPSAS 27, the New Zealand equivalents to International Accounting Standard 41 Agriculture, which applies to the valuation of tree crops.

In the absence of sufficient sales information of forests that are directly comparable, the market value of the forest is estimated by discounting costs and revenues at an appropriate discount rate. This appropriate discount rate is derived from transaction information: actual sales and investment decisions that have taken place in recent times. The costs and revenues are those pertaining to the current crop rotation and, in accordance with NZ IAS 41 and PBE IPSAS 27, exclude the costs and revenues associated with replanting and harvesting of the next and any subsequent crop rotations.

The approach taken is from a prospective purchaser's perspective. When putting a forest up for sale and inviting bids, competing purchasers take account of the specific characteristics of the forest and in many instances will obtain advice in respect of recent sales and bid accordingly. The prospective vendor in many instances will also consider recent sales and determine a reserve price accordingly.

In this estimate of the tree crop market value we assess the price, which is likely to result from such a sale process, assuming a willing buyer and willing seller, both well informed, acting prudently and operating an arm's length transaction.

Definitions

The value estimate pertains to the tree crop only but is assessed taking account of the value of the land for forestry. The following definitions apply:

- **Forest Market Value**
  The likely sale price of both the land and the trees.

- **Land Market Value**
  The likely sale price of the land and improvements, assuming the land in cutover condition.

- **Tree Crop Market Value**
  The value of the tree crop including the value of any improvements to be depreciated when harvesting the tree crop.

Current owner's tax liability excluded

The tree crop market value is our estimate of the price expected to be paid for the tree crop as at the date of the valuation (plus GST if any). This value estimate does not include the current tree crop owner contingent income tax liability (if any) on the income from either an actual sale of the tree crop, or the income from harvesting the tree crop at maturity.

Treatment of land cost

This tree crop is situated on freehold land. A notional land rental is included to simulate an annual financial cash return for the use of the land. This notional rental is equivalent to the opportunity cost of using this land for growing the tree crop.

This treatment of land costs differs from the method described in the Forest Valuation Standards but is consistent with the method described in "How to recognise the opportunity cost of land in the valuation of a tree crop" issued by the NZIF forest valuation working party in June 2007.

Appropriate discount rate

The choice of the discount rate used in the estimate of the tree crop market value is important. The value estimate of young immature forests in particular is very sensitive to the choice of discount rate.

The discount rate used represents a real rate of return, which is over and above inflation. Rates quoted by financial institutions are generally nominal rates, which include inflation.

In order to select an appropriate discount rate, we have analysed forest transactions. For these forests we assessed the cashflow and derived the discount rate that resulted in the price agreed by the seller and the buyer. These implied discount rates provide appropriate benchmarks for the valuation of this forest.

By using discounted cashflow analysis with discount rates derived from actual transactions we take account of the specific characteristics of the forest that is the subject of this valuation. The costs and revenues estimated for this forest take account of the physical characteristics of the land and the trees and the regulatory constraints as these affect future operations on this forest. Every market transaction implies a discount rate that satisfied both the seller and the buyer. By using discounted cashflow analysis we can take account of a large number of sales that have taken place over a relatively long period

Transaction analysis

The table below compares PF Olsen rates derived from transaction evidence and external sources of discount rates for application to pre-tax cashflows.

Table 1: Implied discount rates on post-tax cashflows

Discount rate basis	Discount rate detail	Forest Size		
		<200 ha	200-1000ha	>1000ha
PF Olsen transactions	Average (3 years)	7.1%	7.9%	6.2%
Manley surveys	Average used by respondents (2019[1])	7.9%		**7.3%**
Published rates[2]	Average of applied rate of 8 listed companies (2019)			6.9%

Risk and the choice of discount rate

Forestry is subject to various risks and uncertainties, which will affect the costs and the revenues. The physical description of the land and the tree crop contained in this valuation identifies those risks that are specific to this forest. The future cost and yield estimates take into account these forest–specific risks and make allowances for contingent losses. Actual costs and yields could be more or less.

Future revenues are based on an assessment of current log markets. Actual prices could be lower or higher and the impact of this uncertainty is shown in the sensitivity analysis included in this report. The value of this particular forest is considered to be highly sensitive to changes in log prices, because of its moderate distances to established markets and relative immaturity. This moderate sensitivity impacts on the discount rate we expect a rational buyer to apply. In selecting the appropriate discount rate to use, we also consider the uncertainties in the tree crop description for this particular forest.

Conclusion

After considering the recent sales of forests, the relative sensitivity of the value of this forest to future log prices and the uncertainties with respect to the description of the tree crop, we conclude that for the purpose of estimating the market value of the tree crop, which is the subject of this valuation, a discount rate of 7.9% applied to pre-tax cash flows is appropriate.

[1] Manley B, 2020. Discount rates used for forest valuation- results of 2019 survey. NZ Journal of Forestry 65(3): 15-24.
[2] New Zealand Companies Office.

Sensitivity analysis	A sensitivity analysis of the tree crop value over a range of discount rates from 7.4% to 8.4% is presented in Section 10 of this report.
Inflation treatment	All costs and revenues presented in this valuation are expressed in current (2021) New Zealand dollar terms. Inflation can be expected to impact on both costs and revenues. This valuation assumes that inflation will impact equally on both costs and revenues.
Minimum value of young crop	When discounting the costs and revenues for young crops, the resulting net present value can be less than replacement costs. While this situation may be acceptable if the land has higher and better uses, we believe that when a willing buyer and willing seller negotiate the sale and purchase of a young crop the resulting value is likely to be 50 percent of the post-tax crop replacement costs as a minimum.
Impact of the ETS	The tree crop owned by NCC is situated on pre-1990 and post-1989 forest land as defined in the Climate Change Response Act (2002). In respect of the pre-1990 forest land the forest land owner is a participant in the ETS and was entitled to an allocation of NZU carbon credits. While the liabilities associated with possible deforestation of this land impact on the market value of this land, these potential liabilities or the value of the NZU allocation, in our opinion, do not impact on the tree crop market value estimate. In respect of the post-1989 forest land, the forest owner has now deregistered from the Emission Trading Scheme. This valuation therefore does not include any value in respect of carbon trading.

3. DESCRIPTION OF LAND

Overview

This section describes the physical and legal attributes of the forest land. Included are discussions of:

- Legal ownership and tenure
- Location and access
- Topography
- Soils
- Climate.

Legal ownership

The NCC forests are situated on a large number of legal title areas including water and other reserves. The legal descriptions are not detailed in this valuation. Legal ownership was verified in 2011 and 2012 during the ETS pre-1990 allocation and post-1989 registration applications. There has been no further review of legal title.

Location and Access

Maitai Forest

The Maitai Forest consists of a number of small blocks, which stretch from several kilometres to the east of the city for approximately ten kilometres on Maitai Valley Road. Approximately a quarter of the stocked area falls within the Maitai water reserve area. The remaining forest areas are on predominantly steep hill country, which drops down into the Maitai River. These areas, although they fall outside of the physical water catchment area, are regarded as buffer zones for the water catchment.

Access is from Maitai Valley Road via formed tracks to compartments 1, and 3 - 10. Access to compartment 2 is via an extension to Bob Taylor Road.

Marsden Forest

Marsden Forest is located about 4.0 kilometres south east of Stoke at the end of the sealed Marsden Valley Road. The main plantation is on north-facing slopes on the Barnicoat Range between Jenkins Hill and Saxton Hill, directly above Ngawhatu Farm. The forest bounds an indigenous reserve on the north-eastern side with farmland to the west and neighbouring exotic forest plantation to the south. Formed access roads connect with Marsden Valley Road.

Continued on next page...

...continued

Roding Forest
Roding forest is located approximately 13 kilometres east of Richmond at the end of the metalled Aniseed Valley Road.

The forest is within the Roding waterworks reserve and is bounded by reserve on all but the south-western boundary, which is an exotic pine plantation. The topography is generally very steep, and altitude rises up to 900 metres.

Brook Forest
The Brook Forest consists of three separate blocks; one of these is a backdrop to Brook Street section of Nelson City. The second block is further up the Brook Valley. The third area is located in York Valley behind the Bishopdale suburb of Nelson City. Part of the York Valley block is on land designated for refuse disposal, so some attrition is anticipated, reducing the stocked area of this forest over time.

Soils

Maitai Forest
The soil type of Maitai Forest consists of Whangamoa steepland soils; these are formed on Permian greywacke, argillite and sandstone with small outcrops of limestone. The fertility is moderate to low and is well suited to growing radiata pine. Annual rainfall is approximately 1,700 mm.

Marsden Forest
Lee steepland soils are the predominant soil type, these soils are formed on Perian greywacke, argillite and sandstone. The fertility is moderate and suited to production forestry. Annual rainfall is 1,200 mm.

Roding Forest
The soils are Lee steepland soils consisting of grey silt loam and pale yellowish-brown silt loam on weathered rock with silty fillings. Generally, the growth of radiata pine is good on the lower slopes, but reduces with altitude. The annual rainfall for Roding is recorded as 1,400 mm.

Brook Forest
The soil types for these forest blocks are predominately Whangamoa steepland soils and Wakatu silt loams. Wakatu silt loams are formed on Pliocene gravels of varied depth overlying sandstone. Where the soils are formed partly from sandstone, magnesium figures are high, and PH is often near neutral. The fertility is low but radiata pine grows very well.

Topography

The terrain on all NCC forests is steep. Most stands will be harvested by cable hauler. Some small stands adjacent to roads may be harvested by the "shovel logging" technique using a tracked excavator, but the costs are likely to be similar to that of a cable hauler.

Distance to markets

The distance to log markets for each forest is as follows:

Table 2: Distance to log markets (kilometres)

Market	Maitai	Marsden	Brook	Roding
Stoke –Domestic sawlogs	17	10	12	45
Port Nelson – Export	11	12	12	50
Richmond – LVL, Chip logs	25	15	22	37

Climate

The annual rainfall at Nelson Airport is 986 mm (1941-1980) but will be higher in the hills where the forests lie. The rainfall is spread evenly across the year, but droughts occur and there have been serious forest fires in the region in the past.

Gales occur on 2 – 3 days per year on average, and extensive forest damage from wind is not uncommon in Nelson as evidenced in recent windthrow events.

Frosts are generally confined to the winter months.

This climate is suitable for growing the forest species planted at the NCC forests.

4. REGULATORY CONSIDERATIONS

Introduction

Planned activity in the forest must comply with legislative requirements. The following legislation and agreements currently apply to forest operations.

Resource Management Act

The properties are situated within Nelson District Council boundary and jurisdiction. The Nelson District Council has an operative Resource Management Plan (RMP) (as required by the Resource Management Act 1991). This plan last revised in April 2012 is a combined regional and district plan.

The National Environmental Standard (NES) for Plantation Forestry are regulations made under the RMA that came into effect on 1 May 2018. Under the NES land is categorised by erosion susceptibility. Most forest areas are classified as yellow under the erosion susceptibility classification, and as such harvesting related activities are permitted activities. Maps of the NES Erosion Susceptibility Classification are presented in Appendix 7.

Other relevant legislation and management responsibilities

Other relevant legislation in relation to the growing and harvesting of the tree crop are:

- Biosecurity Act 1993.
- Fire and Emergency New Zealand Act 2017.
- Forests Act 1949.
- Hazardous Substances And New Organisms Act 1996.
- Pesticides Act 1979.
- Health and Safety at Work Act 2015.
- Heritage New Zealand Pouhere Taonga Act 2014.
- Climate Change Response Act 2002.

Continued on next page...

…continued

Forest owners can be held liable for breaches of these Acts and may be held responsible for damage to third party property. Appropriate protection, including professional management and public liability insurance, should be taken to minimise these risks.

Historical and Archaeological Sites

Records of archaeological and historical places are maintained in the NZ Archaeological Association Site Recording Scheme. We are aware of one site within compartment 1 in the Maitai Forest. Even where there are no known archaeological sites recorded for this land, this does not mean that none are present. The future harvest planning and management of harvest operations needs to take account of the discovery of possible sites.

Pakohe Management Plan

This Iwi Environmental Management Plan (IEMP) includes agreed protocols for the management of argillite quarrying activities that have been historically undertaken by local iwi. The Pakohe Management Plan was developed by Ngati Kuia in partnership with the Marlborough District Council, Tasman District Council, Nelson City Council and the Department of Conservation to have specific reference to argillite (Pakohe) found in the Nelson/Marlborough area.

Compliance with this IEMP is expected to add only minor costs over and above the compliance costs associated with other legislative requirements.

5. FOREST AREA

Overview

This section presents area related information for the forest including:

- Net stocked area estimates.
- Area attrition.

Area estimate

Net stocked area estimates are regularly re-assessed by PF Olsen as part of forest management, particularly prior to the commencement of forest operations. This forest mapping is based on ortho-photography of various sources and dates. The mapping has an estimated accuracy of +/- 3%. This accuracy does not imply absolute limits. No guarantee or assurance is made that individual areas will fall within these accuracy limits.

The net stocked area estimates for the productive tree crop stands valued in the Nelson City Council forests as at 30 June 2021 are shown below:

Table 3: Area estimates by species and forest

Forest	Species		
	P.rad	C.mac	Total
BROO	96.3	1.6	97.9
MAIT	171.0		171.0
MARS	111.3	6.3	117.6
RODI	223.3		223.3
Total	**601.9**	**7.9**	**609.8**

The total productive net stocked area of the NCC estate that is valued as at 30 June 2021 is estimated at 609.8 hectares.

There are a further estimated 53.2 hectares of stands considered to have no productive value at present. These may be radiata pine stands that cannot be harvested profitably, or other species that are assumed to have amenity value only. There are also some minor species stands that are a seed source for troublesome wildlings, and which are to be liquidated with no net return anticipated. These non-productive stands are not included in the tree crop market valuation.

Three of the non-productive stands are included in the tree cop insurance valuation, mainly for their amenity value.

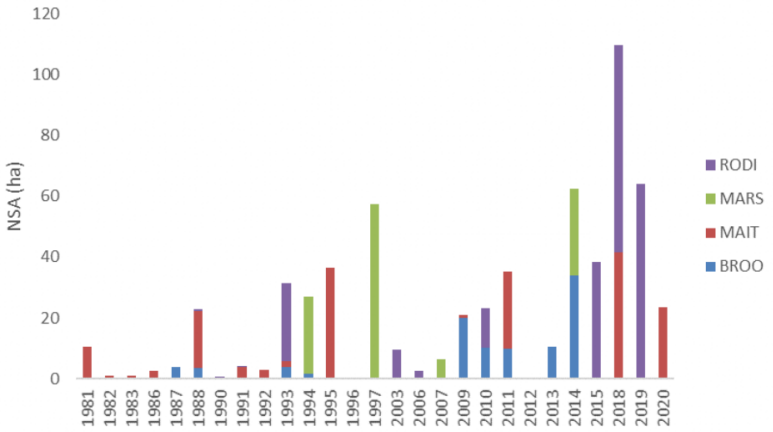
Continued on next page...

…continued

Areas planted outside the legal boundary total 0.5 ha. These areas are included in the area being valued, as they are small isolated areas that are likely to be harvested in conjunction with the neighbouring NCC stands with all the revenue assumed to accrue to NCC.

The age class distribution of the valued stands is presented in the figure below.

Figure 1: Age class distribution of radiata stands valued



Attrition

This valuation includes an annual 0.15% area attrition allowance at a cumulative rate from the present until each stand is felled. Over a period of 30 years the initial area of a stand will have been reduced by 4.5%. This is based on historical records of losses, mainly due to wind damage, in the Nelson region. Attrition has been applied to the harvest revenue estimate in the cashflows.

Attrition refers to a reduction of productive area over time for reasons such as windthrow, landslip or disease. Individual tree mortality caused by general 'crowding' in the stand is already accounted for in the growth model and is therefore not included here.

6. TREE CROP DESCRIPTION

Stand records

The records held by PF Olsen for tending operations prior to commencement of management are based on information provided by the former forest manager and in some cases are incomplete.

Extensive mid-rotation inventory has been carried out to obtain data to update yield forecasts for harvesting.

Most of the radiata pine stands that were planted before 1990 were subject to a tending regime with three pruning lifts and two waste thinning's. The final crop stocking is between 200 – 300 stems/hectare pruned to around 6m height.

The younger radiata pine stands have not been pruned or have had a single pruning lift to 2 – 3 metres. These stands were waste thinned to around 450 stems/ha at an age of between 7 and 8 years.

The macrocarpa stands have reportedly been treated to a regime involving three pruning lifts and two waste thinning's.

Forest health

Forest health inspections have been carried out under the NZFOA Scheme throughout all NCC forests. No significant pests or diseases of concern have been detected. Costs for regular health inspection are included under annual costs in the valuation.

Most of the forests are marginally deficient in nitrogen and phosphate but not at levels that it would be economic to warrant application of fertiliser. The trace element Boron is also at marginal levels in most of Nelson forests. Foliage sampling of 3-year old trees is routinely carried out and where levels are marginal corrective applications with ulexite fertiliser are carried out.

Ten-year plan

The ten-year operational harvest schedule was updated in 2020. The first year of harvest for each stand in that schedule has been adopted as the year of harvest in this valuation. The ten-year plan allows some stands to be harvested outside the constraints imposed in the estate model.

Forest crop types

For the purpose of this valuation the forest has been divided into crop types on the basis of location, species, and silviculture.

For radiata, the first four letters of the crop type label refer to the forest:

Brook	**BROO**
Maitai	**MAIT**
Marsden	**MARS**
Roding	**RODI**

Radiata stands were further defined based on completed and intended operations. F was used to notate framing stands, with the expected final crop stocking rounded down to the nearest 100 stems/ha. Prn5 was used to notate pruned stands expected to have at least 250 stems pruned to at least 5m and Prn3 was applied to stands expected to have at least 250 stems pruned to at least 3m.

Macrocarpa stands are combined into one crop type MAC.

Stands with adequate inventory are assigned an individual inventory-based yield-table.

Future tending

For the purposes of this valuation it is assumed that young stands in all forests will remain unpruned, with one waste thinning event to about 550 stems per hectare at around age 9.

The macrocarpa stands will be thinned, but no further pruning will be completed.

7. YIELDS

Overview

Stand based yield tables have been created for stands with a suitable pre harvest or mid rotation inventory. These stand specific yield tables have been created in YT Gen[3].

For stands that have not yet received a suitable inventory, generic yield tables are applied. Generic yield tables for each radiata pine crop type were developed based on the inventory plots collected in the same or similar crop types (see more detail below).

Each radiata yield table (stand based or generic) is run to a range of cutting strategies; LVL_S25, S25, Sonic, and Export (see Appendix 1). The valuation uses the highest value market acceptable strategy for each forest.

Generic yields for macrocarpa are based on our knowledge of actual out-turn and standing volumes of similar stands grown in the Nelson region.

Radiata generic yield tables

The approach adopted for the 2020 update of the generic radiata yield tables was to;

1. assign all recent Plotsafe/YTGen inventory plots a croptype based on forest with further classification into pruned (with pruned height class) or framing (with final stocking class).
2. Run all recent Plotsafe/YTGen inventory plots, and average the results by croptype, strategy, and age.
3. Apply the croptype average yield tables to stands that don't have stand specific inventory.

Rotation age

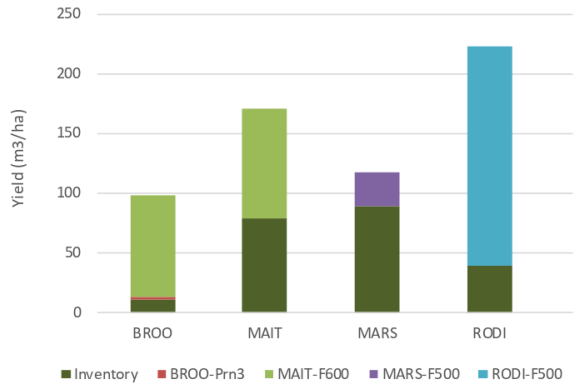
For the purposes of this valuation a rotation age of 28 years is adopted for the radiata and of 35 for macrocarpa. Any stands that are already mature are assumed to be harvested based on NCC ten year harvest schedule (last revised in 2020.

[3] Silmetra Ltd.

NCC areas by yield table

The figure below shows the areas of the estate that are covered by stand inventory and the areas covered by the various croptype based generic yield tables.

Figure 2: Area with inventory or generic yield table

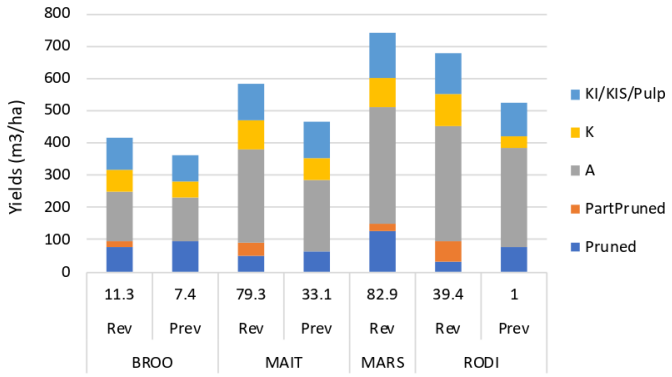


Not all young stands have sufficient in-forest plots to have forest specific croptype yield tables. The MAIT-F600 yield table is applied to 85.0ha in BROO.

Comparison of updated inventory yields against previous

The figure below compares the new radiata inventory based yield tables (Rev) against the previous (Prev). Yields are forecast as at age 28, averaged by forest. Areas inventories are also shown.

Figure 3: Radiata inventory yields - revised vs previous

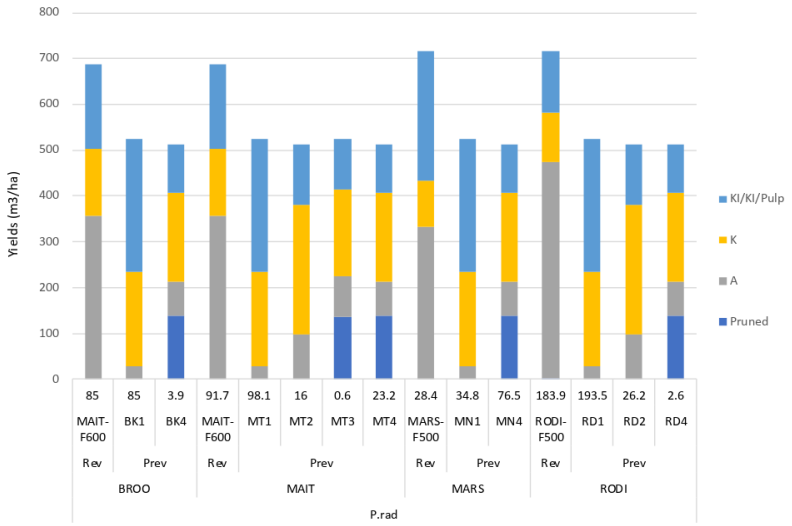


Total area of radiata inventoried has increased from 41.5ha to 163.1ha There is a clear trend of increasing yield forecast at age 28 with the inclusion of the more recent inventory. This is consistent with an increase in average stocking from 311 stems/ha to 393 stems/ha.

Comparison of updated generic yields against previous

The figure below compares the new radiata generic yield tables against the previously applied equivalent. Yields are forecast as at age 28. Areas modelled are also shown.

Figure 4: Radiata generic yields - revised vs previous



The new framing regime yields are higher overall, and this is consistent with the change to a shift to framing regimes with a higher target final crop stocking (about 575 stems per ha).

Radiata growth modelling

Modelling was undertaken in YT Gen using the tree growth model, volume, taper, and breakage functions, and to a range of cutting strategies as detailed in Appendix 1.

Log grades

The following tables contain a description of the log grades used in the yield tables.

Table 4: Log grades - radiata

Grade	Market	Description	Small end diameter	Length (m)	Max branch (cm)
Pruned	Domestic	Pruned high quality	Min 35 cm Max 80 cm	3.7,4.3 4.9, 5.5, 6.1	Nil
PartPrn	Export	Includes 2m pruned	Min 30 cm Max 80 cm	4.0	12
LVL	Domestic	Large unpruned, high density	Min 20cm Max 75cm	5.5	7
S25	Domestic	Large unpruned, high density	Min 25 cm Max 60 cm	4.9, 5.5, 6.1	7
A	Export	Large unpruned	Min 30cm	3.9, 5.2, 5.9	12
K	Export	Small unpruned	Min 23 cm	3.9, 5.2, 5.9	12
KI	Export	Large industrial	Min 26cm	3.9	25
KIS	Export	Rougher logs	Min 14cm	3.0, 3.9	25
Pulp	Domestic	Rougher logs for chip	Min 10 cm	3.6-6.1	NA

Table 5: Log grades-macrocarpa

Grade	Description	Small end diameter	Length (m)	Max branch (cm)
CypPrn	Pruned large logs	Min 35 cm	2.9-6.1	0
CypL	Unpruned large logs	Min 30cm	4.1, 5.5, 8.1, 11.1	12
CypS	Unpruned small logs	Min 20cm	4.1, 5.5, 8.1, 11.1	10
CypPulp	Pulp/chip logs	Min 10 cm	3.7-7.9	NA

Reconciliation

A reconciliation analysis was carried out in 2020. The objective was to determine how well inventory-based yield tables predicted actual recovered volumes. Estimates are compared for radiata pine areas felled by PF Olsen in the Nelson region from 1 Jan 2016 to 31 Dec 2019 (612.9ha)

Predicted yields are based on:

1. YTGen inventory collected by stand using RAD05 or RAD05A.
   (a) This includes 14.6ha (2% of reconciliation area) of mid rotation inventory collected using only a sub-selection of these codes. These yields are potentially conservative in terms of sweep (code S used) and bullish in terms of branch size (code 7 used), though comparison against other fully coded inventories suggests minimal impact for this.
   (b) Surrogate inventories were allocated for another 25.2ha of stands (4% of reconciliation area) that had no inventory data.
2. Application of one of a range of possible cutting strategies, where the strategy applied is selected (by HA and year) to be the closest match to that actually followed at harvest (i.e. based on review of actual production data).

Actual production for harvested areas is based on uplift in tonnes converted to m^3 using m^3/tonne conversion factors estimated for each grade for this region.

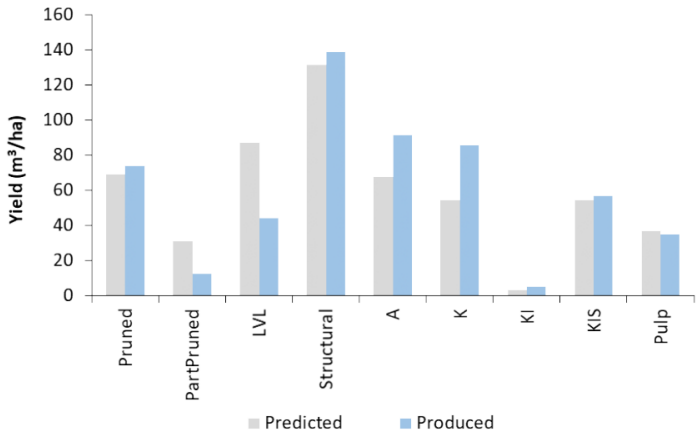
Table 6: Reconciliation by log grade

Grade	Volume (m3/ha)	
	Predicted	Produced
Pruned	69	74
PartPruned	31	12
LVL	87	44
Structural	132	139
A	67	92
K	54	86
KI	3	5
KIS	54	57
Pulp	37	35
TOTAL	**536**	**544**

Continued on next page...

...continued

Figure 5: Reconciliation by log grade



On average, the inventory-based yield tables under-predicted TRV by 2%.

The predicted volumes of part-pruned and LVL grades were not fully recovered. The volumes missing from these grades have been recovered instead as a mix of Structural, A grade, and K grade. This is thought to be related to market limitations through the reconciliation period rather than to any in-accuracy in the yield forecasts, so yield tables have not been adjusted for this.

The KI, KIS and Pulp grades appear to have been predicted quite well, with only a small proportion (5%) of the forecast Pulp yield appearing to have been upgraded to KIS.

Macrocarpa yields

There are no stand specific data available for use in predicting harvest volumes for the macrocarpa stands. Volumes shown in the table below are estimates based on approximate forecasts for this species in the Ministry of Forests "Special Purpose Timber Species" booklet.

Table 7: Macrocarpa yields – age 35 (m3/ha)

Log Grade	Volume (m^3/ha)
Pruned sawlog	90
Unpruned sawlog-large	120
Unpruned sawlog-small	150
Chip	90
Total:	**450**

No validation of these yield estimates has been carried out.

---

8. COSTS

Overview

Future costs pertaining to the maintenance and management of the current tree crop are estimated. All costs are exclusive of GST and stated in 2020 NZ dollar terms. Cost estimates are based on current industry standard costs applying in the Nelson region.

Future costs consist of:

- Establishment costs (replacements cost for young stands).
- Annual costs.
- Land use costs.
- Tending costs.
- Inventory costs.
- Harvest costs.

Establishment costs

Establishment costs are included here because stands less than 10 years old are valued based on 50% of the post-tax costs of replacement, if this exceeds the net present value of costs and revenues.

Table 8: Establishment costs

Operation	Pre-tax Cost ($/ha)
Site preparation (desiccation)	$350
Windrowing (applied to 20% of area)	$800 x 20%
Establishment	$1,200
Releasing	$450
TOTAL (averaged)	**$2,160**

Annual costs

Annual costs of management, administration and maintenance of the forest are estimated at $174 per hectare, on average for the NCC forest estate.

These costs are averages for a full rotation and can be expected to vary from year to year. The annual costs are PF Olsen estimates of industry efficient costs.

Continued on next page...

...continued

Table 9: Annual costs

Item	Cost ($/ha/yr)
Administration	15
Property maintenance and protection, including forest health	15
Forest management/mapping/valuations & Forestry Advisory group reporting	70
Insurances	59
Rates	15
Total Annual Costs	**174**

Operations that are contingency based, for example Boron fertilising, are included in these annual costs.

Notional rental

This tree crop is situated on freehold land. A notional market land rental at $120 per ha per annum is included to simulate an annual financial return for the use of the land. This notional rental is equivalent to the opportunity cost of using this land for growing the tree crop. The rental is based on a reasonable financial return expectation for similar land in the region.

Tending strategy

The current tending strategy for radiata is an unpruned framing regime, thinned at approximately age 8 to about 550 stems per hectare.

All macrocarpa stands have been pruned to various heights and thinned. There is no further tending planned.

Tending costs

The following table shows the tending costs assumed in the valuation.

Table 10: Tending costs

Species	Operation	Age	$/ha
Radiata	1st Prune	6	1,650
	2nd Prune	8	1,650
	Thin	8	950
Macrocarpa	Thin	10	1050

Tending costs include contractor costs, supervision, and quality control.

Inventory costs

A late rotation inventory is assumed to take place at around age 20 for radiata pine and macrocarpa. This inventory is used to validate yield tables used in estate planning and annual valuations. This inventory is estimated to cost $42 per hectare.

A pre-harvest inventory is assumed to take place about 2 years prior to the harvesting to assist with harvest planning and the marketing of the logs. This inventory is estimated to cost $65 per hectare.

Harvest costs

Harvest costs are defined as all costs from stump to price point, here assumed as at wharf or mill gate. Included are costs for:

- Logging and loading.
- Road and skid formation.
- Harvest management.
- Post-harvest costs and the commodity levy.
- Cartage.

Some of these costs will vary according to the piece size and volume per hectare harvested. Costs are based on current average contract costs for logging operations of a similar scale to those anticipated in the NCC estate.

Logging and loading

Logging and loading costs encompass all operations from tree felling to loading, including extraction, delimbing, log making and fleeting. Also included are costs of logging supervision, quality control and training.

Harvesting by predominantly cable-hauler is required for all areas.

The composite logging rates assumed are adjusted by formula based on the actual predicted piece size from the projected yields.

The base logging costs by expected harvest method for a 2.0m^3 piece size are presented in the table below.

Table 11: Logging costs by forest and terrain type ($/tonne)

Forest	Proportion of hauler terrain	Base hauler rate	Base ground based
BROO	65%	43.00	36.00
MAIT	90%	44.00	38.00
MARS	85%	44.00	38.00
RODI	90%	44.00	38.00

Continued on next page...

...continued

Road and Skid Formation Costs

Costs for road and skid formation include arterial road construction and maintenance costs, but exclude maintenance costs not associated with harvesting, this being a property maintenance item. Also excluded are costs for road and skid rehabilitation after harvesting. These latter costs are included in post-harvest costs. Costs are derived from current industry experience and are converted to per cubic metre costs using the total recoverable volumes by crop type. These are sensitive to changes in assumptions on yields per hectare.

Table 12: Summary of roading costs ($/ha)

Forest	Roading
BROO	5,500
MAIT	5,500
MARS	5,500
RODI	3,000

Harvest Management Costs

Harvest management costs include such items as:

- Harvest planning.
- Environmental compliance monitoring.
- Production monitoring.
- Log value recovery quality control.
- Log marketing.
- Reporting and documentation.
- Weighbridge fees and consumables (paint, stencils etc).

It is likely that a portion of these costs will be expended prior to commencement of logging. For the purpose of valuation, all harvest management and marketing costs are assessed against log revenue in the year of harvest.

Harvest management costs are set at $4.98 per tonne.

Post-Harvest Costs and the Commodity Levy

Post-harvest costs cover road and skid rehabilitation as well as treatment of logging debris. This latter item varies with the logging method. Hauler areas will require treatment of "birds nests", the pile of tops and slash surrounding the landing.

Post-harvest costs and the commodity levy are assumed at $3.00 per tonne.

Continued on next page...

...continued

Summary of Harvest Costs
Harvest costs assumed are summarised below:

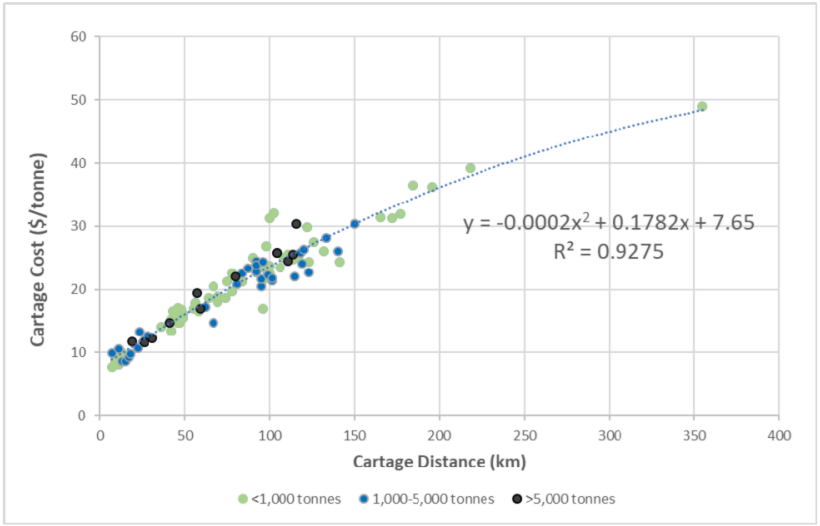
Table 13: Summary of average harvest costs

Cost Item	Average Cost All Forests ($/tonne)
Logging and Loading	46.72
Road and Skid Formation	6.63
Management	4.75
Post harvest & Commodity Levy	3.00
Average Total Harvest Costs	**63.08**

Cartage costs

The cartage costs have been based on actual cartage rates incurred for operations managed by PF Olsen in the Nelson region in the last year. This includes costs for dispatch and weighbridge use.

Figure 6 - Nelson cartage contract rates 1 June 2020 to 31 May 2021



The following cartage cost formula has been adopted for this valuation:

Cost ($/tonne) = 7.65 + 0.1782 x kms - 0.0002 x kms^2

Harvest cost in tonnes converted to m³

The harvesting and cartage costs shown above in $/tonne are converted to $/m³ using the same grade conversion factors used in estimating log prices (see Table 14 below).

9. PRICES

Prices used

The radiata pine log prices used in this valuation represent our current projection of future prices. Prices are specified in NZ$/m^3 underbark on a roundwood basis for log grades as specified in the yield tables. Prices are corrected for inflation and are stated in 2021 NZ$.

Domestic radiata log grade prices are based on prices published monthly by Agrifax for the Northern South Island (NSI) region.

Export radiata log prices are based on the monthly average export log prices offered to PF Olsen at the Port of Nelson.

Macrocarpa log prices are based on local knowledge and prices occasionally published in the 'Tree Grower' magazine.

12-month average log prices (June 2020 to May 2021) are applied to the 2021 harvest, and 3-year average prices are applied from 2023. Interpolated prices are applied for 2022.

Table 14: Summary of Mill/Wharf Prices ($/m^3)

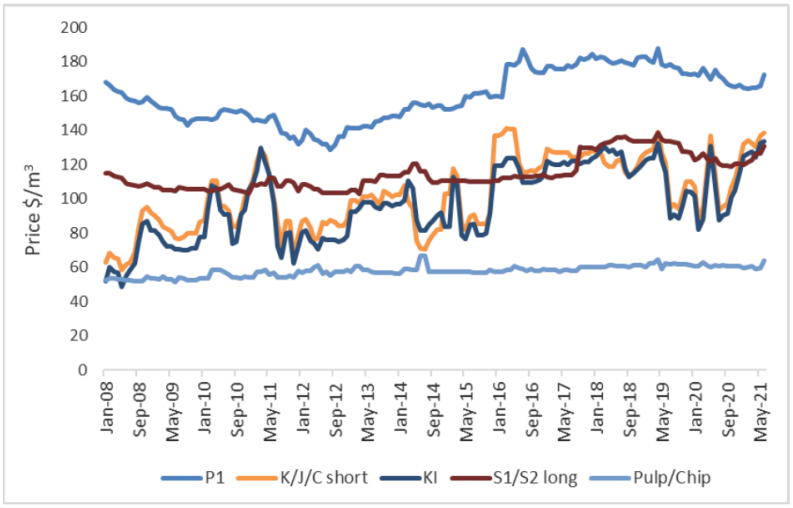
Species	Log Grade	Market	Conversion	Year		
			(m^3/tonne)	2021	2022	2023
Radiata	Pruned	Domestic	1.01	168	171	175
	PartPrn	Export	1.01	133	134	136
	LVL	Domestic	1.02	124	127	129
	S25	Domestic	0.99	126	129	132
	A	Export	0.95	130	129	127
	K	Export	0.95	118	117	116
	KI	Export	0.95	110	110	109
	KIS	Export	0.95	76	82	89
	Pulp	Domestic	0.95	58	58	59
Macrocarpa	CypPrn		1.00	180	180	180
	CypL		1.00	130	120	110
	CypS		1.00	115	103	90
	CypP		1.00	60	58	55

Continued on next page...

...continued

Log price trends are shown in the figure below. Prices are corrected for inflation using the Consumer Price Index.

Figure 7: Regional radiata pine log price series from 2008-2021 ($/m3)



Source: Agrifax Northern South Island log prices, inflation adjusted.

Suitability of prices

In the opinion of PF Olsen, based on market evidence analysed, the log prices assumed in this valuation represent a fair and reasonable view of long term prices by log grade as demonstrated by log prices implied in recent sales of mature forests, including stumpage sales. These prices are considered suitable for use in estimating the market value of the tree crop owned by NCC.

This log price forecast is valid as at 30 June 2021.

Stumpage revenue

Appendices 2 and 3 contain the NCC share of the projected net harvest (stumpage) revenues at assumed harvest age by forest and stand.

The stumpage value is reduced by 0.15% per year to harvest to allow for future attrition losses to the crop (wind, disease, wet areas) that are not factored into the growth modelling.

10. TREE CROP VALUE

Overview

The valuation process follows the steps described below:

- Net log revenue (after attrition) at clearfell is assessed for each stand
- Estimated future costs and revenues are discounted at 7.9% per annum.
- The tree crop market value for each stand is assessed as the net present value of future costs and revenues, or 50% of the post-tax replacement costs, whichever is higher.

Tree crop market value

As at 30 June 2021, the market value of the tree crop owned by the Nelson City Council (NCC) assessed for financial reporting purposes, is estimated at:

$7.326 million plus GST (if any)

The tree crop value by forest is as follows:

Table 15: Tree crop value by forest ($ plus GST if any)

Forest	Tree Crop Value
BROO	567,800
MAIT	2,672,100
MARS	2,900,700
RODI	1,185,700
TOTAL	**7,326,300**

These values have been assessed using a discount rate of 7.9% applied to ppre-tax costs and revenues, or 50% of post-tax replacement cost for young stands. The assessments of the tree crop market value by stand is shown in Appendices 4 and 5.

Costs to sell

In accordance with NZ IAS 41 and PBE IPSAS 27, the tree crop value needs to be reported as its fair value minus costs to sell. The costs to sell including preparation of a sales memorandum, advertising, legal advice, and agents fees are estimated at 2% of the above values or $147,000 plus GST.

These costs have not been deducted from the tree crop market value estimate. To comply with NZ IAS 41 and PBE IPSAS 27 these costs to sell should be deducted from the tree crop market value.

Sensitivity analysis

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

Table 16: Sensitivity of NCC tree crop value estimate to discount rate and log price variation ($)

Discount rate	Log price variation		
	-10%	0%	10%
7.4%	5.661	7.448	9.466
7.9%	5.590	**7.326**	9.208
8.4%	5.523	7.232	9.010

This sensitivity analysis shows that the tree crop value estimate is highly sensitive to log prices used and much less sensitive to the choice of the discount rate.

Tree crop insurance value

A secondary purpose of the valuation is to provide a basis for tree crop insurance for the purpose of securing appropriate insurance cover for the next insurance year.

The value for insurance purposes is the projected tree crop market value as at 30 June 2022, assessed using the assumptions for the June 2021 valuation at:

$8.030 million plus GST (if any)

In addition, three of the non-productive stands are included in the tree crop insurance valuation for their amenity and non-productive value. Based on approximate replacement cost, the insurance value of these stands is estimated at:

$4,800 plus GST (if any)

The tree crop is expected to gain value over the year from growth and a reduction in the net present value of annual costs. We recommend insuring the tree crop at a higher value than the current tree crop market value.

Tree crop insurance values by stand are shown in Appendix 6.

11. CHANGE REPORT

Overview

We have examined the change in the tree crop value estimate over the past year. This is accomplished by calculating the marginal contribution to the total change in tree crop value from updating each of the key factors in sequence.

The valuation methodology is generally the same as that adopted for the June 2020 valuation, though we have shifted to using a pre-tax discount factor this year.

Change report-NCC

The table below sets out the results of the change analysis of the NCC estate tree crop value. The percent change in value is defined as the marginal change expressed as a percentage of the original value at the beginning of the year, i.e. a negative value means that changing the input variable has reduced the value estimate of the tree crop.

Table 17: Summary of changes in NCC tree crop value since June 2020 ($million)

Item	Crop Market Value ($mill)	Change ($mill)	Change (%)
Value as at 30 June 2020:	**7.115**		
Remove areas harvested	7.115	0.000	0.0%
Advance to 2021	7.875	0.759	10.7%
Update areas	7.875	0.000	0.0%
Update yields	7.875	0.000	0.0%
Update notional land rental	7.713	-0.162	-2.3%
Update other costs (excl insurance)	7.442	-0.270	-3.8%
Update log prices	7.465	0.023	0.3%
Update discount rate	7.346	-0.119	-1.5%
Re-optimise cut strategy	7.371	0.025	0.3%
Update insurance	7.326	-0.044	-0.6%
Value as at 30 June 2021:	**7.326**	**0.211**	**3.0%**

Areas harvested

There has been no area harvested since the last valuation date.

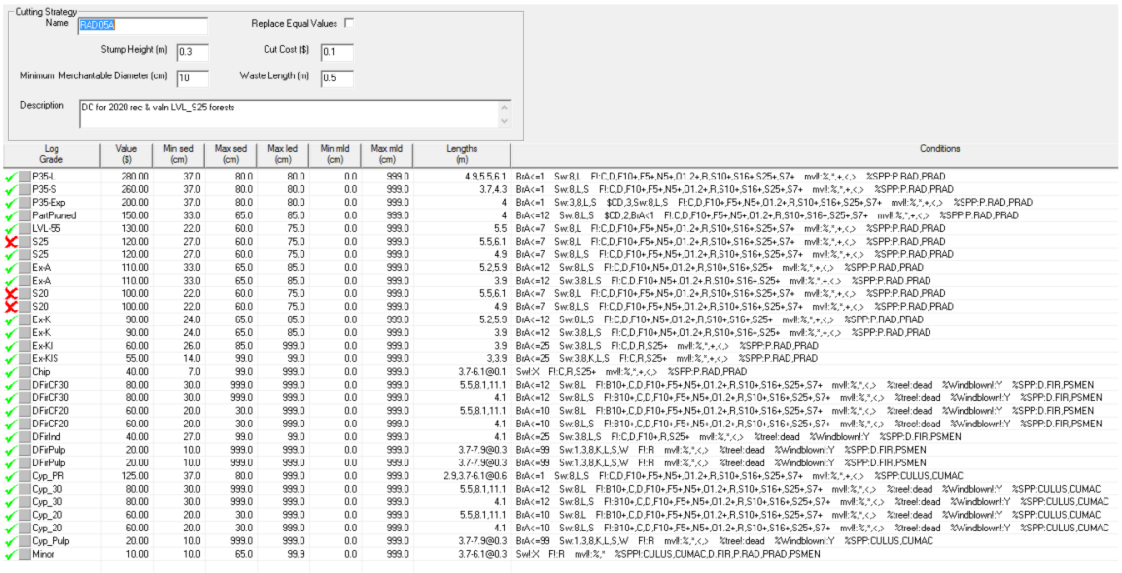
Advance to 2021

Adding one year to the valuation date adds physical growth, may remove some future cost items, and moves the forest one year closer to maturity. These all increase the discounted value of future net revenues.

Area updates	There has been no area change in the valued stands since the last valuation date.
Yields	There has been no new inventory collected or revision of the generic crop type yield tables since the last valuation date.
Notional land rental	We increased this notional market land rental from $80/ha/year (based on historic Crown Forest Licence frees) to $120/ha/year (based on a reasonable financial return expectation for similar land in the region). This reduced the valuation by 2.3%.
Other costs (excluding insurance)	Changes in value due to costs are the result of updating: • Harvest and roading costs – There was no change for these in $/tonne terms but converting these to $/m^3 terms in the stumpage calculation reduced the valuation by 3.8%. • Cartage costs – There was no significant change in cartage costs. • Annual costs – There was no significant change in tending costs or in annual costs (apart from notional rental and insurance).
Prices	Current (12-month average) log prices have firmed slightly and 3-year average log prices are relatively similar to those used last year. The impact on the valuation is a 0.3% increase.
Update discount rate	Updating to the 7.9% pre-tax discount rate reduces the valuation by 1.5%.
Re-optimising the cutting strategy	The relatively modest changes in cartage rates and log prices did result in value gain opportunities through changing cutting strategies for some forests. This increased the valuation by 0.3%.
Update insurance	Insurance costs have increased significantly. Adopting the estimated 2021 insurance rates decreases the valuation by 0.6%.

APPENDIX 1: YTGEN CUTTING STRATEGIES & APPLICATION NOTES

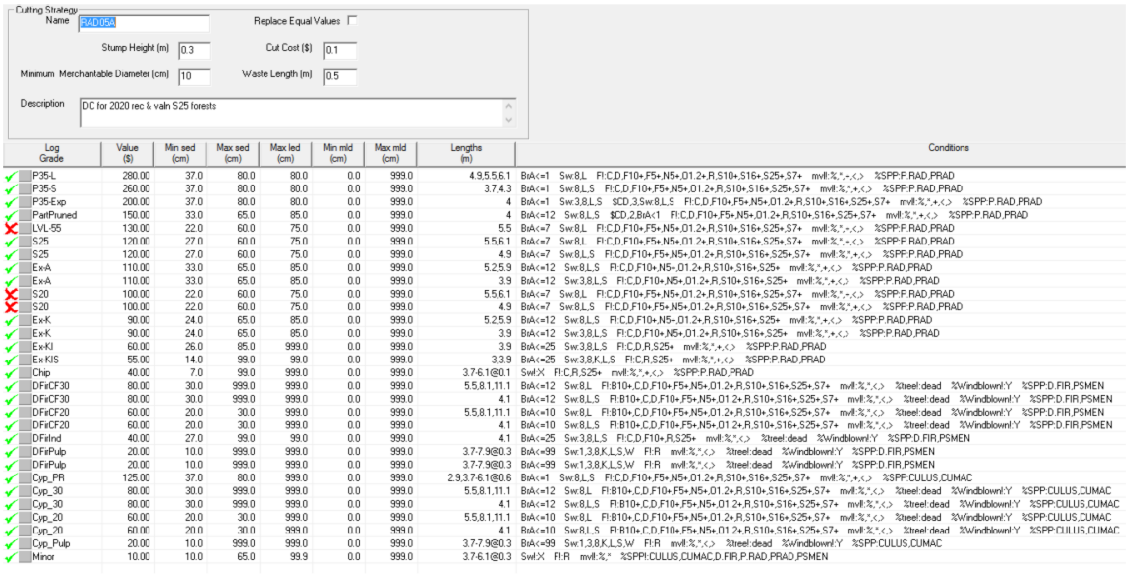
LVL_S25



Cutting Strategy Name: RAD05A | Replace Equal Values: ☐ | Stump Height (m): 0.3 | Cut Cost ($): 0.1 | Minimum Merchantable Diameter (cm): 10 | Waste Length (m): 0.5 | Description: DC for 2020 rec & valn LVL_S25 forests

Log Grade	Value ($)	Min sed (cm)	Max sed (cm)	Max led (cm)	Min mld (cm)	Max mld (cm)	Lengths (m)	Conditions
P35-L	280.00	37.0	80.0	80.0	0.0	999.0	4.9,5.5,6.1	BtA<=1 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-S	260.00	37.0	80.0	80.0	0.0	999.0	3.7,4.3	BtA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-Exp	200.00	37.0	80.0	80.0	0.0	999.0	4	BtA<=1 Sw:3,8,L,S $CD,3,Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
PartPruned	150.00	33.0	65.0	85.0	0.0	999.0	4	BtA<=12 Sw:8,L,S $CD,2,BtA<1 Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16-,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
LVL-55	130.00	22.0	60.0	75.0	0.0	999.0	5.5	BtA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	5.5,6.1	BtA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	4.9	BtA<=7 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	5.2,5.9	BtA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	3.9	BtA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16-,S25+ mvl:%,*,-,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	5.5,6.1	BtA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	4.9	BtA<=7 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	5.2,5.9	BtA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	3.9	BtA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16-,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KI	60.00	26.0	85.0	999.0	0.0	999.0	3.9	BtA<=25 Sw:3,8,L,S Fl:C,D,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KIS	55.00	14.0	99.0	99.0	0.0	999.0	3.3,9	BtA<=25 Sw:3,8,K,L,S Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Chip	40.00	7.0	99.0	999.0	0.0	999.0	3.7-6.1@0.1	Swl:X Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BtA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S'0+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BtA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S'0+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirInd	40.00	27.0	99.0	99.0	0.0	999.0	4.1	BtA<=25 Sw:3,8,L,S Fl:C,D,F10+,R,S25+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BtA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BtA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
Cyp_PR	125.00	37.0	80.0	999.0	0.0	999.0	2.9,3.7-6.1@0.6	BtA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:CULUS,CUMAC
Cyp_30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BtA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S'0+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BtA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S'0+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_Pulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BtA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Minor	10.00	10.0	65.0	99.9	0.0	999.0	3.7-6.1@0.3	Swl:X Fl:R mvl:%,* %SPP:CJLUS,CUMAC,D,FIR,P.RAD,PRAD,PSMEN

S25



Cutting Strategy Name: RAD05A | Replace Equal Values: ☐ | Stump Height (m): 0.3 | Cut Cost ($): 0.1 | Minimum Merchantable Diameter (cm): 10 | Waste Length (m): 0.5 | Description: DC for 2020 rec & valn S25 forests

Log Grade	Value ($)	Min sed (cm)	Max sed (cm)	Max led (cm)	Min mld (cm)	Max mld (cm)	Lengths (m)	Conditions
P35-L	280.00	37.0	80.0	80.0	0.0	999.0	4.9,5.5,6.1	BtA<=1 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,-,<,> %SPP:F.RAD,PRAD
P35-S	260.00	37.0	80.0	80.0	0.0	999.0	3.7,4.3	BtA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-Exp	200.00	37.0	80.0	80.0	0.0	999.0	4	BtA<=1 Sw:3,8,L,S $CD,3,Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
PartPruned	150.00	33.0	65.0	85.0	0.0	999.0	4	BtA<=12 Sw:8,L,S $CD,2,BtA<1 Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
LVL-55	130.00	22.0	60.0	75.0	0.0	999.0	5.5	BtA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,-,<,> %SPP:F.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	5.5,6.1	BtA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,-,<,> %SPP:F.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	4.9	BtA<=7 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	5.2,5.9	BtA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	3.9	BtA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	5.5,6.1	BtA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,-,<,> %SPP:F.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	4.9	BtA<=7 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	5.2,5.9	BtA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	3.9	BtA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KI	60.00	26.0	85.0	999.0	0.0	999.0	3.9	BtA<=25 Sw:3,8,L,S Fl:C,D,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KIS	55.00	14.0	99.0	99.0	0.0	999.0	3.3,9	BtA<=25 Sw:3,8,K,L,S Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Chip	40.00	7.0	99.0	999.0	0.0	999.0	3.7-6.1@0.1	Swl:X Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BtA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BtA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirInd	40.00	27.0	99.0	99.0	0.0	999.0	4.1	BtA<=25 Sw:3,8,L,S Fl:C,D,F10+,R,S25+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BtA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BtA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:D.FIR,PSMEN
Cyp_PR	125.00	37.0	80.0	999.0	0.0	999.0	2.9,3.7-6.1@0.6	BtA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:CULUS,CUMAC
Cyp_30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BtA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BtA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BtA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Cyp_Pulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BtA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %treel:dead %Windblownl:Y %SPP:CULUS,CUMAC
Minor	10.00	10.0	65.0	99.9	0.0	999.0	3.7-6.1@0.3	Swl:X Fl:R mvl:%,* %SPP:CULUS,CUMAC,D.FIR,P.RAD,PRAD,PSMEN

Sonic

Cutting Strategy Name: RAD05A | Replace Equal Values: ☐
Stump Height (m): 0.3 | Cut Cost ($): 0.1
Minimum Merchantable Diameter (cm): 10 | Waste Length (m): 0.5
Description: DC for 2020 rec & valn Sonic forests

Log Grade	Value ($)	Min sed (cm)	Max sed (cm)	Max led (cm)	Min mld (cm)	Max mld (cm)	Lengths (m)	Conditions
P35-L	280.00	37.0	80.0	80.0	0.0	999.0	4.9,5.5,6.1	BrA<=1 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-S	260.00	37.0	80.0	80.0	0.0	999.0	3.7,4.3	BrA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-Exp	200.00	37.0	80.0	80.0	0.0	999.0	4	BrA<=1 Sw:3,8,L,S $CD,3,Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
ParPruned	150.00	33.0	65.0	85.0	0.0	999.0	4	BrA<=12 Sw:8,L,S $CD,2,BrA<1 Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
LVL-55	130.00	22.0	60.0	75.0	0.0	999.0	5.5	BrA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S30	120.00	33.0	60.0	75.0	0.0	999.0	6.1	BrA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S25	120.00	27.0	32.0	75.0	0.0	999.0	6.1	BrA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	4.9	BrA<=7 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	5.2,5.9	BrA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S13+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	3.9	BrA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,F,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	5.5,6.1	BrA<=7 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	4.9	BrA<=7 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	5.2,5.9	BrA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S15+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	3.9	BrA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,F,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KI	60.00	26.0	85.0	999.0	0.0	999.0	3.9	BrA<=25 Sw:3,8,L,S Fl:C,D,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KIS	55.00	14.0	99.0	99.0	0.0	999.0	3.3,9	BrA<=25 Sw:3,8,K,L,S Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Chip	40.00	7.0	99.0	999.0	0.0	999.0	3.7-6.1@0.1	Sw!:X Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S13+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BrA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S13+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BrA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirInd	40.00	27.0	99.0	99.0	0.0	999.0	4.1	BrA<=25 Sw:3,8,L,S Fl:C,D,F10+,R,S25+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BrA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %tree:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BrA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %tree:dead %Windblown!:Y %SPP:D.FIR,PSMEN
Cyp_PR	125.00	37.0	80.0	999.0	0.0	999.0	2.9,3.7-6.1@0.6	BrA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:CULUS,CUMAC
Cyp_30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S13+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyp_30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BrA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyp_20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S13+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyp_20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BrA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyp_Pulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BrA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %tree:dead %Windblown!:Y %SPP:CULUS,CUMAC
Minor	10.00	10.0	65.0	99.9	0.0	999.0	3.7-6.1@0.3	Sw!:X Fl:R mvl:%,* %SPP!:CULUS,CUMAC,D.FIR,P.RAD,PRAD,PSMEN

Exp

Cutting Strategy Name: RAD05A | Replace Equal Values: ☐
Stump Height (m): 0.3 | Cut Cost ($): 0.1
Minimum Merchantable Diameter (cm): 10 | Waste Length (m): 0.5
Description: DC for 2020 rec & valn Export forests

Log Grade	Value ($)	Min sed (cm)	Max sed (cm)	Max led (cm)	Min mld (cm)	Max mld (cm)	Lengths (m)	Conditions
P35-L	280.00	37.0	80.0	80.0	0.0	999.0	4.9,5.5,6.1	BrA<=1 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-S	260.00	37.0	80.0	80.0	0.0	999.0	3.7,4.3	BrA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
P35-Exp	200.00	37.0	80.0	80.0	0.0	999.0	4	BrA<=1 Sw:3,8,L,S $CD,3,Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
ParPruned	150.00	33.0	65.0	85.0	0.0	999.0	4	BrA<=12 Sw:8,L,S $CD,2,BrA<1 Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
LVL-55	130.00	22.0	60.0	75.0	0.0	999.0	5.5	BrA<=10 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	5.5,6.1	BrA<=10 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S15+,S25-,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S25	120.00	27.0	60.0	75.0	0.0	999.0	4.9	BrA<=10 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	5.2,5.9	BrA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-A	110.00	33.0	65.0	85.0	0.0	999.0	3.9	BrA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	5.5,6.1	BrA<=10 Sw:8,L Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S13+,S25-,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
S20	100.00	22.0	60.0	75.0	0.0	999.0	4.9	BrA<=10 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	5.2,5.9	BrA<=12 Sw:8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-K	90.00	24.0	65.0	85.0	0.0	999.0	3.9	BrA<=12 Sw:3,8,L,S Fl:C,D,F10+,N5+,01.2+,R,S10+,S16+,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KI	60.00	26.0	85.0	999.0	0.0	999.0	3.9	BrA<=25 Sw:3,8,L,S Fl:C,D,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Ex-KIS	55.00	14.0	99.0	99.0	0.0	999.0	3.3,9	BrA<=25 Sw:3,8,K,L,S Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
Chip	40.00	7.0	99.0	999.0	0.0	999.0	3.7-6.1@0.1	Sw!:X Fl:C,R,S25+ mvl:%,*,+,<,> %SPP:P.RAD,PRAD
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S13+,S16-,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirCF30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BrA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,0`.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S13+,S16-,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirCF20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BrA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,0`.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirInd	40.00	27.0	99.0	99.0	0.0	999.0	4.1	BrA<=25 Sw:3,8,L,S Fl:C,D,F10+,R,S25+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BrA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
DFirPulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BrA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:D.FIR,PSMEN
Cyc_PR	125.00	37.0	80.0	999.0	0.0	999.0	2.9,3.7-6.1@0.6	BrA<=1 Sw:8,L,S Fl:C,D,F10+,F5+,N5+,01.2+,R,S10+,S`6+,S25+,S7+ mvl:%,*,+,<,> %SPP:CULUS,CUMAC
Cyc_30	80.00	30.0	999.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=12 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S13+,S16-,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyc_30	80.00	30.0	999.0	999.0	0.0	999.0	4.1	BrA<=12 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,0`.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyc_20	60.00	20.0	30.0	999.0	0.0	999.0	5.5,8.1,11.1	BrA<=10 Sw:8,L Fl:B10+,C,D,F10+,F5+,N5+,01.2+,R,S13+,S16-,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyc_20	60.00	20.0	30.0	999.0	0.0	999.0	4.1	BrA<=10 Sw:8,L,S Fl:B10+,C,D,F10+,F5+,N5+,0`.2+,R,S10+,S16+,S25+,S7+ mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Cyc_Pulp	20.00	10.0	999.0	999.0	0.0	999.0	3.7-7.9@0.3	BrA<=99 Sw:1,3,8,K,L,S,W Fl:R mvl:%,*,<,> %tree!:dead %Windblown!:Y %SPP:CULUS,CUMAC
Minor	10.00	10.0	65.0	99.9	0.0	999.0	3.7-6.1@0.3	Sw!:X Fl:R mvl:%,* %SPP!:CULUS,CUMAC,D.FIR,P.RAD,PRAD,PSMEN

Cutting strategy application notes:

- Inventory is run using Vol & Taper 182, Brk 1, GM 300I with estab SPH of 1000.
- The Sonic strategy's intended use is to model (for specified 'Sonic' forests)
  - S30 6.1m sonic pass logs substituting 95% to S25 5.8m and 5% to waste,
  - S30 6.1m sonic fails to A
  - S25 6.1m sonic pass logs substituting 95% to S25 5.8m and 5% to waste,
  - S25 6.1m sonic fails to K

  The sonic pass % is estimated for each forest (as shown below for 2020) and applied in the yield table build stage (i.e. not modelled through YTGen).

Forest	Sonic pass
BROO	**85%**
MAIT	**60%**
MARS	**60%**
RODI	**85%**
BELL	**85%**

- There are no other post optimisation grade substitutions applied to any of the strategies.
- Each strategy has a RAD05A and a RAD05 version, with appropriate version allocated to each inventory in the YTGen Yield Request file.

APPENDIX 2: STUMPAGE CALCULATIONS

(selection of stands)

Forest:	BROO	BROO	BROO	BROO	BROO	BROO	BROO	BROO	BROO	BROO
Stand:	0022-04	0022-05	0022-06	0022-09	0026-01	0026-02	0026-05	0026-06	0026-07	0028-01
Year planted:	1983	1987	1988	2011	1994	1987	2009	2010	2012	1993
Species:	P.rad	P.rad	P.rad	P.rad	C.mac	P.rad	P.rad	P.rad	P.rad	P.rad
Croptype:	=-LVL_S25	=-LVL_S25	=-LVL_S25	)0-LVL_S25	MAC	=-LVL_S25	)-LVL_S25	)-LVL_S25	)-LVL_S25	=-LVL_S25
NSA (ha):	0.3	2	3.4	10	1.6	1.7	19.9	10.1	0.5	3.9
% Hauler:	65%	65%	65%	65%	65%	65%	65%	65%	65%	65%
Clearfell Age (yrs):	38	34	33	28	35	34	28	28	28	28
Clearfell Year:	2021	2021	2021	2039	2029	2021	2037	2038	2040	2021
Harvest Volume (m^3/ha)										
Pruned	40	136	112	0	0	159	0	0	0	64
PartPrn	14	28	30	0	0	18	0	0	0	28
LVL	54	42	3	248	0	43	248	248	248	116
S25	27	22	15	69	0	10	69	69	69	46
A	86	103	144	75	0	185	75	75	75	63
K	26	71	100	115	0	56	115	115	115	74
KI	99	0	45	0	0	34	0	0	0	0
KIS	37	44	57	127	0	40	127	127	127	66
Pulp	15	67	49	52	0	7	52	52	52	36
DfirL	0	0	0	0	0	0	0	0	0	0
DfirS	0	0	0	0	0	0	0	0	0	0
DfirKI	0	0	0	0	0	0	0	0	0	0
DfirP	0	0	0	0	0	0	0	0	0	0
CypPrn	0	0	0	0	90	0	0	0	0	0
CypL	0	0	0	0	120	0	0	0	0	0
CypS	0	0	0	0	150	0	0	0	0	0
CypP	0	0	0	0	90	0	0	0	0	0
Total Volume (m3/ha)	398	513	555	686	450	552	686	686	686	493
SPH	170	325	314	630	300	231	630	630	630	429
Piece Size (m3)	2.3	1.6	1.8	1.1	1.5	2.4	1.1	1.1	1.1	1.1
Log Prices ($/$m^3$)										
Price series	2021	2021	2021	2023	2023	2021	2023	2023	2023	2021
Pruned	167.80	167.80	167.80	174.50	174.50	167.80	174.50	174.50	174.50	167.80
PartPrn	132.60	132.60	132.60	136.10	136.10	132.60	136.10	136.10	136.10	132.60
LVL	123.90	123.90	123.90	129.40	129.40	123.90	129.40	129.40	129.40	123.90
S25	125.80	125.80	125.80	132.20	132.20	125.80	132.20	132.20	132.20	125.80
A	130.30	130.30	130.30	126.90	126.90	130.30	126.90	126.90	126.90	130.30
K	117.60	117.60	117.60	115.80	115.80	117.60	115.80	115.80	115.80	117.60
KI	109.70	109.70	109.70	109.30	109.30	109.70	109.30	109.30	109.30	109.70
KIS	75.80	75.80	75.80	89.10	89.10	75.80	89.10	89.10	89.10	75.80
Pulp	57.90	57.90	57.90	58.50	58.50	57.90	58.50	58.50	58.50	57.90
DfirL	110.50	110.50	110.50	132.30	132.30	110.50	132.30	132.30	132.30	110.50
DfirS	104.90	104.90	104.90	115.30	115.30	104.90	115.30	115.30	115.30	104.90
DfirKI	84.10	84.10	84.10	83.10	83.10	84.10	83.10	83.10	83.10	84.10
DfirP	46.30	46.30	46.30	45.60	45.60	46.30	45.60	45.60	45.60	46.30
CypPrn	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00	180.00
CypL	130.00	130.00	130.00	110.00	110.00	130.00	110.00	110.00	110.00	130.00
CypS	115.00	115.00	115.00	90.00	90.00	115.00	90.00	90.00	90.00	115.00
CypP	60.00	60.00	60.00	55.00	55.00	60.00	55.00	55.00	55.00	60.00
Stumpage ($/ha)										
Gross revenue	47,452	63,490	67,648	78,405	47,850	73,511	78,405	78,405	78,405	58,610
Log & Load cost	16,046	22,414	23,870	32,645	19,496	21,924	32,645	32,645	32,645	23,172
Roading cost	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500	5,500
Harvest management cost	2,043	2,607	2,849	3,486	2,241	2,805	3,486	3,486	3,486	2,505
Post harvest costs	1,231	1,570	1,716	2,100	1,350	1,690	2,100	2,100	2,100	1,509
Cartage - Pruned	404	1,358	1,130	0	881	1,588	0	0	0	639
Cartage - Domestic SL	817	639	182	3,166	2,643	529	3,166	3,166	3,166	1,618
Cartage - Export	2,644	2,457	3,794	3,166	0	3,326	3,166	3,166	3,166	2,307
Cartage - Domestic pulp	179	791	584	614	1,041	83	614	614	614	425
Stumpage ($/ha)	**18,588**	**26,153**	**28,021**	**27,728**	**14,698**	**36,066**	**27,728**	**27,728**	**27,728**	**20,934**
Attrition (0.15% per annum)	0.0%	0.0%	0.0%	2.7%	1.2%	0.0%	2.4%	2.5%	2.8%	0.0%
Stumpage after attrition ($/ha)	**18,588**	**26,153**	**28,021**	**26,988**	**14,523**	**36,066**	**27,070**	**27,029**	**26,948**	**20,934**
Stumpage ($/$m^3$ average)	46.70	50.98	50.49	39.34	32.27	65.34	39.46	39.40	39.28	42.46

APPENDIX 3: STUMPAGE SUMMARY BY STAND

Crop no.	Forest	Stand	Planted Year	Yield Table	NSA (ha)	Age of Clearfell	Stumpage Value ($/ha)
1	BROO	0022-04	1983	29825CF-LVL_S	0.3	38	18,588
2	BROO	0022-05	1987	29826CF-LVL_S	2	34	26,153
3	BROO	0022-06	1988	29827CF-LVL_S	3.4	33	28,021
4	BROO	0022-09	2011	MAIT-F600-LVL_	10	28	27,728
5	BROO	0026-01	1994	MAC	1.6	35	14,698
6	BROO	0026-02	1987	29830CF-LVL_S	1.7	34	36,066
7	BROO	0026-05	2009	MAIT-F600-LVL_	19.9	28	27,728
8	BROO	0026-06	2010	MAIT-F600-LVL_	10.1	28	27,728
9	BROO	0026-07	2012	MAIT-F600-LVL_	0.5	28	27,728
10	BROO	0028-01	1993	42043CF-LVL_S	3.9	28	20,934
11	BROO	0029-01	2013	MAIT-F600-LVL_	10.5	28	27,728
12	BROO	0029-02	2014	MAIT-F600-LVL_	34	28	27,728
13	MAIT	0001-01	1981	29833CF-S25	10.3	40	43,490
14	MAIT	0001-05	2020	MAIT-F600-S25	20.4	28	24,788
15	MAIT	0002-01	1981	41801CF-S25	0.2	40	26,996
16	MAIT	0002-03	1995	41802CF-S25	5	26	20,191
17	MAIT	0002-04	2011	MAIT-F600-S25	15.3	28	24,788
18	MAIT	0003-01	1982	29838CF-S25	1.1	39	27,513
19	MAIT	0003-02	1986	29839CF-S25	2.7	35	23,312
20	MAIT	0003-03	1988	29840CF-S25	5.7	33	20,989
21	MAIT	0003-04	1995	41805CF-S25	11.2	28	25,812
22	MAIT	0003-05	2011	MAIT-F600-S25	10	28	24,788
23	MAIT	0004-03	1983	41806CF-S25	0.6	38	32,509
24	MAIT	0004-05	1988	29841CF-S25	13.1	33	44,014
25	MAIT	0004-07	1996	41807CF-S25	0.4	25	43,867
26	MAIT	0004-11	1995	41808CF-S25	18	28	39,866
27	MAIT	0004-12	1993	41799CF-S25	1	28	18,129
28	MAIT	0004-14	2009	MAIT-F600-S25	1.1	28	24,788
29	MAIT	0004-15	2018	MAIT-F600-S25	14.7	28	24,788
30	MAIT	0004-16	2020	MAIT-F600-S25	3.2	28	24,788
31	MAIT	0005-01	1995	41809CF-S25	2.3	26	11,794
32	MAIT	0005-02	1992	41804CF-S25	0.4	29	8,053
33	MAIT	0007-02	1993	41800CF-S25	1	28	38,125
34	MAIT	0008-02	1991	41803CF-S25	3.8	30	34,786
35	MAIT	0009-05	2018	MAIT-F600-S25	26	28	24,788
36	MAIT	0009-07	2018	MAIT-F600-S25	1	28	24,788
37	MAIT	0010-02	1992	41810CF-S25	2.5	29	29,666
38	MARS	0042-05	1994	42044CF-S25	25.5	28	48,383
39	MARS	0042-07	1997	42045CF-S25	51	28	46,058
40	MARS	0042-08	1997	MAC	6.3	35	13,713
41	MARS	0042-10	2007	42047MR-S25	6.4	28	22,482
42	MARS	0042-11	2014	MARS-F500-S25	28.4	28	21,207
43	RODI	0051-02	1991	37137CF-LVL_S	0.3	31	22,011
44	RODI	0053-05	2015	RODI-F500-LVL_	38.5	28	30,460
45	RODI	0053-06	2018	RODI-F500-LVL_	49.5	28	30,460
46	RODI	0053-07	2018	RODI-F500-LVL_	18.5	28	30,460
47	RODI	0053-09	2019	RODI-F500-LVL_	45.7	28	30,460
48	RODI	0054-02	2003	42048MR-LVL_S	9.6	28	16,342
49	RODI	0055-01	1993	42049CF-LVL_S	7.6	29	32,138
50	RODI	0055-02	1988	29676CF-LVL_S	0.7	34	36,995
51	RODI	0055-04	1990	32870CF-LVL_S	0.8	32	39,228
52	RODI	0055-05	2019	RODI-F500-LVL_	18.5	28	30,460
53	RODI	0056-01	1993	42271CF-LVL_S	17.8	29	34,204
54	RODI	0056-05	2006	42051MR-LVL_S	2.6	28	30,421
55	RODI	0056-07	2010	RODI-F500-LVL_	13.2	28	30,460

APPENDIX 4: TREE CROP MARKET VALUE CALCULATIONS

(selection of stands)

Valuation Date:	**30-Jun-21**							
Discount Rate:	**7.90%**	**Forest:**		BROO	BROO	BROO	BROO	BROO
Tax Rate:	**0%**	**Stand:**		0022-04	0022-05	0022-06	0022-09	0026-01
Inflation Rate:	**2%**	**Species:**		P.rad	P.rad	P.rad	P.rad	C.mac
		Planting Date:		1983	1987	1988	2011	1994
DISCOUNTED REVENUE:								
Clearfell		**Age:**		38	34	33	28	35
		Clearfell year:		2021	2021	2021	2039	2029
		Log Revenue Pre-tax ($/ha):		18,588	26,153	28,021	26,988	14,523
		Cost of Bush Tax Write Off at Clearfell (nominal):		18,591	26,156	28,019	3,833	6,023
		Deflated Cost of Bush Tax Write Off (real):		18,591	26,157	28,019	2,684	5,141
		Tax to pay ($/ha):		0	0	0	0	0
		Log Revenue Post-tax ($/ha):		18,588	26,153	28,021	26,988	14,523
		Discounted Revenue Post-tax ($/ha):		18,590	26,155	28,020	6,868	7,905
DISCOUNTED COSTS:								
	Operation	**Cost Pre-tax ($/ha)**	**Cost Post-tax ($/ha)**	**Discounted Cost Post-tax**				
	Prune P1	1,650	1,650					
	Prune P2	1,650	1,650					
	Waste thin- Prad	950	950					
	Waste thin- Minor	1,050	1,050					
	LRI	42	42				20	
	PHI	65	65				21	52
	Annual Costs:	174	174	(0)	(0)	0	1,772	1,083
	Notional land rental:	120	120	(0)	(0)	0	1,222	747
	Total Discounted Costs ($/ha):			(0)	(0)	0	3,035	1,882
	NPV Costs and Revenues ($/ha):			18,591	26,156	28,019	3,833	6,023
	Replacement Costs- 50% ($/ha):							
	Tree Crop Market Value ($/ha):			**18,591**	**26,156**	**28,019**	**3,833**	**6,023**
	Stocked Area (ha):		**609.8**	0.3	2.0	3.4	10.0	1.6
	Stand Value ($):			**5,577**	**52,312**	**95,266**	**38,333**	**9,637**

APPENDIX 5: TREE CROP MARKET VALUE BY STAND

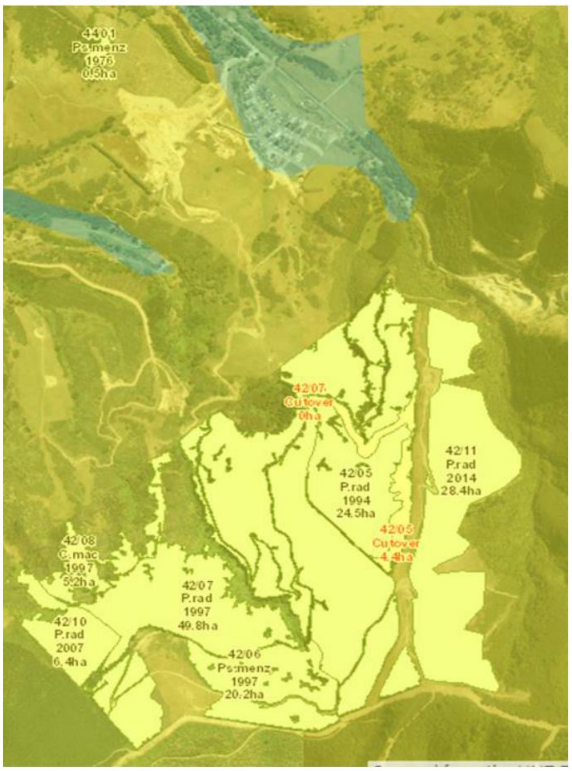
Forest	Stand	Planted Year	Yield table	NSA (ha)	Age in 2021	Tree crop market value ($/ha)	Total ($)
BROO	0022-04	1983	29825CF-LVL_S	0.3	38	18,591	5,577
BROO	0022-05	1987	29826CF-LVL_S	2.0	34	26,156	52,312
BROO	0022-06	1988	29827CF-LVL_S	3.4	33	28,019	95,266
BROO	0022-09	2011	MAIT-F600-LVL_	10.0	10	3,833	38,333
BROO	0026-01	1994	MAC	1.6	27	6,023	9,637
BROO	0026-02	1987	29830CF-LVL_S	1.7	34	36,070	61,319
BROO	0026-05	2009	MAIT-F600-LVL_	19.9	12	5,146	102,398
BROO	0026-06	2010	MAIT-F600-LVL_	10.1	11	4,464	45,088
BROO	0026-07	2012	MAIT-F600-LVL_	0.5	9	2,333	1,167
BROO	0028-01	1993	42043CF-LVL_S	3.9	28	20,934	81,642
BROO	0029-01	2013	MAIT-F600-LVL_	10.5	8	1,793	18,826
BROO	0029-02	2014	MAIT-F600-LVL_	34.0	7	1,655	56,270
MAIT	0001-01	1981	29833CF-S25	10.3	40	43,490	447,945
MAIT	0001-05	2020	MAIT-F600-S25	20.4	1	903	18,421
MAIT	0002-01	1981	41801CF-S25	0.2	40	26,996	5,399
MAIT	0002-03	1995	41802CF-S25	5.0	26	20,194	100,968
MAIT	0002-04	2011	MAIT-F600-S25	15.3	10	3,105	47,510
MAIT	0003-01	1982	29838CF-S25	1.1	39	27,514	30,266
MAIT	0003-02	1986	29839CF-S25	2.7	35	23,314	62,947
MAIT	0003-03	1988	29840CF-S25	5.7	33	20,988	119,629
MAIT	0003-04	1995	41805CF-S25	11.2	26	21,540	241,252
MAIT	0003-05	2011	MAIT-F600-S25	10.0	10	3,105	31,052
MAIT	0004-03	1983	41806CF-S25	0.6	38	32,513	19,508
MAIT	0004-05	1988	29841CF-S25	13.1	33	44,011	576,548
MAIT	0004-07	1996	41807CF-S25	0.4	25	43,864	17,546
MAIT	0004-11	1995	41808CF-S25	18.0	26	33,577	604,383
MAIT	0004-12	1993	41799CF-S25	1.0	28	18,129	18,129
MAIT	0004-14	2009	MAIT-F600-S25	1.1	12	4,296	4,725
MAIT	0004-15	2018	MAIT-F600-S25	14.7	3	1,154	16,964
MAIT	0004-16	2020	MAIT-F600-S25	3.2	1	903	2,890
MAIT	0005-01	1995	41809CF-S25	2.3	26	11,796	27,131
MAIT	0005-02	1992	41804CF-S25	0.4	29	8,052	3,221
MAIT	0007-02	1993	41800CF-S25	1.0	28	38,125	38,125
MAIT	0008-02	1991	41803CF-S25	3.8	30	34,790	132,203
MAIT	0009-05	2018	MAIT-F600-S25	26.0	3	1,154	30,004
MAIT	0009-07	2018	MAIT-F600-S25	1.0	3	1,154	1,154
MAIT	0010-02	1992	41810CF-S25	2.5	29	29,664	74,161
MARS	0042-05	1994	42044CF-S25	25.5	27	44,482	1,134,295
MARS	0042-07	1997	42045CF-S25	51.0	24	32,663	1,665,809
MARS	0042-08	1997	MAC	6.3	24	3,527	22,218
MARS	0042-10	2007	42047MR-S25	6.4	14	4,908	31,410
MARS	0042-11	2014	MARS-F500-S25	28.4	7	1,655	47,002
RODI	0051-02	1991	37137CF-LVL_S	0.3	30	20,077	6,023
RODI	0053-05	2015	RODI-F500-LVL_	38.5	6	1,530	58,905
RODI	0053-06	2018	RODI-F500-LVL_	49.5	3	1,154	57,123
RODI	0053-07	2018	RODI-F500-LVL_	18.5	3	1,154	21,349
RODI	0053-09	2019	RODI-F500-LVL_	45.7	2	1,028	46,980
RODI	0054-02	2003	42048MR-LVL_S	9.6	18	5,314	51,015
RODI	0055-01	1993	42049CF-LVL_S	7.6	28	29,447	223,794
RODI	0055-02	1988	29676CF-LVL_S	0.7	33	33,938	23,757
RODI	0055-04	1990	32870CF-LVL_S	0.8	31	36,009	28,807
RODI	0055-05	2019	RODI-F500-LVL_	18.5	2	1,028	19,018
RODI	0056-01	1993	42271CF-LVL_S	17.8	28	31,358	558,180
RODI	0056-05	2006	42051MR-LVL_S	2.6	15	8,522	22,157
RODI	0056-07	2010	RODI-F500-LVL_	13.2	11	5,196	68,581
TOTAL ESTATE MARKET VALUE							**$ 7,326,336**

APPENDIX 6: INSURANCE VALUE BY STAND

Forest	Stand	Planted Year	Croptype	NSA (ha)	Age in 2021	Tree crop insurance value ($/ha)	Total $
BROO	0022-04	1983	29825CF-LVL_S25	0.3	38	20,250	6,075
BROO	0022-05	1987	29826CF-LVL_S25	2.0	34	28,760	57,519
BROO	0022-06	1988	29827CF-LVL_S25	3.4	33	30,623	104,118
BROO	0022-09	2011	MAIT-F600-LVL_S25	10.0	10	4,464	44,641
BROO	0026-01	1994	MAC	1.6	27	6,828	10,925
BROO	0026-02	1987	29830CF-LVL_S25	1.7	34	38,846	66,038
BROO	0026-05	2009	MAIT-F600-LVL_S25	19.9	12	5,882	117,051
BROO	0026-06	2010	MAIT-F600-LVL_S25	10.1	11	5,146	51,971
BROO	0026-07	2012	MAIT-F600-LVL_S25	0.5	9	3,832	1,916
BROO	0028-01	1993	42043CF-LVL_S25	3.9	28	24,026	93,700
BROO	0029-01	2013	MAIT-F600-LVL_S25	10.5	8	3,248	34,103
BROO	0029-02	2014	MAIT-F600-LVL_S25	34.0	7	1,780	60,520
MAIT	0001-01	1981	29833CF-S25	10.3	40	45,612	469,803
MAIT	0001-05	2020	MAIT-F600-S25	20.4	1	1,028	20,971
MAIT	0002-01	1981	41801CF-S25	0.2	40	28,278	5,656
MAIT	0002-03	1995	41802CF-S25	5.0	26	24,181	120,903
MAIT	0002-04	2011	MAIT-F600-S25	15.3	10	3,677	56,264
MAIT	0003-01	1982	29838CF-S25	1.1	39	29,594	32,553
MAIT	0003-02	1986	29839CF-S25	2.7	35	25,800	69,661
MAIT	0003-03	1988	29840CF-S25	5.7	33	22,642	129,061
MAIT	0003-04	1995	41805CF-S25	11.2	26	23,594	264,250
MAIT	0003-05	2011	MAIT-F600-S25	10.0	10	3,677	36,774
MAIT	0004-03	1983	41806CF-S25	0.6	38	35,283	21,170
MAIT	0004-05	1988	29841CF-S25	13.1	33	46,570	610,070
MAIT	0004-07	1996	41807CF-S25	0.4	25	47,622	19,049
MAIT	0004-11	1995	41808CF-S25	18.0	26	36,600	658,799
MAIT	0004-12	1993	41799CF-S25	1.0	28	21,753	21,753
MAIT	0004-14	2009	MAIT-F600-S25	1.1	12	4,963	5,460
MAIT	0004-15	2018	MAIT-F600-S25	14.7	3	1,279	18,801
MAIT	0004-16	2020	MAIT-F600-S25	3.2	1	1,028	3,290
MAIT	0005-01	1995	41809CF-S25	2.3	26	13,795	31,728
MAIT	0005-02	1992	41804CF-S25	0.4	29	9,615	3,846
MAIT	0007-02	1993	41800CF-S25	1.0	28	43,017	43,017
MAIT	0008-02	1991	41803CF-S25	3.8	30	38,640	146,833
MAIT	0009-05	2018	MAIT-F600-S25	26.0	3	1,279	33,254
MAIT	0009-07	2018	MAIT-F600-S25	1.0	3	1,279	1,279
MAIT	0010-02	1992	41810CF-S25	2.5	29	33,517	83,792
MARS	0042-05	1994	42044CF-S25	25.5	27	48,383	1,233,777
MARS	0042-07	1997	42045CF-S25	51.0	24	35,613	1,816,277
MARS	0042-08	1997	MAC	6.3	24	4,132	26,029
MARS	0042-10	2007	42047MR-S25	6.4	14	5,625	35,998
MARS	0042-11	2014	MARS-F500-S25	28.4	7	1,780	50,552
RODI	0051-02	1991	37137CF-LVL_S25	0.3	30	22,012	6,604
RODI	0053-05	2015	RODI-F500-LVL_S25	38.5	6	1,863	71,735
RODI	0053-06	2018	RODI-F500-LVL_S25	49.5	3	1,279	63,311
RODI	0053-07	2018	RODI-F500-LVL_S25	18.5	3	1,279	23,662
RODI	0053-09	2019	RODI-F500-LVL_S25	45.7	2	1,154	52,738
RODI	0054-02	2003	42048MR-LVL_S25	9.6	18	6,063	58,203
RODI	0055-01	1993	42049CF-LVL_S25	7.6	28	32,136	244,237
RODI	0055-02	1988	29676CF-LVL_S25	0.7	33	36,990	25,893
RODI	0055-04	1990	32870CF-LVL_S25	0.8	31	39,228	31,382
RODI	0055-05	2019	RODI-F500-LVL_S25	18.5	2	1,154	21,349
RODI	0056-01	1993	42271CF-LVL_S25	17.8	28	34,202	608,802
RODI	0056-05	2006	42051MR-LVL_S25	2.6	15	9,530	24,778
RODI	0056-07	2010	RODI-F500-LVL_S25	13.2	11	5,936	78,355
BROO	BROO-0021-11	1934	Non-produ	1.2	87	1,000	1,200
BROO	BROO-0022-08	1981	Non-produ	3.4	40	1,000	3,400
BROO	BROO-0021-03	1986	Non-produ	0.2	35	1,000	200
TOTAL ESTATE INSURANCE VALUE							**$ 8,035,092**

APPENDIX 7: NES EROSION SUSCEPTIBILITY CLASSIFICATIONS

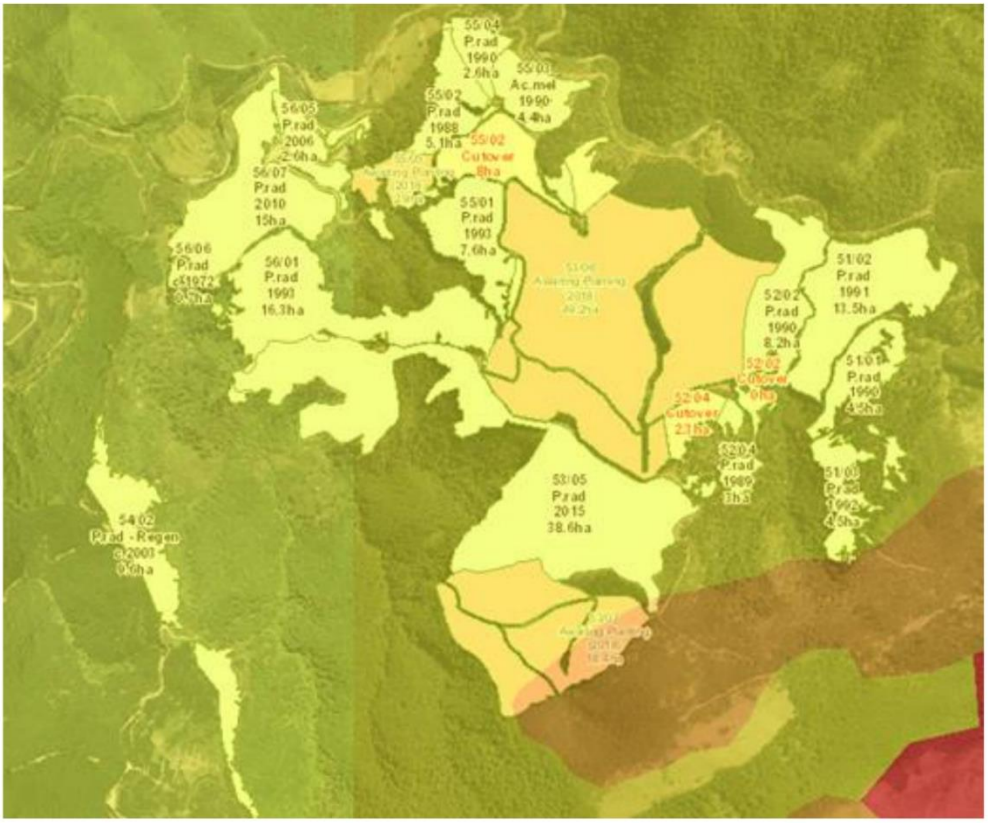
Brook Forest



Marsden Forest

Continued on next page...

...continued



Roding Forest

Maitai Forest

Alternative species update – August 2021

Forest	Compartment	Update 30 August 2021
Brook	22/02	• 3.3 ha. • To be replanted 2022. • It will require some weed control in the autumn of 2022.
Brook	22/08	• 3.4 ha. • Harvest completed. • Being partially replanted in native species this winter. The extent of planting is dependent on seedling availability. The remaining area will be planted 2022.
Brook	22/05 & 22/06	• 5.5 ha. • To be replanted 2022. • It will require some weed control in the autumn of 2022.
Brook	29/01	• Replanted this winter in native species prior to lockdown. • Currently planting under the poisoned pines down to the houses with native species. • Issues already with feral deer.

A2742185