Nelson City Council
te kaunihera o whakatū

Extraordinary meeting of the

Forestry Advisory Group

Rōpū Aratohu mō te Mahi Ngahere

Date:	Tuesday 5 May 2020
Time:	1.00p.m.
Location:	Via Zoom

Agenda

Rārangi take

Membership

Mr John Murray (Chairperson)
Her Worship the Mayor Rachel Reese
Cr Rachel Sanson
Independent Forestry Expert, Peter Gorman
Group Manager Infrastructure, Alec Louverdis

Quorum: 4, comprising the Chair and one elected member (decision makers), plus one Council officer and the independent forestry expert (for advice only)

Pat Dougherty
Chief Executive

Forestry Advisory Group Delegations

This is a subordinate decision making body that reports to the Governance and Finance Committee

Areas of Responsibility:

- All matters relating to the commercial forestry operational portfolio including environmental 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 Governance and Finance Committee:

- 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 Advisory Group 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. Chairperson's Report

5. Gravity - Gravity's case for exemptions

Alistair Matthew, from Gravity, will present in regards to Gravity's case for exemptions.

6. Helibike - to talk about Helibike's case for exemptions

Steve Newport, Helibike, will present in regards to Helibike's case for exemptions.

7. Nelson Tasman Cycle Trails Trust - to talk about the Trust's case for exemptions

Gillian Wratt, Chair of Nelson Tasman Cycle Trails Trust, will present in regards to the Trust's case for exemptions.

8. Forestry Update - Number 11 6 - 162

Document number R13660

Recommendation

That the Forestry Advisory Group

1. <u>Receives</u> the report Forestry Update - Number 11 (R13660) and its Attachments

(A2240085, A2355548, A2375160, A2355539, A2355460, A2375777 and A2376174); and

2. ***<u>Agrees</u> on a harvesting date, taking all factors into account, for the Nelson City Council owned Brook blocks to be either:***

   a) September to November 2020; or

   b) July to September 2021; and

3. ***<u>Notes</u> that the harvesting of the Tantragee Block will follow the harvesting of the Brook Blocks; and***

4. ***<u>Agrees</u> that no exemptions will be granted to any concessionaires that operate in any Nelson City Council forestry blocks or reserves when harvesting of any forestry blocks is underway; and***

5. ***<u>Agrees</u> that no exemptions will be granted to any concessionaires that operate in any Nelson City Council forestry blocks or reserves following any directive from Fire Emergency New Zealand to close any Nelson City Council owned forestry blocks or parks and reserves; and***

6. ***<u>Agrees</u> that the logging route protocol approved by Council in March 2002 be upheld, namely that the Nile/Collingwood/ Halifax/Haven route be the approved route for all harvesting from the Maitai and Brook, with the following revised conditions:***

   - The maximum speed limit through the city of 40kph; and

   - Loads of short logs to have belly chains; and

   - Requiring transport operators to restrain securing chains on empty trucks to reduce or avoid clanking; and

   - Log truck drivers are to use radios to communicate their position to avoid having two log trucks on narrower sections of road; and

- Limit log trucks operation through the city between 10pm and 6am; and

- Truck movements along the defined route between 8-9am and 3-4pm during the school term be allowed but at no speed greater than 30kph; and

- Avoid logging traffic along the defined route from mid-December to mid-January inclusive; and

7. <u>Instructs</u> officers to write to all logging operators requesting compliance with the conditions in recommendation 6 of Report R13660; and

8. <u>Approves</u> the Fire Risk Procedures A2240085 of Report R13660; and

9. <u>Approves</u> the Draft Forestry Stewardship Council Accreditation Management Plan A2355542 of Report R13660, subject to any amendments approved by the Chair of the Forestry Advisory Group; and

10. <u>Approves</u> that consultation on the Forestry Stewardship Council Accreditation Management Plan can commence as per Report R13660; and

11. <u>Agrees</u> that the small area to be harvested by Tasman Pine Forests on Council land be replanted with natives once harvested; and

12. <u>Agrees</u> that the Marsden block (42.06) be replanted in Pinus Radiata and not converted to alternate use once harvested; and

13. <u>Notes</u> the location and costs of the bridges required across the Maitai and Roding Rivers that will allow harvesting to commence in 2020/21.

Nelson City Council
te kaunihera o whakatū

Forestry Advisory Group

5 May 2020

REPORT R13660

Forestry Update - Number 11

1. Purpose of Report

1.1 To provide an update to the Forestry Advisory Group (Group) on forestry activities undertaken since Council adopted the Forestry Review recommendations in September 2016, and since the November 2019 update.

2. Recommendation

That the Forestry Advisory Group

1. ***Receives*** ***the report Forestry Update - Number 11 (R13660) and its Attachments (A2240085, A2355548, A2375160, A2355539, A2355460, A2375777 and A2376174); and***

2. ***Agrees*** ***on a harvesting date, taking all factors into account, for the Nelson City Council owned Brook blocks to be either:***

   a) September to November 2020; or

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3. ***Notes*** ***that the harvesting of the Tantragee Block will follow the harvesting of the Brook Blocks; and***

4. ***Agrees*** ***that no exemptions will be granted to any concessionaires that operate in any Nelson City Council forestry blocks or reserves when harvesting of any forestry blocks is underway; and***

5. ***Agrees*** ***that no exemptions will be granted to any concessionaires that operate in any Nelson City Council forestry blocks or reserves following any directive from Fire Emergency New Zealand to close any***

Nelson City Council owned forestry blocks or parks and reserves; and

6. ***<u>Agrees</u> that the logging route protocol approved by Council in March 2002 be upheld, namely that the Nile/Collingwood/ Halifax/Haven route be the approved route for all harvesting from the Maitai and Brook, with the following revised conditions:***

   - The maximum speed limit through the city of 40kph; and

   - Loads of short logs to have belly chains; and

   - Requiring transport operators to restrain securing chains on empty trucks to reduce or avoid clanking; and

   - Log truck drivers are to use radios to communicate their position to avoid having two log trucks on narrower sections of road; and

   - Limit log trucks operation through the city between 10pm and 6am; and

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10. <u>Approves</u> that consultation on the Forestry Stewardship Council Accreditation Management Plan can commence as per Report R13660; and

11. <u>Agrees</u> that the small area to be harvested by Tasman Pine Forests on Council land be replanted with natives once harvested; and

12. <u>Agrees</u> that the Marsden block (42.06) be replanted in Pinus Radiata and not converted to alternate use once harvested; and

13. <u>Notes</u> the location and costs of the bridges required across the Maitai and Roding Rivers that will allow harvesting to commence in 2020/21.

3. Douglas Fir Harvesting and Poisoning

3.1 Update is shown in the table below (only outstanding items are shown).

block/stand/species/area	Status
Brook/22.08/D Fir/3.4Ha	Harvesting updates to be determined following COVID-19 shut-down. Discussed later in this report.
Maitai/9.01/D Fir/4.3Ha	Group resolved in September 2018 to consider harvesting the remaining 3Ha in 2022 & to re-plant the rest of the block in radiata.
Marsden/42.06/D Fir/20.3Ha	Group resolved that this block not be cleared until the trees can be commercially harvested around 2027 with a review in 2022. *Update - PF Olsen/Peter Gorman/Landvision recommend that the assessment of the harvesting date be undertaken in 2020 (not in 2022) and reported back to the Group.* *Refer also item 3.2 below*

3.2 PF Olsen/Landvision/Peter Gorman have reconsidered the Marsden Valley Block 42.06 set aside to be replanted in alternate species once harvested and recommend that consideration be given to replanting this block in pinus radiata. Apart from the visual backdrop, there are no environmental risks (if managed correctly), in their view, in replanting this area commercially in radiata. An option exists that the area at the top of the ridge (above the track) not be replanted in radiata to minimise the risk of wilding spread.

4. Tantragee Block (Brook) harvesting

4.1 Subject to log markets as a result of the Covid 19 lockdown and revised harvesting dates for the Brook blocks, harvesting of the Tantragee Block is planned to follow the harvesting of the Brook blocks either late 2020 or mid-2021. A communications plan will be prepared well in advance of any works.

5. Tasman Pine Forests and Waahi Taakaro harvesting

5.1 Tasman Pine Forests has not confirmed a date for harvesting their block adjacent to the Waahi Taakaro golf club (which will include the small area planted by them on Council land). When work starts, it is expected to take one month and PF Olsen will be monitoring the work to ensure that the trees on Council owned land are harvested to the required standards.

5.2 Landvision has recommended that on completion of harvesting by Tasman Pine that the Council owned area (0.5Ha) be replanted in natives - likely a combination of kanuka and totara.

6. Fire Risk

6.1 At the 27 November 2019 meeting, the Group was provided with an update (and copy) of the meeting held on 25 November 2019 with Fire and Emergency New Zealand (FENZ), Civil Defence Emergency Management (CD), Ngati Koata, PFOlsen and NCC Parks staff.

6.2 The advice was that FENZ were the lead in all forestry matters under s52 of the FENZ Act and were happy with the processes they had in place with all the regions logging operators, contractors and both councils.

6.3 The Group was advised that FENZ would be the lead agency in deciding when forestry blocks in the region were to be closed and that PF Olsen would adhere to that directive and that no exemptions for any activity in those forests would apply.

6.4 The Group was also advised that, with respect to NCC parks and reserves, that any closure of these will also fall under the direction from FENZ.

6.5 The Group however requested that any Parks and Reserves procedures be brought back to this Group for sign–off. Those procedures, prepared by Council officers, are appended as Attachment 1 and officers will be present at the meeting to answer any questions. The procedures have been reviewed and agreed to by Peter Gorman, PF Olsen and FENZ.

6.6 Officer's advice provided at the 27 November 2019 meeting still applies – that being that Council harvesting operators (PF Olsen) will take direction from FENZ in the first instance as to when closures of forestry blocks are to take place with no exemptions.

6.7 The Group resolved in November 2019 that the Brook/York Landfill block fire risk assessment change from a new fire break to a regular mowing regime. That work has commenced.

7. Health and Safety

7.1 There are no Health and Safety issues nor Safe Work Observations (SWO's) to report since 27 November 2019.

8. Finance

8.1 Harvesting net revenue for the quarter was $351,948 against the full year budget of $671,619. Refer to Attachment 2 – PF Olsen Quarterly report October-December 2019.

8.2 Under normal (ie pre COVID-19 shutdown) circumstances the 31 March 2020 Forestry meeting would have taken place and the PF Olsen Quarterly report January-March 2020 would not have been available. With the 31 March meeting delayed, the Quarterly Report January to March 2020 has been received and is attached to this report for completeness. Refer to Attachment 3.

8.3 An updated summary of Council budgets is appended as Attachment 4.

8.4 PF Olsen will update the Group at the meeting on the implications of overseas markets for logs and returns for NCC following the outbreak of the Covid 19 virus.

9. Harvesting

9.1 The Group, with respect to the harvesting of the Brook blocks (22/08, 22/02, 22/06 and 22/05), resolved on 27 November 2019 as follows:

> *"That the harvesting dates, following consultation with the stakeholders and concessionaires, for the Nelson City Council owned Brook blocks will be July to September 2020".*

9.2 The new July to September 2020 harvesting dates were revised from the original 7 Oct to 15 November 2019 dates following feedback from the concessionaires that this would affect their businesses.

9.3 The Group were also advised at the November meeting that some concessionaires had requested exemptions that would allow them to operate in the blocks during harvesting.

9.4 The advice from officers was that no exemptions should be considered. This advice was confirmed by PF Olsen on health and safety grounds. It was also noted that this is the standard operating procedure of Ngati Koata with respect to their forestry blocks.

9.5 The Group however, requested that officers advise the concessionaires of the agreed harvesting dates and allow them the opportunity to present to the Group their reasons for requesting exemptions.

9.6 All concessionaires were advised of the revised agreed harvesting dates and of this meeting and have been offered the opportunity to attend the public forum.

9.7 However, as a result of the COVID-19 lockdown, the previously approved harvesting dates of July to September 2020 for the Brook have been further delayed and PF Olsen have suggested revised harvesting dates of September to November 2020.

9.8 These revised dates have been shared with all concessionaires and feedback had been received from Gravity, Wheel Woman and Sally Vincent – all expressing some concern at the revised dates. Their reasons, which officers acknowledge are valid, include these dates eating into the busy business period and follows the fire and COVID-19 shut-downs that has affected their businesses. Gravity also has a concern that this closure would come at a time when Nelson would also be trying to show-case its mountain biking credentials to the world through upcoming international events scheduled for 2021. At time of writing, no official feedback had been received from the Mountain Bike Club.

9.9 Helibike has advised that they have no major concerns with the timing and they accept that harvesting needs to take place. They have requested that Council consider practical ways to keep anything open that can be open.

9.10 There are four events expected to take place in the possible revised period (September to November) – the Coppermine Race and three annual Mountain Bike Club races. However, Council has not yet received bookings or confirmation of these events. The revised dates would still allow the Dun Mountain run, scheduled at the end of August to go ahead (if it were to still go ahead).

9.11 The Enduro event scheduled for 2020 has been potentially re-scheduled to take place in April 2021, with October 2021 as the fall back. Harvesting this year will therefore not affect this event.

9.12 The complexity of determining a suitable harvesting date has two different competing drivers. The first driver being that having the forestry industry re-commence harvesting is both critical and essential to the economic growth of the region and to Councils income. The second driver is that small businesses have also been severely affected by the COVID-19 shut-down and are both struggling and vulnerable.

9.13 This is unfortunately no simple decision. The Brook harvesting does need to take place and has already been pushed out just short of 12 months. It will be replanted in natives and won't be part of the commercial forestry asset going forward. The Tantragee harvesting which needs to happen as it has been identified as urgent is planned to follow the Brook harvesting.

9.14 The Brook harvesting estimated volume is around 6,000 tonnes with an expected net revenue to Council of around $180,000.

9.15 There are two options to be considered, with advantages and disadvantages as shown in the table below:

9.15.1 Option 1 – proceed with the Brook harvesting on the revised dates of September to November **2020**; or

9.15.2 Option 2 - wait a year until July to September **2021**.

Option 1: Harvesting Sept to Nov <u>2020</u>	
Advantages	• Will allow forestry, essential to regional economic recovery, to commence • Will allow area to be replanted in natives sooner • Will allow urgent Tantragee harvesting to take place • Will not affect the 2021 Enduro event • Would not affect the Dun Mountain run
Risks and Disadvantages	• Not supported by some concessionaires • Would delay COVID-19 small business recovery
Option 2: Harvesting July to September <u>2021</u>	
Advantages	• Allows concessionaires and small business to recover earlier from the COVID-19 shut-down • Will not affect the 2021 Enduro event
Risks and Disadvantages	• Delays regional economic recovery • Disruption to PF Olsen's harvesting contractors work programme • Delays urgent Tantragee harvesting • Delays replanting in natives

9.16 Notwithstanding any change in harvesting date, officer's advice provided at the 27 November 2019 meeting still applies - that being that exemptions to Council owned forestry blocks during active forestry harvesting operations should not be approved.

Ngati Koata and Tasman Pine

9.17 It was reported at the 27 November 2019 meeting that Ngati Koata (through Tasman Pines Forests) planned to harvest their Brook blocks between 1 May and mid-June 2020. Ngati Koata have since advised that they are not planning to harvest in the Brook area at all during 2020.

Bridges

9.18 Due to bridge contracting delays, the Maitai harvesting will be deferred to 2020/21.

9.19 PF Olsen in consultation with NCC officers have completed an options analysis on both bridges. PF Olsen are proceeding with resource consents on both bridges and have secured Thelin's to undertake the work.

Forest	**Maitai**	**Roding**
Design	Multi span	Single span
Estimated cost (ex GST)	$340,000 (20% contingency)	$280,000 (20% contingency)
Proposed start date	July 2020	September 2020

Logging routes from the Maitai and Brook blocks

9.20 The Group resolved on 27 November 2019 as follows:

> *"Notes that PF Olsen logging trucks for Brook harvesting will operate in conjunction with what has been agreed with the community at this point in time".*

9.21 Officers have researched the resolutions of Council where this issue was first raised in January 2002.

9.22 Officers can advise that following a presentation from members of the public from the area (Nile/Tory/Milton) at a special meeting of Council on 7 March 2002, Council resolved as follows:

> *"That the voluntary conditions offered by Carter Holt Harvey in its letter of 1 March, and the alternative route proposed (Nile, Collingwood and Halifax Street and Haven Road) for logging truck access to and from Hira Forest be accepted".*

9.23 For completeness, the conditions offered up by the major private forestry owner at the time in 2002 were:

- Restrict logging traffic to Nile, Collingwood and Halifax and into Haven Road in preference to the existing Nile, Tory, Milton Street route;

- The maximum speed limit through the city of 40 km/h;

- Loads of short logs to have a belly chains;

- Investigate requiring transport operators to restrain securing chains on empty trucks to reduce or avoid clanking;

- Log truck drivers are to use radios to communicate their position to avoid having two log trucks on narrower sections of road;

- Limit log trucks operation through the city between 10pm and 6am;

- Prevent truck movements along the defined route between 8-9am and 3-4pm during the school term;

- Avoid logging traffic along the defined route from 1 December to 31 January inclusive.

9.24 Whilst these conditions, agreed by Council do not specifically prohibit trucks movements past schools during school terms between the hours of 8-9am and 3-4pm, officers recommend for both practical reasons and to limit the potential cost implications of trucks having to park-up for several hours during school terms, that trucks be allowed to pass schools during school terms at a reduced speed of 30km/h. This makes the requirements on logging operators more onerous than the existing condition.

9.25 Finally, the condition to avoid logging between 1 December and 31 January is deemed too restrictive and it is recommended that this be relaxed to no logging between mid-December and mid-January inclusive.

Other

9.26 PF Olsen, as part of the Roding forest thinning work, will be collecting pine cones (which are of sufficiently strong genetics) that their seed orchard in Marlborough will use for future tree growth. PF Olsen will pay for all the cone collection and delivery costs, and pay Council $40/kg of seed extracted. This will potentially work out at approximately $300 to $500 per hectare, which will in part offset the thinning operational costs.

10. Alternate Uses

10.1 Council agreed to retire approximately 140Ha of forestry and consider alternate uses and this Group has approved the Alternate Use Plan. Refer to Attachment 5 for an update. Lachie Grant (Landvision) will be in attendance to update the Group further.

11. Forestry Stewardship Council Accreditation (FSC)

11.1 The Group requested that the FSC accreditation be moved forward with some urgency and not be delayed as previously agreed.

11.2 PF Olsen has finalised both the draft FSC management plan and the draft consultation document. Those documents are appended as Attachments 6 and 7. Any feedback from that consultation will be considered for possible inclusion in the final plan before seeking accreditation.

11.3 The proposed consultation timeframe is as below:

- June: Commence consultation.

- July: Consultation closes.

- August: Complete review of consultation feedback, amend (as appropriate) the management plan and bring back to the Group for sign-off.
- Certification sought.

Author: **Alec Louverdis, Group Manager Infrastructure**

Attachments

Attachment 1: A2240085 - Fire Risk Procedures ⇩
Attachment 2: A2355548 - Quarterly Report - Q2 ⇩
Attachment 3: A2375160 - Quarterly Report - Q3 ⇩
Attachment 4: A2355539 - Forestry Accounts ⇩
Attachment 5: A2355460 - Alternative species update ⇩
Attachment 6: A2375777 - FSC Management Plan ⇩
Attachment 7: A2376174 - FSC Management Plan Consultation ⇩

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 Group has been set up to specifically have an oversight on all things relating to forestry to reduce the risk to Council.

Accepting the recommendations in this report reduces risk to Council because the processes discussed with respect to logging adhere to established PF Olsen practices of managing logging blocks and the management of fire follows protocols developed by FENZ as governed by the FENZ Act. The risk to Council of allowing access into forests that are being logged or closed by FENZ is very high and places the liability on Council.

4. Financial impact

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

5. Degree of significance and level of engagement

This report has matters that are of high significance such as fire risk.

6. Climate Impact

Commercial pine forestry and harvesting is a sustainable practice. Where pine forests are earmarked for alternate use they will be planted in natives contributing positively to climate change mitigation.

7. Inclusion of Māori in the decision making process

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

8. Delegations

The Group's Terms of Reference powers to decide include:

"a. Forestry and harvesting management plans (including replanting) as prepared by the Forestry contractor and endorsed by the independent forestry external expert;

b. Engagement of consultants required to undertake all works necessary to guide recommendations to the Commercial Subcommittee and Council."

Nelson City Council A2240085 Reviewed by FENZ Dec2019

Parks and Reserves Fire Risk Procedures

1. Emergency Preparedness Meetings

Fire and Emergency New Zealand (FENZ) arranges weekly stakeholder emergency preparedness meetings as the summer approaches and fire risk increases. A request will come from FENZ for these meetings to begin when Build Up Index (BUI) is around 60 – Code Yellow, see table below.

Ensure key NCC stakeholders are on the mailing list for this meeting. Recommended attendees from NCC: Parks Team Leader, Contract Supervisor for Conservation and Landscape Reserves, any staff involved in track maintenance/openings and closures, any staff involved in coordinating events/projects in reserves over the summer period. Business Unit Manager may also want to attend as fire risk increases. Contact FENZ to update NCC contacts: Ian Reade – Principal Rural Fire Officer - 03 5442441 or ian.reade@fireandemergency.nz

2. Determining changes in fire risk

The Build Up Index (BUI) is an indicator of the difficulty in supressing a fire that has started. Daily forecasted BUI data is available at FENZ Fire Indices, Nelson Tasman https://fireweather.niwa.co.nz/region/Nelson%20Tasman or www.checkitsalright.nz => Reduce the risk => fire for land management => check the fire weather.

Ensure all contractors and NCC staff are on the mailing list for additional daily broadcast updates from FENZ. Contact FENZ to update NCC/contractor contacts.

Whenever NCC considers that there is a change to the risk level, consult with FENZ for advice. Ian Reade – Principal Rural Fire Officer - 03 5442441 or ian.reade@fireandemergency.nz

Code	Build Up Index (BUI)	**Key actions**
Green	<40	
Blue	40.1 - 60	
Yellow **HIGH FIRE DANGER**	60.1 - 80	Install warning signage/start comms to alert reserve users of increased fire risk and safest times to use reserves. Tasman Pine Forests stop access for hunting and motor bike riding activities. Liaise with NCC, DOC, TDC, FENZ about general recreation access going forward.
Orange **VERY HIGH FIRE DANGER**	80.1 - 100	Seek advice from FENZ re restricting public and contractor access/closing reserves on a reserve by reserve basis. Closures will depend on the risk profile of each reserve, which is variable depending on weather conditions, vegetation type, topography etc. This will best be determined and advised by FENZ at the time.

1

		As we approach BUI 100, to begin planning for potential high risk road closures, in consultation with FENZ.
Red **EXTREME FIRE DANGER**	100.1 - 120	Consult with FENZ re further closures of high risk reserves, and roads.
Purple **VERY EXTREME FIRE DANGER**	>120	All high risk reserves should be closed

3. Communicating increased fire risk to reserve users

During periods of HIGH FIRE DANGER

Yellow **HIGH FIRE DANGER**	60.1 - 80	Install warning signage/start comms to alert reserve users of increased fire risk and safest times to use reserves. Tasman Pine Forests stop access for hunting and motor bike riding activities. Liaise with NCC, DOC, TDC, FENZ about general recreation access going forward.

INTERNAL COMMUNICATIONS - Ensure Group Manager is aware of increased fire risk.

SIGNAGE - Contract Supervisor Parks to issue WO to Nelmac to install "increased fire risk" signs (stored at Nelmac Nursery). See A2242307 for list of reserves and details of each entrance point where signage is required.

MEDIA RELEASE – Draft a media release warning of the increased risk and tips for staying safe in the reserves. Group Manager to sign off on the media release. Example media release (Jan 2019 extreme fire risk and Grampians closure - social media announcement): http://our.nelson.govt.nz/media-releases-2/extreme-fire-risk-means-temporary-closure-of-grampians-reserve/

BEFORE MEDIA RELEASE GOES OUT

- Liaise with the following stakeholders re increased fire risk:
  - FENZ – for advice and to review the media release before it goes out.
  - Tasman Pine (Ngati Koata) and PF Olsen (NCC Forestry) - to make sure our messaging about track and reserve access is clear and consistent.
  - Mountain Bike Club – As above, messaging needs to be clear and consistent and MTB Club can use their social media networks to help spread the word. Club to share NCC messaging after it's released by NCC.
  - Maintenance/Project contractors active in reserves – communicate with Infrastructure, Science and Environment and Events Teams. All contractors on reserve land need to be aware of any extra precautions that may be necessary to continue works safely. See requirements under section 4.

- Mail out to Parks stakeholder list (A2039536 – this includes concessionaires) and volunteers register (A1959586) advising of increased fire risk, and possibility of reserve closures in the future. Highlight to Nelson Model Aero Club the need to keep grass cut back where their vehicles travel to their flying area at Whakapuaka.
- Check park bookings calendars and notify organisers of any scheduled events of the increased fire risk.
- Group Manager to email Mayor and Councillors re increased fire risk.

4. Requirements for contractors, concessionaires and events operating on reserve land through periods of increased fire risk

All contractors, concessionaires and event organisers seeking to operate on reserve land during times of increased fire risk must adhere to all safety requirements outlined in the following guidance document:

- A2242304 - Nelson Tasman Fire Prevention Guideline for Heat and Spark Hazardous Activities / Hotworks - outlines allowable activities at different levels of fire risk and what precautions must be taken for each of these activities.

  NOTE: Council may request a contractor to undertake work in a reserve that is closed to the public, however the contractor must adhere to these guidelines. Contractors should not be operating in a reserve that is closed to the public without approval from NCC Parks and Facilities Business Unit Manager.

5. Requirements for forestry operations on reserve land through periods of increased fire risk

NCC forestry managers seeking to operate on reserve land during times of increased fire risk must adhere to the safety requirements outlined in the following guidance document:

- A2242303 – Fire Prevention Guidelines for Forestry Operations

  NOTE: NCC forestry managers must liaise closely with NCC parks staff during periods of high fire risk to ensure there is clear and consistent messaging around track and reserve access.

6. Closing tracks and reserves

During periods of VERY HIGH FIRE DANGER

Orange **VERY HIGH FIRE DANGER**	80.1 - 100	Seek advice from FENZ re closing reserves/restricting public and contractor access on a reserve by reserve basis.

		Closures will depend on the risk profile of each reserve, which is variable depending on weather conditions, vegetation type, topography etc. This will best be determined and advised by FENZ at the time.

NCC may have to close reserves on order from FENZ for the following reasons:

- To prohibit or restrict any other activity in an area, including access to the area that FENZ considers may cause a fire to start or spread.

Reserve Type / Description	Legislation that allows FENZ to close a reserve	Delegated officer at FENZ for sign off of closure(s)
Recreation Reserve, Local Purpose Reserve, Legal Road, Other Council Land	Section 52 of the Fire and Emergency New Zealand Act 2017	Ian Reade Principal Rural Fire Officer 03 5442441 ian.reade@fireandemergency.nz

While FENZ has regulatory responsibility regarding fire risk, Council, like any other land owner, can still seek to manage fire risk on its own land.

Council is authorised to close reserves (rather than relying on FENZ to restrict access) for any of the following reasons:

- Prevention of damage to its own land and or utilities i.e. water pipelines / power lines
- Protection of the public using its reserves
- Smoke nuisance
- To limit Council's potential liability in tort for spread of fire.

Reserve Type / Description	Legislation that allows NCC to close a reserve	Delegated officer at NCC for sign off of closure(s)
Recreation Reserve	Section 17 of the Reserves Act 1977 Section 53 of the Reserves Act 1977	Group Manager Community Services
Local Purpose Reserve	Section 23 of the Reserves Act 1977 – Public notice is required.	Group Manager Community Services
Legal Roads	Local Government Act 1974 – Council can temporarily close roads, formed or unformed when for any reason it is considered desirable that traffic should be temporarily diverted to other roads. Consultation with Police and NZTA is required. Public notice of the intention to close a road and public notice to close the road is required. See paras 43 and 44 of legal advice at A2268926.	Group Manager Infrastructure

Other Council Land	Section 12 of the Local Government Act 2002 combined with 'rules of use' – see paras 45-49 in the legal advice at A2268926. These closures should be discussed with FENZ and advice taken from them on the fire risk.	Group Manager Community Services

Is there an emergency declaration in place under the Civil Defence Emergency Management Act 2002 (CDEMA)?

In times of a declared emergency, NCC may have to close reserves on order from the Ministry of Civil Defence & Emergency Management (MCDEM) under the CDEMA. All decisions about track and reserve closures, and exemptions to section 91 of the CDEMA must come from the Emergency Operations Centre when an emergency declaration is in place.

Other reference documents:

- Legal advice on powers to close council land due to fire risk and regulate fires – DLA Piper – Sep2019 A2268926

Implementing track and reserve closures

INTERNAL COMMUNICATIONS – Ensure Group Manager is aware of the intention to close reserves.

Parks Team Leader to delegate the following tasks:

- Prepare media release for approval from Group Manager; example media releases (from Jan/Feb 2019) below:
  1. http://our.nelson.govt.nz/media-releases-2/extreme-fire-risk-means-temporary-closure-of-grampians-reserve/
  2. http://our.nelson.govt.nz/media-releases-2/reserve-closures-as-part-of-emergency-response/
  3. http://our.nelson.govt.nz/media-releases-2/further-reserve-closures-and-advice-about-coping-with-smoke/
  4. http://our.nelson.govt.nz/media-releases-2/landscape-and-conservation-reserves-remain-closed/

BEFORE MEDIA RELEASE GOES OUT

- Liaise with the following stakeholders re closures:
  - FENZ - to review the media release before it goes out.
  - Tasman Pine (Ngati Koata) and PF Olsen (NCC Forestry) - to make sure our messaging about track and reserve access is clear and consistent. Note: Exemptions to continue forestry operations are considered separately to closing public access. See section 5 for forestry requirements.

- Mountain Bike Club – As above, messaging needs to be clear and consistent and MTB Club can use their social media networks to help spread the word, after NCC has released its messaging.
- Maintenance/Project contractors active in reserves – communicate with Infrastructure, Science and Environment and Events Teams. All contractors on reserve land need to be aware of any extra precautions that will be necessary to continue works safely. See requirements under section 3.
- Mail out to Parks stakeholder list (A2039536– this includes concessionaires) and volunteers register (A1959586) advising of closures. Example email (from Jan/Feb 2019): A2280073, example email to keep stakeholders informed of state of play: A2143908.
- Check park bookings calendars – will any events be impacted? Notify the organisers of any scheduled events that reserves are closing due to fire risk.
- Group Manager to email Mayor and Councillors re reserve closures.

AFTER MEDIA RELEASE GOES OUT

Issue WO to Nelmac to install "Reserve Closed" signage (stored at Nelmac Nursery) and "danger – keep out" tape. See A2242307 for list of reserves and details of each entrance point where signage is required.

- Liaise with GIS Team to get closures updated on NMap and Top Of The South Maps (ToTSM)
- Liaise with Comms Team – providing regular updates on closures, event cancellations or changes in risk, and to ensure the Track Closures webpage is updated: http://www.nelson.govt.nz/recreation/recreation/parks-and-reserves/track-closures/
- May need to set up new GL code to charge all these actions against. Parks Team Leader to meet with finance and to action this if required.

7. Managing high risk events on reserves that remain open to the public during increased fire risk

Events booked on reserves that are not closed due to fire risk will still be considered for any potential increased risk to people and/or property. The decision to cancel an event due to fire risk must be authorised by the Group Manager, in consultation with FENZ.

Refer to Park Booking Form template at A670288 which states:

> *The Hirer agrees that any unknown risk to public safety that arises before (or during) the event could result in a cancellation of the event. Risks that could trigger a cancellation include but are not limited to;*
> - *Fire Risk*
> - *Civil unrest*
> - *Weather systems*
> - *Unexpected damage to the venue*

8. Reopening Tracks and Reserves

Is there an emergency declaration in place under the CDEMA? If so, the decision to reopen tracks and reserves must come from the Civil Defence Emergency Management Centre.

If not, the delegate that authorised the closure will need to authorise the re-opening. This will in most cases be the Principle Rural Fire Officer (FENZ).

Parks Team Leader to then delegate the following tasks:

- Prepare media release for approval from Group Manager or other authorised delegate; example media release (from Feb 2019) below: A2155173 / A2152718

BEFORE MEDIA RELEASE GOES OUT

- Liaise with the following stakeholders before making any public announcements about tracks and reserves reopening:
    - Civil Defence Emergency Management Centre (if state of emergency is in place).
    - FENZ – for advice and to review the media release before it goes out.
    - Tasman Pine (Ngati Koata) and PF Olsen (NCC Forestry) - to make joint decisions with forestry managers about access to reserve land. Our messaging needs to be clear and consistent.
    - Mountain Bike Club – As above, messaging needs to be clear and consistent and MTB Club can use their social media networks to help spread the word.
    - Maintenance/Project contractors – communicate with Infrastructure, Science and Environment and Events Teams. All contractors on reserve land need to be aware of any extra precautions that may still be necessary to continue works safely. See requirements under section 3.
    - Mail out to Parks stakeholder list (A2039536 – this includes concessionaires) and volunteers register (A1959586) advising of re-openings.
    - Check park bookings calendars – Notify the organisers of any scheduled events that reserves are re-opening. They will need to be made aware of any extra precautions that may still be necessary to continue operating safely. See requirements under section 3.
    - Group Manager to email Mayor and Councillors re re-openings.

- Issue work order to Nelmac to inspect all tracks they are responsible for maintaining. Remove signage and hazard tape from tracks and reserve entrances. All signage to be returned to NCC, Parks and Facilities Team at Civic House.
- Liaise with Mountain Bike Club (Ben Pointer) and NZ Cycle Trails Trust (Josh Aldridge) to arrange inspections on all tracks they are responsible for maintaining. Remove signage and hazard tape from tracks and reserve entrances. All signage to be returned to NCC, Parks and Facilities at Civic House.

Nelson City Council
Forestry

Quarterly Report

Q2: October - December 2019

Harvesting in the lower Maitai catchment above Ned's creek.

PFOLSEN

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A2355548

Table of Contents

1. Summary

Health and Safety

No incidents reported over the period

Environmental

One environmental incident occurred where a diesel fuel container was found in the forest road water table.

NCC compliance checks of Maitai harvesting operation observed high compliance.

Harvesting

Harvesting	Q2 Actuals	YTD Actuals	Full Year Budget	% Budget Achieved
Net Revenue	$174,188	$351,948	$671,619	52
Volume	4,918	9,161	27,534	33

Harvesting carried out in the Maitai forest.

Strong domestic and recovering export log prices underpinned harvest profitability per tonne.

Forest Management

Forest Management	Q2 Actuals	YTD Actuals	Full Year Budget	% Full Yea Budget Achieved
Cost	$14,320	$129, 892	$849,621	15

- Management costs for FAG duties
- Firebreak planning at Brook forest

2. Health and Safety

Incidents

No incidents to report.

Positive feedback was given by residents who live on the Maitai forest urban trucking route that the truck drivers had shown very safe and respectful driving practises.

Safety Initiatives

One Local Safety Meeting with all staff and contractors was held at the PF Olsen office on the 30th of October. There were 18 attendees and main discussion points were:

- Public trespass incidents
- Twitch handle incidents
- Machine rollover incidents
- Mental health awareness
- Return or work after injury protocol

3. Environmental

Incidents

One environmental incident occurred where a diesel fuel container was found in the forest road water table. Disciplinary measures were carried out with the responsible contractor.

Compliance

NCC compliance officers, was actively involved with PF Olsen staff to ensure the Maitai forest harvesting operations were planned and carried out to the NES PF and NCC standards.

Environmental Initiatives

On the 18th of October, PF Olsen hosted an environmental workshop called the 'Dirtshop'. This was hosted by National Environmental Manager, Kit Richards, and National Engineering Manager, Grant Cleaver who travelled down from Rotorua.

The aim of the workshop was to provide training for the appropriate workers to decrease risk and increase cost effectiveness of our forest engineering operations.

The workshop was attended by all harvesting and earthworks contractors who are involved in forest engineering. Compliance officers from TDC, NCC and MDC also attended.

The workshop 50% office based, and 50% forest based at the TDCs Howard River forest.

4. Harvesting

Financials by Forest

Maitai	Volume (Tonnes)	Net Revenue	Net Revenue per Tonne	Harvest Costs	Cost per Tonne
1st Quarter	4,243	$177,760	$41.89	$306,569	$72.25
2nd Quarter	4,918	$197,368	$40.13	$355,921	$72.37
Total	**9,161**	**$375,128**	**$40.95**	**$662,490**	**$72.32**
Net revenue was underpinned by strong domestic log markets and the recovering export market.					
Brook	**Volume (Tonnes)**	**Net Revenue**	**Net Revenue per Tonne**	**Harvest Costs**	**Cost per Tonne**
2nd Quarter	0	-$23,054	0	$23,054	0
Total	**0**	**-$23,054**	**0**	**$23,054**	**0**
Costs incurred for harvest planning and machinery transport as a result of the change in harvest schedule due to recreational pressure.					
Roding	**Volume (Tonnes)**	**Net Revenue**	**Net Revenue per Tonne**	**Harvest Costs**	**Cost per Tonne**
2nd Quarter	0	-$125	0	$125	0
Total	**0**	**-$125**	**0**	**$125**	**0**
GRAND TOTAL	**9,161**	**$351,948**	**$38.41**	**$685,670**	**$74.84**

Financials Year To Date

Current Year	YTD	Annual Budget	%	Comments
Volume (tonnes)	9,161	27,534	33	Harvest volumes likely to end up at 11.6K tonnes after a small Maitai block is brought forward and the larger Maitai harvest is pushed back.
Net Revenue	$351,948	$671,619	52	
Net Revenue per tonne	$38.41	$24.39	157	Positive to budget predominantly due to low cost harvest area harvested and strong domestic log markets.
Harvest Costs	$685,670	$2,501,552	27	
Harvest Costs per tonne	$74.84	$90.85	82	Will come in line with budget once bridge is constructed.

Operational Update

Harvesting was carried out solely in the Maitai forest over the period in order to take advantage of high demand for stiff logs in the domestic structural log market. A positive outcome to be able to maintain strong revenues throughout the current slump in export log prices

Harvesting in the Brook has been postponed for next Autumn/Winter when it will have less impact on recreational activities.

Maitai stands 7/02 and 8/02 (2,500 tonnes) may be able to be brought forward into current financial year, although this is TBC based on an appropriate harvesting contractor becoming available. The remainder of Maitai harvesting will be pushed back until the 2020/21 financial year as the bridge construction has been delayed.

5. Forest Management

Forest Budget	Q2 Actuals	YTD	Annual Budget	Comments
Roading	$0	$0	$18,421	
Land Preparation	$0	$0	$0	
Establishment	$0	$75,203	$170,059	
Tending	$365	$365	$30,888	
Protection	$2,571	$10,035	$4,000	Firebreak planning
Property Maintenance	$360	$360	$5,913	
Forest Mgmt	$200	$200	$0	
Monthly Mgmt fee	$3,495	$6,839	$20,000	
NCC Valuation	$0	$4,180	$4,200	
FSC Mgmt fees	$0	$0	$20,000	
Misc Consulting	$5,710	$21,522	$40,000	FAG duties
Rates & Insurance	$0	$0	$36,140	
Tantragee Trees	$1,620	$11,188	$500,000	
TOTAL	**$14,321**	**129,892**	**$849,621**	

Operational Update

Some firebreak costs to come in Q3 for the Brook forest as the York Valley firebreak is established.

Thinning costs for Roding forest to be deferred until 2020/21 financial year.

Seed collection has been deemed as appropriate for the majority of the 2020/21 financial years thinning operations due to sufficient genetic material. This will result in thinning costs being partially offset by seed collection revenue.

6. Appendix 2: Wood Track Production Report

Wood Track: Forest Owner Production - Customer Deliveries By Grade

From 01/07/19 **To** 31/12/19
GeoUnit:

Nelson City Council

NCC Maitai - Harvest

0022384

Customer	Destination	Species	Grade	Len	Loads	Tonnes	m3	JAS
Building Supplies Group Limite	Eves Valley	PRAD	S25	M	54.0	1,600.10		
				Building Supplies Group Limited - Eves Valley Total:	54.0	1,600.10		

Customer	Destination	Species	Grade	Len	Loads	Tonnes	m3	JAS
Fortuna Forest Products Ltd 9	Port Nelson	PRAD	A	3.9	65.0	1,625.21		1,577.423
		PRAD	K	3.9	42.0	913.83		816.670
		PRAD	KI	3.9	24.0	404.70		359.995
		PRAD	KIS	3.0	37.0	567.77		504.645
		PRAD	KIS	3.9	26.0	461.46		364.211
		PRAD	P3	4.0	17.0	294.76		292.916
		PRAD	P40	4.0	29.0	455.91		456.584
		PRAD	P40	5.2	24.0	363.79		366.140
		PRAD	P40	6.0	4.0	56.07		56.773
				Fortuna Forest Products Ltd 9 Nelson Total:	268.0	5,143.50		4,795.357

Customer	Destination	Species	Grade	Len	Loads	Tonnes	m3	JAS
Nelson Pine Industries Ltd	Richmond	PRAD	CH	RS	14.0	284.86		
		PRAD	LS30	5.5	18.0	361.36		
		PRAD	LVLMIX	2.7	1.0	14.44		
		PRAD	LVLMIX	5.5	35.0	810.80		
				Nelson Pine Industries Ltd Total:	68.0	1,471.46		

NCC Maitai - Harvest

0022384

Customer	Destination	Species	Grade	Len	Loads	Tonnes	m3	JAS
Southwood NZ Ltd	Motueka	PRAD	P35	5.0	10.0	119.51		
				Southwood NZ Ltd Total:	10.0	119.51		

Customer	Destination	Species	Grade	Len	Loads	Tonnes	m3	JAS
Taylor Timbers Ltd	Hope	PRAD	K	3.8	1.0	8.74		
		PRAD	P35	3.1	7.0	125.26		
		PRAD	P35	M	2.0	59.20		
		PRAD	P35	S	4.0	57.76		
		PRAD	P40	3.1	1.0	6.62		
		PRAD	P40	4.9	2.0	45.09		
		PRAD	P40	M	6.0	114.22		
	Hope	PRAD	P35	5.0	3.0	88.94		
				Taylor Timbers Ltd Total:	26.0	505.83		

Customer	Destination	Species	Grade	Len	Loads	Tonnes	m3	JAS
Timberlink New Zealand Limite	Blenheim	PRAD	P35	RL	11.0	276.43		
		PRAD	PP	M	3.0	44.98		
				Timberlink New Zealand Limited Total:	14.0	321.41		
				NCC Maitai - Harvest Total:	440.0	9,161.81		4,795.357
				Nelson City Council Total:	440.0	9,161.81		4,795.357

7. Appendix 1: Monthly Harvesting Schedule

November 2019

Estimated Harvest Schedule

NCC Harvesting

Forest	Maitai		Brook		Total		
Month	Tonnes	Net Revenue	Tonnes	Net Revenue	Tonnes	Net Revenue	Comments
Jul-19		-$313			*0*	-$313	
Aug-19	*147*	*$17,381*			*147*	*$17,381*	
Sep-19	*4097*	*$195,454*		*-$10,444*	*4097*	*$185,010*	
Oct-19	*4236*	*$169,534*		*-$4,467*	*4236*	*$165,067*	
Nov-19	*682*	*$27,834*		*-$8,143*	*682*	*$19,691*	
Dec-19					0	$0	
Jan-20		-$10,000			0	-$10,000	Maitai enviro rehab
Feb-20					0	$0	
Mar-20					0	$0	
Apr-20					0	$0	
May-20	2500	$0			2500	$0	Maitai Bridge Construct + harvest stands 7/02 and 8/02 - TBC
Jun-20		-$137,500			0	-$137,500	Maitai Bridge
Total	**11662**	**$262,390**	**0**	**-$23,054**	**11662**	**$239,336**	

Changes since last schedule
- Maitai bridge cost increased from $250K to $275K
- Maitai stands 7/02 and 8/02 introduced

Nelson City Council
Forestry

Quarterly Report

Q3: January – March 2020

PFOLSEN

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Table of Contents

1. Summary

Health and Safety

No incidents reported over the period.
No auditing was completed over the period.
2 full safety meetings were completed over the period.

Environmental

No incidents reported over the period.
1 environmental audit was carried out over the period at Maitai road maintenance, the result was: 1 = Good.
Staff completed an internal FSC refresher course to ensure all staff are aware of operational and administrative requirements under the FSC.

Harvesting

Harvesting	Q3 Actuals	YTD Actuals	Full Year Budget	% Budget Achieved
Net Revenue	-$9905	$342,043	$671,619	51
Volume	0	9,161	27,534	33

No harvesting was carried out during the period.
Some harvesting post-op environmental clean-up was carried out at Maitai forest.

Forest Management

Forest Management	Q3 Actuals	YTD Actuals	Full Year Budget	% Full Year Budget Achieved
Cost	$67,154	$197,045	$849,621	23

- Thinning in Roding forest
- FSC Management Plan completion
- Management costs for FAG duties
- Windrowing at Maitai forest
- Firebreak spraying at Brook forest

2. Health and Safety

Incidents	No incidents to report.
Auditing	No H&S audits were carried out over the period.
Safety Initiatives	The annual safe start meeting was carried out with all contractors. This was held in St Arnaud and was combined with PF Olsen Marlborough operations. A guest speaker attended who discussed his personal experience with H&S in mining in Australia, and how workplace fatalities effect the workmates, families, and communities. One Local Safety Meeting with all staff and contractors was held at the PF Olsen office on the 27th of February. There were 18 attendees and main discussion points were: - Coronavirus forest industry impacts - Review of PF Olsen Nelson local safety incidents - Review of PF Olsen national incidents - Discussion document: 'More Experience, More Deaths' - Commendations for good work being done by individuals and contractors - Review of the Helicopter Emergency Process

3. Environmental

Incidents	No environmental incidents were recorded for the period
Compliance	No compliance visits carried out by NCC compliance staff.
Auditing	1 environmental audit was carried out over the period at Maitai road maintenance, the result was: 1 = Good.
Environmental Initiatives	Staff took part in an internal FSC refresher training to ensure everyone is well versed with operational and administrative FSC requirements.

4. Harvesting

Financials by Forest

Maitai	Volume (Tonnes)	Net Revenue	Net Revenue per Tonne	Harvest Costs	Cost per Tonne
1st Quarter	4,243	$177,760	$41.89	$306,569	$72.25
2nd Quarter	4,918	$197,368	$40.13	$355,921	$72.37
3rd Quarter	0	-$9,905	0	$9,905	0
Total	**9,161**	**$365,223**	**$39.86**	**$672,396**	**$73.39**
Some minor post-operational environmental clean up carried out to close out harvest operation.					
Brook	**Volume (Tonnes)**	**Net Revenue**	**Net Revenue per Tonne**	**Harvest Costs**	**Cost per Tonne**
2nd Quarter	0	-$23,054	0	$23,054	0
Total	**0**	**-$23,054**	**0**	**$23,054**	**0**
Roding	**Volume (Tonnes)**	**Net Revenue**	**Net Revenue per Tonne**	**Harvest Costs**	**Cost per Tonne**
2nd Quarter	0	-$125	0	$125	0
Total	**0**	**-$125**	**0**	**$125**	**0**
GRAND TOTAL	**9,161**	**$342,043**	**$37.33**	**$695,575**	**$75.92**

Financials Year To Date

Current Year	YTD	Annual Budget	%	Comments
Volume (tonnes)	9,161	27,534	33	Harvest volumes likely to end up at 11.6K tonnes after a small Maitai block is brought forward and the larger Maitai harvest is pushed back.
Net Revenue	$342,043	$671,619	50	
Net Revenue per tonne	$37.33	$24.39	153	Positive to budget predominantly due to low cost harvest area harvested and strong domestic log markets.
Harvest Costs	$695,575	$2,501,552	27	
Harvest Costs per tonne	$75.92	$90.85	83	Will come in line with budget once bridge is constructed.

Operational Update

The Maitai and Roding bridges have been the main focus of planning efforts over the quarter. The Maitai bridge is scheduled to be constructed over Q4 and into Q1 of next financial year, while the Roding bridge would be completed through Q1 and Q2 of next financial year.

The next round of harvesting is scheduled to be carried out in the Brook in Q1 of the next financial year, followed by Maitai harvest in 1 years' time.

5. Forest Management

Forest Budget	Q3 Actuals	YTD	Annual Budget	Comments
Roading	$3,534	3,534	$18,421	Roadside spraying at Brook
Land Preparation	$7,629	$7,629	$0	Maitai windrowing
Establishment	$3,477	$78,680	$170,059	Treestock deposit
Tending	$22,879	$23,244	$30,888	Thinning at Roding
Protection	$1,048	$11,082	$4,000	Firebreak spraying at Brook
Property Maintenance	$525	$885	$5,913	
Forest Mgmt	$60	$260	$0	
Monthly Mgmt fee	$3,345	$10,184	$20,000	
NCC Valuation	$0	$4,180	$4,200	
FSC Mgmt fees	$19,372	$19,372	$20,000	Completion of FSC management plan
Misc Consulting	$5,286	$26,807	$40,000	FAG duties
Rates & Insurance	$0	$0	$36,140	
Tantragee Trees	$0	$11,188	$500,000	
TOTAL	**$67,154**	**$197,045**	**$849,621**	

Operational Update

Q4 will bring Desiccation spraying and Planting at Maitai forest.

6. Appendix 2: Wood Track Production Report

No harvesting in 3rd Quarter

7. Appendix 1: Monthly Harvesting Schedule

NCC Harvesting

Estimated Harvest Schedule

Forest	Maitai		Brook		Total		
Month	Tonnes	Net Revenue	Tonnes	Net Revenue	Tonnes	Net Revenue	Comments
Jul-19		-$313			0	-$313	
Aug-19	147	$17,381			147	$17,381	
Sep-19	4097	$195,454		-$10,444	4097	$185,010	
Oct-19	4236	$169,534		-$4,467	4236	$165,067	
Nov-19	682	$27,834		-$8,143	682	$19,691	
Dec-19					0	$0	
Jan-20		-$9,905			0	-$9,905	Maitai enviro rehab
Feb-20					0	$0	
Mar-20					0	$0	
Apr-20					0	$0	
May-20					0	$0	
Jun-20		-$150,000			0	-$150,000	First 50% of Maitai Bridge construction costs
Total	**9162**	**$249,985**	**0**	**-$23,054**	**9162**	**$226,931**	

Changes since last schedule
- Maitai Bridge total cost increased from $275K to $300K
- Removed May harvest

	Year to Date Actuals (January 2020)	Year to Date Budget (January 2020)	Year to Date Variance to Budget	Total Budget 2019/20
Grand Total	**(196,840)**	**386,715**	**583,555**	**422,526**
Income	**(1,037,618)**	**(455,620)**	**581,998**	**(2,680,116)**
Other Income	**(1,037,618)**	**(455,620)**	**581,998**	**(2,680,116)**
Brook / York Valley Forest	0	0	0	0
Maitai Forest	(1,037,618)	(455,620)	581,998	(2,680,116)
Expenses	**840,778**	**842,335**	**1,557**	**3,102,642**
Staff Operating Expenditure	**2,949**	**6,307**	**3,358**	**10,805**
Base Expenditure	**824,851**	**820,859**	**(3,992)**	**2,565,837**
Forest management: Brook/York	7,823	5,103	(2,720)	8,750
Forest management: Maitai	4,950	60,550	55,600	103,800
Forest management: Marsden	0	0	0	0
Forest management: Roding	75,889	51,569	(24,320)	88,400
Forest management: General	31,764	77,350	45,586	132,600
Brook/York Valley Harvest Costs	14,911	0	(14,911)	0
Maitai Harvest Costs	662,490	594,000	(68,490)	2,200,000
Roding Harvest Costs	6,586	0	(6,586)	0
Rates	5,146	6,187	1,041	6,187
Insurance	13,472	26,100	12,628	26,100
Admin (advertising, mapping, H&S)	1,820	0	(1,820)	0
Unprogrammed Expenses	**12,343**	**0**	**(12,343)**	**500,000**
Tantragee Hazardous tree removal	12,343	0	(12,343)	500,000
Programmed Expenses	**635**	**15,169**	**14,534**	**26,000**
Forestry Disestablishment: Brook/York	0	8,750	8,750	15,000
Forestry Disestablishment: Maitai	635	1,169	534	2,000
Forestry Disestablishment: Roding	0	2,331	2,331	4,000
Forestry disestablishment	0	2,919	2,919	5,000

Report Attachment 3 - Forestry Accounts 24.02.2020 - YTD Actuals Jan 2020 vs Budget 2019.20.xlsx

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Alternative species update – March 2020

Forest	Compartment	Alternative species recommendation	Comments Nov 19	Comments March 2020
Brook	22/05	Indigenous Revegetation	Harvest delayed along with the replanting. Seedlings will be used on a hill country erosion project within NCC.	If harvesting is undertaken in 2020 it will be replanted in the winter of 2021.
Brook	22/06	Indigenous Revegetation		
Brook	22/08	Natural Regeneration	Harvest delayed.	No action until harvest date known.
Brook	22/02	Natural Regeneration		
Brook	21/04	Indigenous Revegetation	About to investigate the line cutting and to be completed by late march-mid April depending on the fire season.	Inspected with MPI Jan 2020. Reasonable survival at that stage (before the extended dry spell). Limited gorse regrowth. Sprayed gorse is slowly breaking down. Line cutting was to start in Jan but delayed due to fire risk. This will be undertaken after heavy rain. Another option is to aerially spray and cut whorls at planting.
Brook	Tantragee Block	Indigenous Revegetation	Harvest delayed along with the replanting. Seedlings will be used on a hill country erosion project within NCC.	No action until harvest date known.
Brook	Codgers	Indigenous Revegetation	The seedlings have had one release spraying and have been fertilised. Climbing weeds (mostly old man's beard) have invaded some seedlings. Proposed to approach the Mountain Bike Club to hand release any seedlings with climbing weeds. Proposed to investigate further mulching for December before the fire season (dependent on contractor availability).	Last years plantings: Looked good at the start of Jan but the dry is now having an effect. The area has had a second release and also a hand release of climbing species. Also inspected with MPI. Some blanking will be required. This year's plantings: Propose to undertake mulching once the fire risk is lowered (contractor unavailable pre Xmas). Plants ordered.
Maitai Dam	9/02 & 9/04	Indigenous Revegetation	Plantings being monitored for weed control.	Inspected with MPI early Jan 2020. Poor survival particularly on the community plantings probably due to frost and soft seedlings at the start of the season. The community

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				plantings will require a complete replant (600 plants). The rest of the plantings were holding early Jan and have now had a release spray. Some blanking required this winter.

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BROOK, MAITAI, RODING AND MARSDEN VALLEY FORESTS

Owned by
NELSON CITY COUNCIL

Forest Management Plan

For the period June 2020 – June 2025

PFOLSEN

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Table of Contents

1. Introduction

Foundation Principle

Nelson City Council is committed to adopt the Forest Stewardship Council (FSC) Principles and to meet their Criteria pertaining to forest management.

The Council seeks FSC certification to:

- Set a leadership example as a forest owner and a regulator.
- Obtain the best access opportunities to the local processing market which is capable of and seeking to, source all its input requirements as FSC certified feedstock.

The FSC Principles and Criteria describe the essential elements or rules of environmentally appropriate, socially beneficial and economically viable forest management.

Nelson City Council is committed to the PF Olsen FSC Group Scheme that is implemented through the Group Scheme Member processes and associated documents, as this provides the most efficient mechanism to obtain certification.

About this plan

This Management Plan provides a summary of Brook, Maitai, Roding and Marsden Valley Forests and the intended management over the specified period. It contains:

- A description of the land and its landscape context.
- A description of the external operating environment.
- Management objectives.
- A description of the commercial plantation estate and its non-commercial elements and obligations.
- Forest management, harvesting, protection and land management intentions.
- Provisions for monitoring and protection and public usage.
- Maps showing plantation area, legal boundaries and protected areas.

This plan pertains to the management of Brook, Maitai, Roding and Marsden Valley Forests and will be current for the next 5 years. The next major review date for this plan is **June 2025**. Minor annual revisions made to this plan in the interim are recorded in Section 18: Register of Plan Change and Review.

The Landscape Context

2. The Forest Land

Overview

This section describes the legal and physical attributes of the land on which the forest is located. Included in this section are discussions of:

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

Legal Ownership

The legal descriptions of the land on which the Brook, Maitai, Roding and Marsden Valley Forests are situated on are contained in Appendix 1.

The tenure of all forests is freehold, owned by the **Nelson City Council**. No additional areas are leased to or from other parties. Table 1 gives the contact details for the Council.

Table 1: Contact details for the Nelson City Council

Council (Unitary Authority)	Phone	Fax	Email	Website
Nelson City Council	03 546 0200	+64 3 546 0239	enquiry@ncc.govt.nz	http://nelson.govt.nz/

Forests & location

Brook, Maitai, Roding and Marsden Valley Forests are all located to the South / South-East of Nelson City Centre.

Brook forest is located approximately 2 - 3km south / south east of Nelson City Centre. The main blocks are accessed along Brook Street. Internal roads and tracks provide access to all parts of the forest. A smaller block of forest is accessed via Market Road. Overall, Brook Forest is split among 8 blocks, while two of these blocks currently do not contain plantations.

Maitai forest is located approximately 5 km south east of Nelson City Centre. The forest is made up of several different blocks in the nearby vicinity, all of which lie along Maitai Valley Road. Internal roads and tracks provide access to some parts of the forest.

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Roding forest is located approximately 10km south of Nelson City Centre. The main access is located off Aniseed Valley Road is best accessed via SH6. Internal forest roads and tracks provide access to all parts of the forest.

Marsden Valley forest is located approximately 7km south of Nelson City Centre. The main access for all three blocks are along Marsden Valley Road, best accessed off The Ridgeway. Internal forest roads and tracks provide access to all parts of the forest.

In relation to potential significant markets, the overwhelming bulk of the forest resources are all located within a close proximity to each other. The distances to major markets are listed in Table 2 below, the distances being estimated from the centre of all four forests.

Table 2: Distances from forests to nearby markets

Potential Market or Export Port	Log Market	Approx. Distance from Forests (km)			
		Brook	Maitai	Roding	Marsden Valley
Nelson Port	Export	5	10	30	10
South Pine Sawmill	Domestic	5	13	22	5
Carter Holt Harvey Sawmill	Domestic	28	36	27	27
Nelson Pine Industries – LVL and pulp mill	Domestic	17	25	25	16
Timberlink Sawmill	Domestic	115	120	150	120

The forest block's geographic locations are shown in Map 1.

Geology

The geology underlying the Nelson City forests is described in Table 3[1]. Although there are numerous faults present in the area, the underlying geology generally, is very stable.

Table 3: Geological descriptions of the Forests

Forest	Underlying Geological Description
Brook	Lower slopes are Greville formation basement sedimentary rock comprising finely bedded sandstones and siltstones grading into Stephens Subgroup basement sedimentary rock comprising variably bedded sandstone and siltstone with conglomerate lenses and limestone blocks locally fossiliferous.
Maitai	Basement sedimentary rock comprising finely bedded sandstones and siltstones
Marsden Valley	Undifferentiated Richmond group of variably bedded sandstone - siltstone with conglomerate containing granite clasts. Upslope geology grades into Greville formation basement sedimentary rock comprising finely bedded sandstones and

[1] https://data.gns.cri.nz/geology/

	siltstones with a further transition into Waiua Formation basement sedimentary rocks of sandstone.
Roding	Tramway & Greville formation basement sedimentary rock comprising finely bedded sandstones and siltstones

Topography

Brook
The topography of Brook Forest is predominantly areas of steep rolling hill country that requires cable-based harvesting systems. There are small areas of more gentle slopes in some blocks, which could be harvested by ground-based equipement. The altitude ranges are different in each block, but as a max and minimum ranges from 60 to 670 metres above sea level.

Maitai
The topography of Maitai Forest is predominantly areas of steep rolling hill country that will require cable-based harvesting. There are a few smaller areas with gentle slopes that may also be ground-based. The altitude ranges from 80 to 595 metres above sea level.

Roding
The topography of Roding Forest is entirely steep rolling hill country that will require cable-based harvesting systems. The altitude ranges from 185 to 955 metres above sea level in the most southern section.

Marsden Valley
The topography of Marsden Valley Forest is predominantly steep rolling hill country that will require cable-based harvesting systems. In two smaller blocks, the slope is much gentler, allowing for a ground-based harvest. The altitude in the main block ranges from 170 to 845 m above sea level in the eastern section.

Soils

Information regarding the soils of the Bryant ecological district is summarised from Department of Conversation's *Ecological Regions and Districts of New Zealand*, 1987.

Basic intrusive rocks in the north east soils have clayey, moderately deep subsoils, medium natural fertility but droughty in summer. Soils located on ultramafic dunite and serpentine rocks (Dun Mountain, Brook/ Maitai Forest region) which as classified in the NEW ZEALAND Soil Classification[2] are predominantly "Mafic Brown" have low natural fertility with toxic levels of magnesium, chromium and nickel.

In the hilly and steep country of the NW region soils are classed as "orthic Brown' (Roding and Marsden Valley Forests) and are moderately deep fertile soils with clayey subsoils. In the higher altitudes and higher rainfall areas, soils tend to be very strongly leached to podzolised with low natural fertility.

[2] Abridged from Landcare Research's Soil Maps

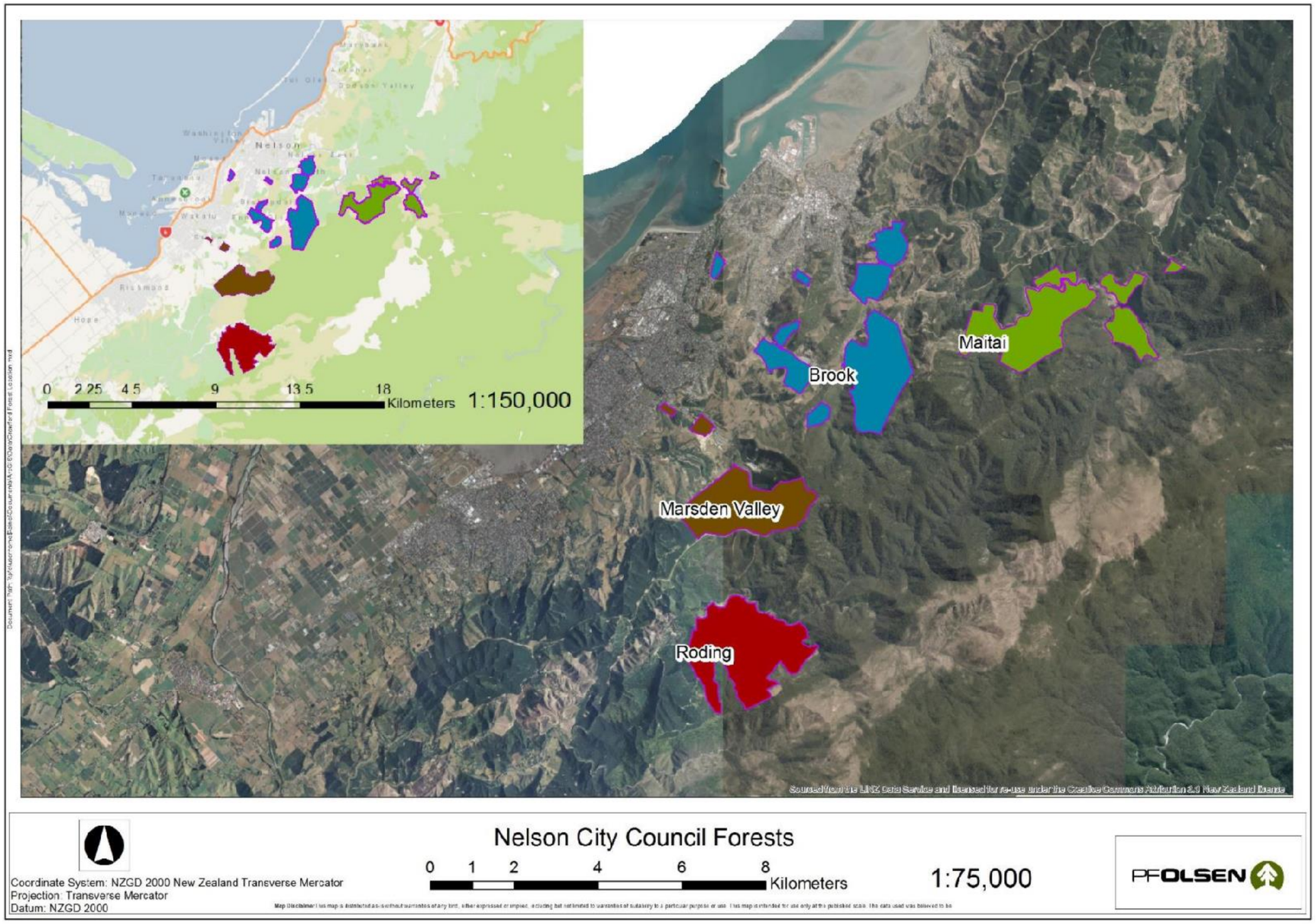
Climate

The climate of the Northern South Island region is temperate, warm and humid in summer with cold winters. Summer droughts are frequent and predominant wind flow is from the northwest. The mean annual temperature for the region is around 12.7 degrees Celsius.

The average yearly rainfall in the region is 1000 – 1240 mm, relatively evenly distributed[3]. Occasionally the area can experience intense rainfall events, usually after degrading storms from the pacific make landfall.

[3] Rainfall and temperature data is summarised from NIWA median annual maps.

Map 1 - Forest Location Map



3. The Broader Landscape

Ecological Districts

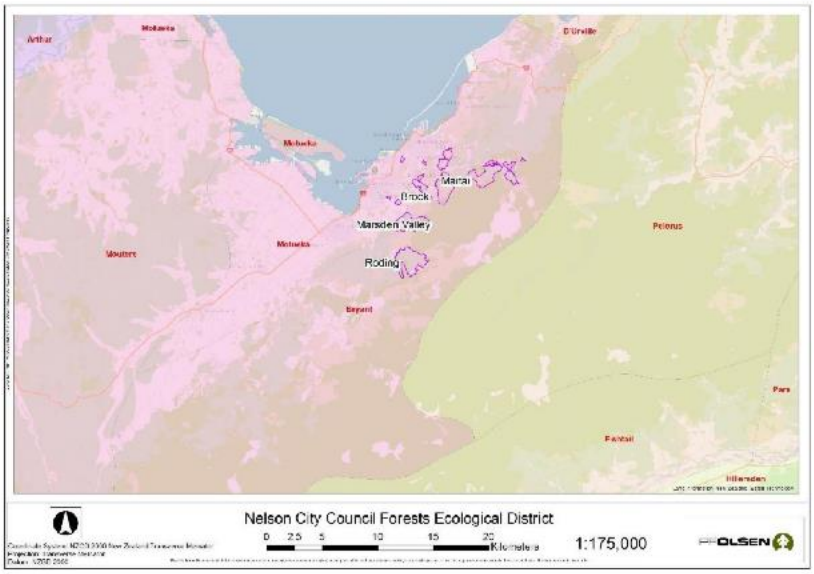
Information regarding the ecological districts is summarised from Department of Conversations *Ecological Regions and Districts of New Zealand*, 1987.

Brook, Maitai, Roding and Marsden Valley Forests all fall within the Bryant ecological district. The topology of this district is classified as being steep hill country. Geology is quite varied, containing a range of different metamorphic, sedimentary and igneous rocks.

Soils have clayey moderately deep subsoils with a medium natural fertility but prone to drought in the summer periods. Steepland soils near the coasts are shallow, stony, and have yellowish brown friable subsoils. In the higher altitudes of the forests, soils are likely to be strongly leached to podzolised.

Indigenous vegetation confined in the higher hills to the east and south. Forests generally contain mixed beech-podocarp, dominated by red beech, silver beech, the black beech-mountain beech complex and occasionally hard beech. Rimu, miro, matai and occasionally totara; tanekaha may be quite common in the sub-canopy. Scrub is generally in the lower altitudes and is generally manuka dominated. Tussockland contains mainly red tussock and restricted to higher altitudes, elsewhere snowgrass is dominant.

Figure 1: Nelson City Council Forest Estate Ecological Districts



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Under the FSC National Standard for Plantation Forest Management in New Zealand revised in 2013, an area of reserves equivalent to 10% of the productive area should be reserved within each ED, inclusive of reservation of 5% of the productive area within large forests (> 1,000 ha).

Table 4 illustrates the percentage of area protected within Brook, Maitai, Roding and Marsden Valley Forests, compared to the total forest property area. In all forests the total area of protected ecosystem reserves far exceeds the minima required for certification.

Table 4: Protective status of the ecological landscape for Nelson City Forest Estate

Ecological District	Forests	Total Forest Area (ha)	Reserve Area (ha)	Reserve (%)	Meets FSC?	Reserve Shortfall (ha) equivalent
Bryant	Brook	403	271	67%	Yes	Nil
Bryant	Maitai	480	294	61%	Yes	Nil
Bryant	Marsden	313	171	55%	Yes	Nil
Bryant	Roding	703	475	67%	Yes	Nil
Totals		**1,899**	**1,211**	**64%**	**Yes**	**Nil**

Other reserved areas

In addition to the areas protected for their intrinsic ecological value, there are a further 83ha within the total of 1,211ha reserved from production that are reserves under other classifications as listed below. The functions are multiple in some cases, but generally relating to the retirement from production of areas deemed unsuitable for continued production and better able to fulfill through reversion or active supplementary management, roles of riparian, recreational or aesthetic enhancement.

Table 5: Other special function reserves in the Nelson City Forest Estate

Forest	Landscape / Amenity	Recreation	Retired Production Land	Riparian Ecosystem	Terrestrial Ecosystem	Grand Total
Brook	38.0		3.5		1.3	42.8
Maitai	4.6		2.1			6.7
Marsden Valley	15.9	5.1	5.6			26.6
Roding				6.9		6.9
Grand Total	**58.5**	**5.1**	**11.2**	**6.9**	**1.3**	**83.0**

Threatened Environments Classification

The Landcare 'Threatened Environments Classification' (TEC) is a spatial tool providing information on the quantity and status of current indigenous vegetation cover relative to its pre-human extent. It is illustrative of the remaining extent, its legal protection status, and spatial distribution in New Zealand's landscape. The TEC is a combination of three national databases:

- Land Environments New Zealand (LENZ)
- Landcover Database
- Protected Areas Network

...continued

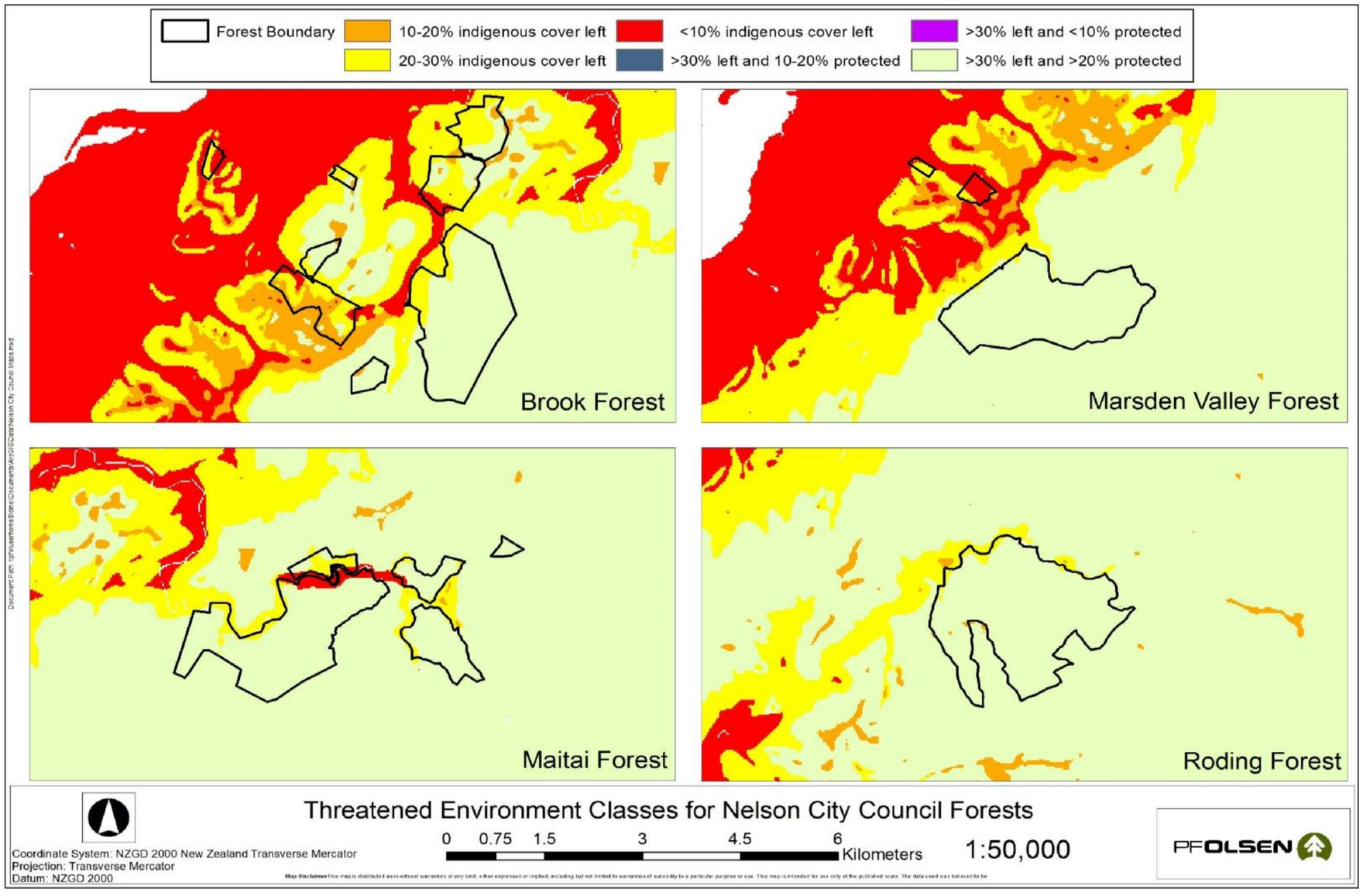
The TEC uses indigenous vegetation cover as a surrogate for indigenous biodiversity, which includes indigenous ecosystems, habitats, and communities; the indigenous species, subspecies and varieties that are supported by indigenous vegetation; and their genetic diversity. It uses legal protection as a surrogate for the relative vulnerability of indigenous biodiversity to pressures such as land clearance, extractive land uses, and the effects of fragmentation. The TEC is therefore most appropriately applied to help identify places that are priorities for formal protection against clearance and/or incompatible land uses, and for ecological restoration to restore lost species, linkages and buffers.

The TEC status of the reserves (Table 6) reflects the high representation and protection of Brook, Maitai, Roding and Marsden Valley Forests reserve types in the wider NEW ZEALAND context.

Table 6: Distribution of protected Forest Areas in relation to the TEC

Threatened Environments Classification	Brook	Maitai	Marsden Valley	Roding	Total
<10% remaining	2.0	6.8	14.0		**22.8**
10 – 20% remaining	5.2		1.4	1.0	**7.6**
20 – 30% remaining	62.0	19.5	6.5	7.4	**95.4**
>30% remaining & <10% protected					
>30% remaining & 10 – 20% protected					
>30% remaining & >20% protected	244.4	162.1	175.3	210.6	**792.4**
Total Area (ha)	**313.6**	**188.4**	**197.2**	**219.0**	**918.2**

Map 2 - Forest Ecological Context



Historic and archaeological sites

Records of known archaeological and historical places are maintained in the New Zealand Archaeological Association (NZAA) Site Recording Scheme published in the 'Archsite' database[4]. PF Olsen retains a license to this dataset and all recorded site information is reproduced in mapping for forestry operations. The Archaeological Site Probability model published by the Department of Conservation[5] provides further guidance on the probability of pre-European archaeological evidence existing based on the geographical location of the forest and historical occupation of the local area.

Records from the 'Archsite' web resource has revealed there are no known historic sites at Brook, Roding and Marsden Valley Forests, although there are a number located in and around Maitai Forest and these are very significant to local Iwi.

The details of these sites are displayed in Table 7 and the Map 3 over the page.

Table 7: Known archaeological sites in Maitai Forest

Reference	Type
O27/23	Artefact – stone flakes
O27/31	Working area / flaking floor

The NCC Resource Management plan also has schedules of archaeological sites (from the same NZAA source) as well as other sites of heritage importance.

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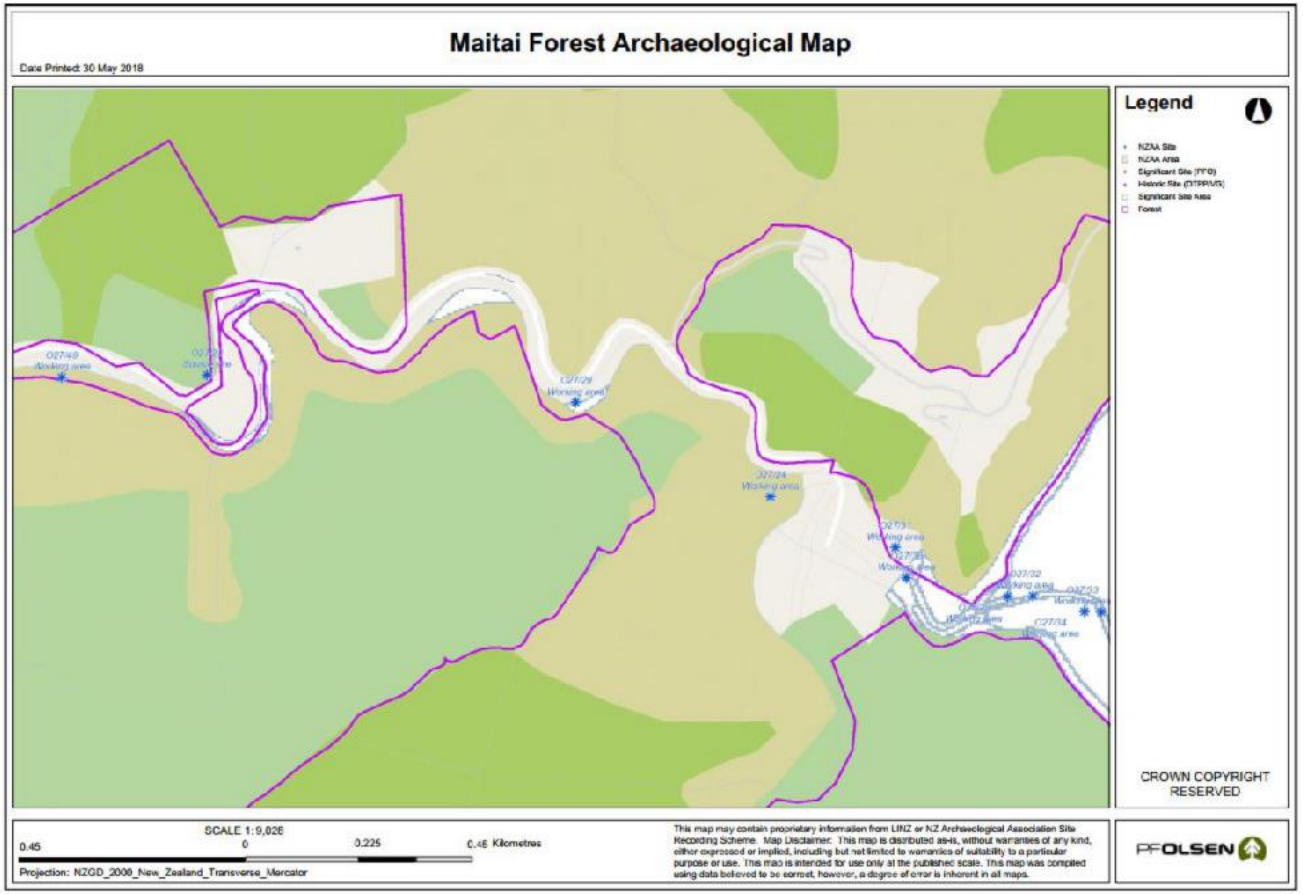
[4] https://archsite.eaglegis.co.nz/NZAAPublic

[5] Arnold, G.; Newsome, P.; Heke, H. 2004: Predicting archaeological sites in New Zealand. *DOC Science Internal Series 180*. Department of Conservation, Wellington. 24 p.

Map 3 – Map of know archaeological sites at Maitai Forest



4. Socio-economic profile and adjacent land

Forest history

The initial 640 ha of forest land that was purchased by Nelson City Council was a commercial investment and a means of protecting their water supplies from hazardous effects such as erosion and sediments. The four commercial forests all provide, in addition to timber generated incomes, various recreational opportunities whether they be mountain biking, hiking or general walking tracks.

Over the years since establishment there has been a need to review species choice and site suitability due to wilding spread and operational suitability in an encroaching urban environment.

Current social profile

The wider Nelson /Tasman economy is mature and diverse encompassing forestry, farming, horticulture and fishing and Tourism, as well as all the service industries associated with any modern regional economy. Some of the key social and economic indicators associated with Nelson City are tabulated below.

By the Nelson City Council's own assessment[6] "Nelson City Council's production forest is small in comparison to the total production forest area through Tasman-Marlborough". Together, the forested areas of the NCC estate makes up less than 1% of the large and well-developed plantation forest industry within the combined Nelson/Marlborough region and within the Nelson City Council boundary is a very small part of the city's GDP

However, at the margin, the commercial use of these forests is creating more local opportunities for silviculture and harvesting crews on a long-term basis, supporting a small proportion of the local, largely Tasman centred forestry and forestry processing industry. This sector, by New Zealand standards, is well integrated into the wider regional economy and contributing a substantial portion of the regional GDP when compared to national averages. In this contribution and in providing a potential offset to some Council rating, the forests are an incremental contributor to the economic and social profile of what is a diverse and well-developed economic area.

Table 8: Key statistics as summarised from 2018 Census[7] data and MBIE 2015[8]

Census Category	Nelson	NEW ZEALAND
Ethnicity: European	86.7%	70.2%
Ethnicity: Māori	10.7%	16.5%
Formal qualifications	80.7%	81.8%
Unemployment	3.1%	4.0%
Dominant occupation	Professional	Professional
Median annual household income	$79,400	$89,100
Internet access	87.1%	86.1%
Home ownership	68.6%	64.6%
Proportion of regional GDP – Forestry & Logging (Tasman Region)	2.2%	0.5%

[6] Nelson City Council's production forests – Assessment of non-monetary values A Beveridge P Gorman Rep 2016/066

[7] http://www.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?request_value=13853&tabname=Business#

[8] https://webrear.mbie.govt.nz/theme/primary-sector-shares-of-regional-gdp/map/timeseries/2015/tasman/forestry-and-logging?accessedvia=tasman&left-zoom=1&right-transform=absolute

Associations with Tangata Whenua

The Te Kahui Mangai website www.tkm.govt.nz shows Iwi that are formally recognised in the northern Te Tau Ihu area in which Brook, Maitai, Roding and Marsden Valley Forests fall (Table 9).

Table 9: Iwi Organisations within the Nelson City Council Forests Region

Iwi Organisation
Ngāti Toa Rangatira
Te Atiawa o Te Waka-a-Māui
Ngāti Apa ki te Rā Tō
Ngāti Kuia
Ngāti Rārua
Ngāti Kōata
Ngāti Tama ki Te Tau Ihu

A Memorandum of Understanding (MoU) between the Council and Tangata Whenua ō Whakatū establishes collective goals and principles by which the parties will engage. In particular the principles call for engagement that involves "partnership", "mutual respect", "honesty of purpose", "open communication" and "active engagement".

Tenure & resource rights

There are numerous Licences and agreements pertaining to existing non-timber forest uses with the forests that prevail. These groups are summarised in the below table.

Table 10: NCC Forest Tenure and Resource Rights

Forest	Commercial	Right to Occupy	Concessionaires	Other
Brook	Grazing, Recreation, Beehives	Stock Mountain bikers training sessions and events, helie bikers, Recreational walkers Beehives (Manuka Honey)	On Reserves lands for all purposes as mentioned	Brook Conservation has areas for Ministry of Education NMIT facilities, Riding for Disabled, Community Garden
Roding	As above	As above	As above	
Maitai	As above plus Cell & broadcast coverage	As above plus Korida Cell tower	As above plus Lease for Kordia ex Broadcasting Corp.	
Marsden	Grazing, recreation, beehives, various	Stock, mountain bikers, recreational, bees, paragliding (needs vehicle access)		

Neighbours

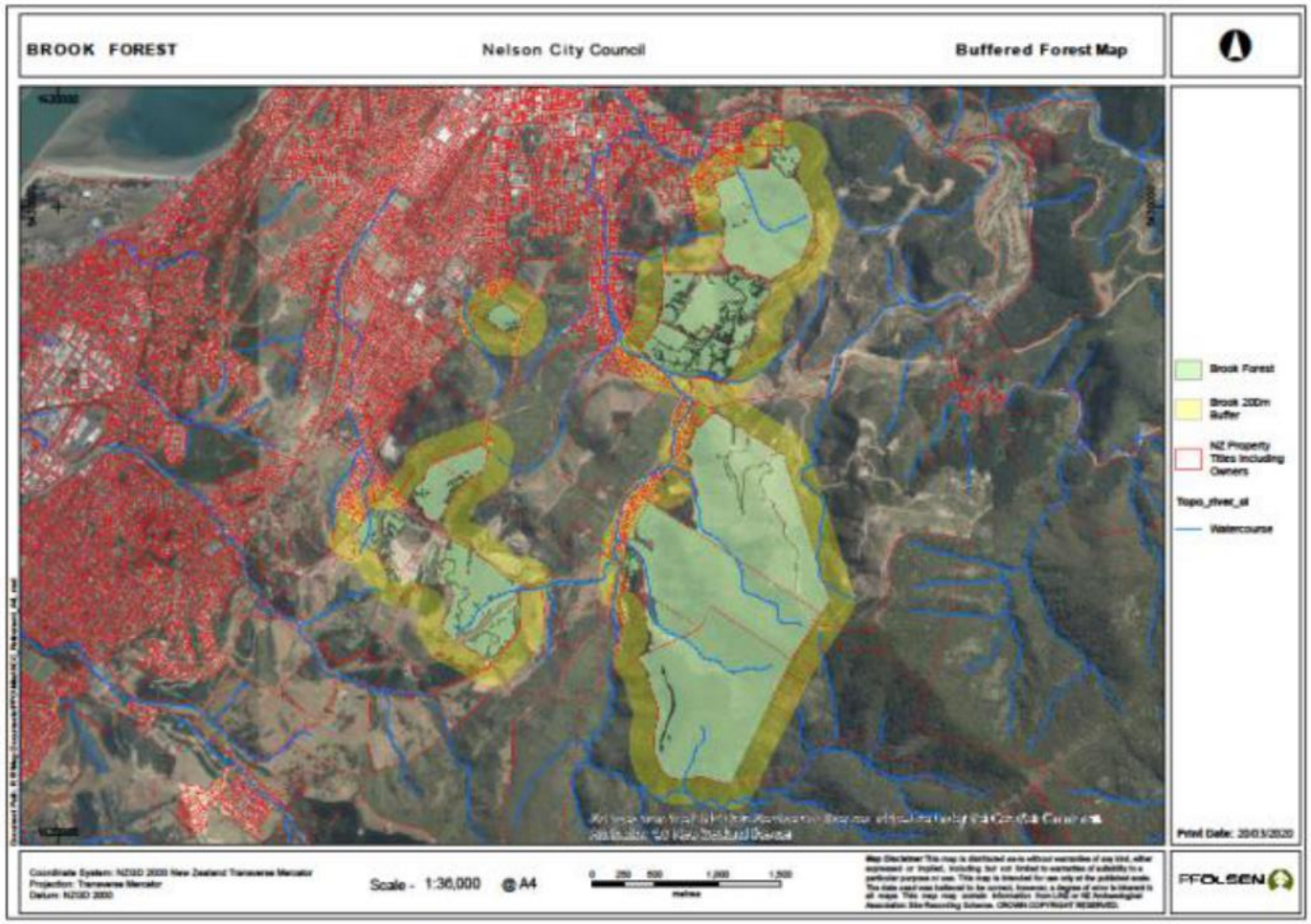
Neighbours to the forest estate boundaries may have a special interest in the management of the forest. Activities within the forest may positively or negatively impact upon their quality of life or businesses in a number of ways, while inappropriately managed operations could create risks of adverse health, safety and environmental and biosecurity hazards. As such, neighbours are considered stakeholders with a potential interest in the management of the forests.

The NCC forests are among a relative few in New Zealand that are in close proximity to a large urban concentration, the boundaries of which have steadily encroached on the original forests. Similarly, as urban scales have increased, so too, pressures to use and to protect recreational opportunities and environmental assets have increased. These are manifest in the existence of groups representing recreational interests or such as the 'Friends of the Maitai' organisation.

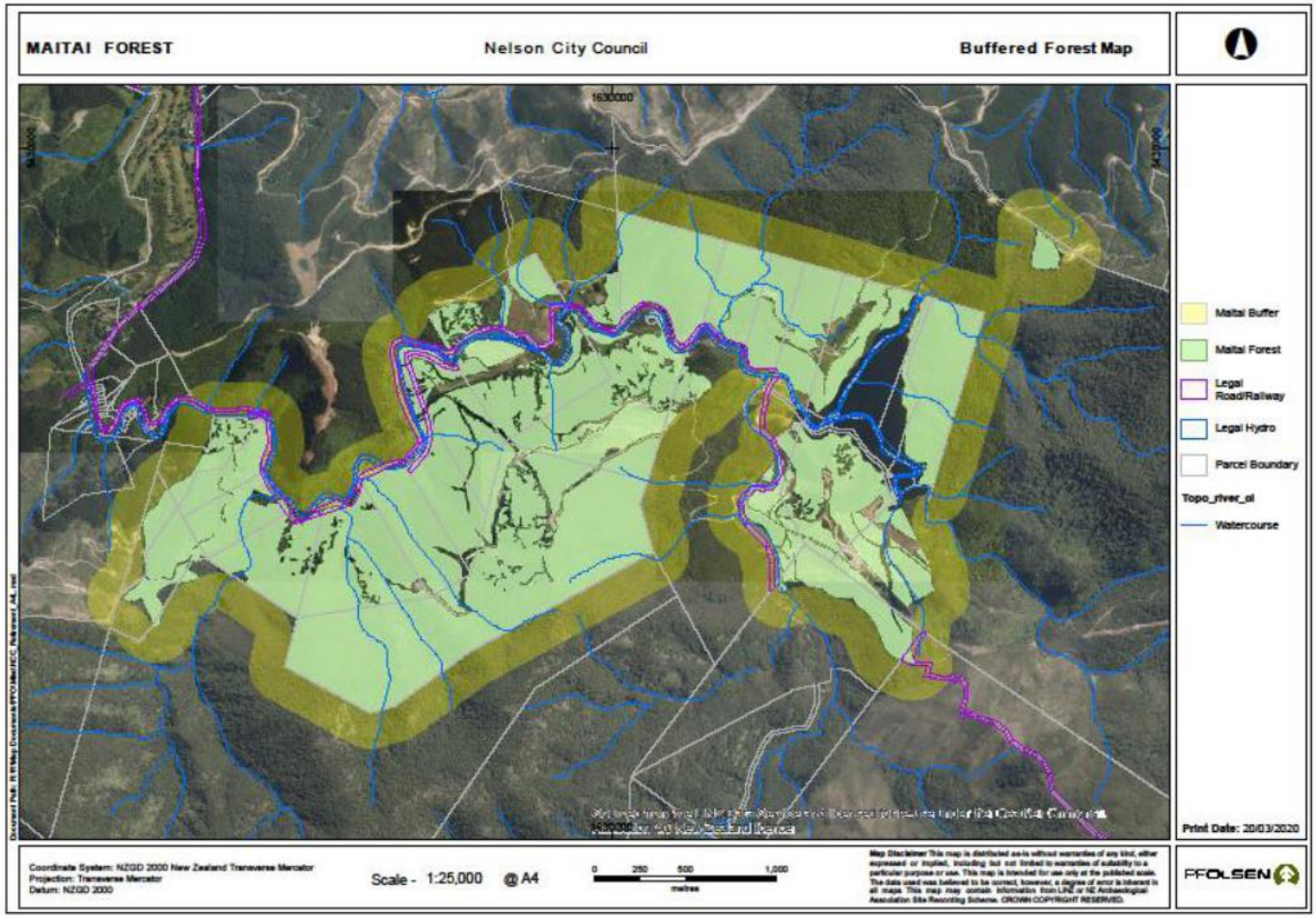
As peri-urban forests the notion of a 'neighbour' is much less straight forward than is common for a rural forest property. For day-to-day management issues, an arbitrary zone within 200m of the planation forest boundary will be considered a zone in which "potentially directly affected" neighbours may need to be consulted over some operational issues; Map 4.

Other public interest groups generally have engagement via various mechanisms and forums with the Council and its management agents. Engagement with these groups which include those such as the Nelson Biodiversity Forum, the Maitai Forestry Forum and the Nelson Mountain Bike Club, will be maintained as long as the parties believe they add value to their engagement process.

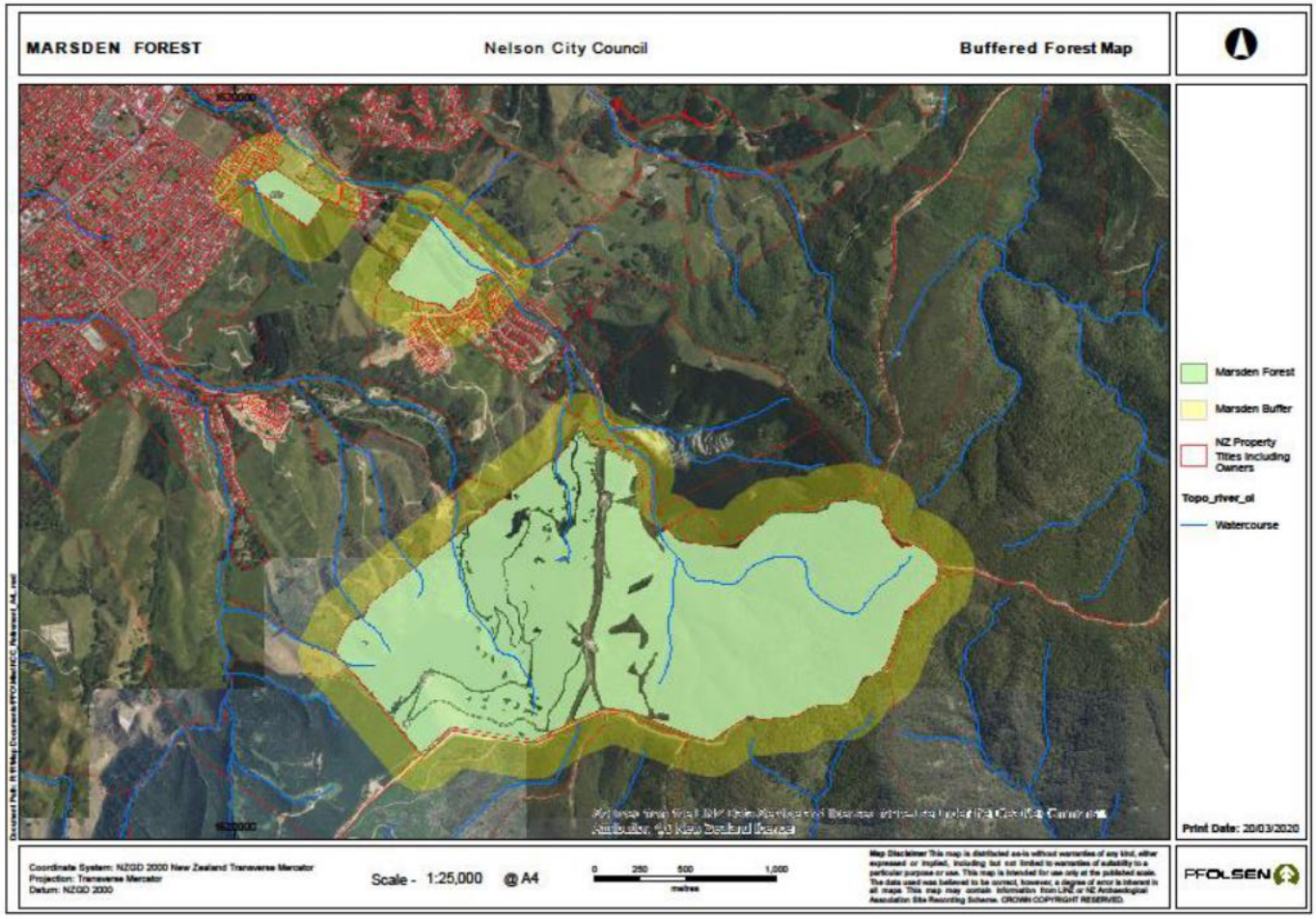
Map 4(a) – Brook Forest Neighbours - within 200m of forest estate.



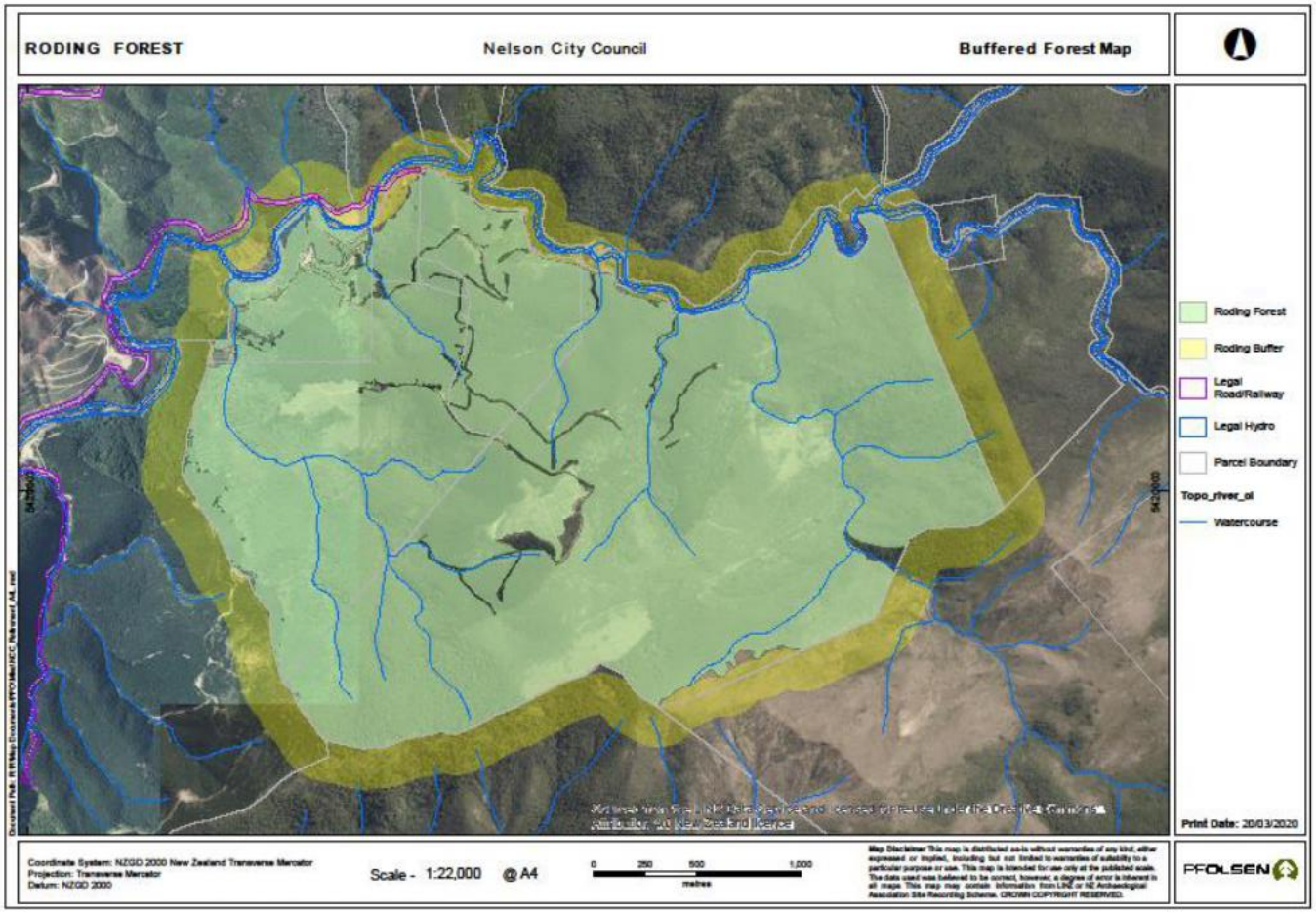
Map 4(b) – Maitai Forest Neighbours - within 200m of forest estate.



Map 4(c) – Marsden Valley Forest Neighbours - within 200m of forest estate.



Map 4(d) – Roding Forest Neighbours - within 200m of forest estate.



Regulatory Environment & Risk Management

5. The Regulatory Environment & Risk

Regulatory considerations

Forestry operations throughout New Zealand are undertaken within the context of a regulatory framework that aims to ensure wider economic, social and environmental goals are achieved for the populace as a whole.

Failure to meet regulatory requirements is a key business risk that must be managed. The following section summarise key regulatory requirements and risk management controls exercised over forestry operations in the forests.

Health and Safety at Work Act 2015

Leadership, a constant focus on health and safety, and the strong message that safety rates as the number one priority ahead of any other business driver are all highly important for PF Olsen management. The company also takes the following steps to ensure worker health and safety:

- Contractor selection process including emphasis on:
  - Safety systems and track record.;
  - Worker skills and training; and
  - Equipment type and standard.
- Work planning.
- Contractor induction.
- Monitoring, including random and reasonable cause drug testing, safe work practices and PPE.
- Incident investigation and reporting, including investing in software, training and processes development to enable good transparency on lag and lead indicators.
- Regular reporting to and interaction with the Client on matters related to safety.
- Regular (annual) review and update of the critical risks as identified in PF Olsen data sets and from Industry indicators. Such a review shall focus on incidents that have caused harm and/or loss, any known cause factors and mitigations and revised controls.

Resource Management Act (RMA) 1991

Within the framework of the RMA, there exist a number of functional instruments that are designed to manage the effects of all undertakings in or on land and water to ensure sustainable outcomes.

Key amongst those instruments are briefly described below:

National Environmental Standard for Plantation Forestry (NES-PF)

Coming into force in 1st May 2018, the NES-PF[9] is a suite of regulations designed specifically to manage most activities related to commercial plantation forestry. The regulations establish a nationally uniform rules hierarchy intended to cover operational phases from afforestation and new planting through to harvesting and road construction. The hierarchy takes a risk-based approach to define situations in which activities may be undertaken as 'permitted activities' and those where "Resource Consents" will be required. The NES gives direction to Councils and forest operators[10] and is intended to encourage a uniform and standardised approach to a series of activities that are conducted in similar fashion throughout the country.

The underpinning the structure of the NES-PF is a rule hierarchy linked to the erosion susceptibility of the lands upon which forestry operations are to be conducted. The stringency of the rules hierarchy, i.e. whether consents are needed and the degree to which Councils can apply discretion to the conditions attached to a consent, is then tied closely to the recognised erosion susceptibility of the lands involved and the risks created by the operations.

In broad terms, harvesting, roading (earthworks) and new afforestation operations will need consents in the red zones (very high) while consents will also be needed for earthworks in orange (high) zones. In the green and yellow zones most operations will be permitted subject to conditions.

In the case of the Brook, Maitai, Roding and Marsden Valley Forests, Table 11 below indicates the proportion of the estate by the respective ESC classes. The coverage of the erosion classes within the estate are illustrated in Maps 5 a - d.

Table 11: Productive Area (ha) within each ESC Classes (Erosion Risk)

Forest	Low	Moderate	High	Very High	Very High (8e)	Total
Brook	3.8	128.5				132.3
Maitai	2.7	177.1	1.0			180.8
Marsden Valley		141.0				141.0
Roding		224.0	4.7			228.7
Total	6.5	670.6	5.7	0.0	0.0	682.8

[9] https://www.mpi.govt.nz/growing-and-harvesting/forestry/national-environmental-standards-for-plantation-forestry/

[10] https://docs.nzfoa.org.nz/forest-practice-guides/amalgamated-guides/

Council RMA Plans

Implicit in the framework of the RMA is the role of Council District and Regional Plans which can over matters of landuse, water management biodiversity and air-quality either as separate planning documents or as integrated plans.

As they relate to forestry, local planning rules must align and or give effect to National Environmental Standards such as the NES-PF. As notified by NCC, the relevant changes to the Resource Management plans have been notified (see below).

Notwithstanding the above, under the NES-PF local Councils are able to exercise greater stringency over the NES-PF through their plans where that stringency is required to give effect to an NPS or in situations related to outstanding natural landscapes and other specific situations. The local planning rules must be followed in these situations.

Currently for Nelson City Council as a unitary authority, the relevant plan governing these matters is listed below.

- Nelson Resource Management Plan
- NRMP – Alignments for NES-PF
- Nelson Air Quality Plan

At the time of writing the NCC is about to make available for public consultation a new integrated plan. The details of this as they may or may not affect forestry activities have not been assessed.

National Policy Statement and NES - freshwater

A National Policy Statement on Freshwater and an associated National Environmental Standard have been issued by the Ministry for the Environment, upgrading an existing NPS. Presently undergoing a period of evaluation in relation to public submissions, it is, at the time of writing, unclear to what extent the final law will impact forestry. As a general tenor, the wider industry submissions on this proposed legislation were that in most cases, provided that the industry codes were adhered to, the standards could be met.

National Policy Statement - Biodiversity

At this time of writing this proposed legislation is about to enter a phase of public consultation. The final form and impact upon forestry operations is unknown.

Heritage New Zealand Pouhere Taonga Act 2014

It is the landowner's responsibility to identify any historic sites on their land prior to undertaking any work which may disturb or destroy such sites.

If a site is found or suspected on any block, the protocols specified in PF Olsen's Environmental Management Processes (EMP), and any others specifically developed in conjunction with Heritage New Zealand (HNZ) and Iwi or other stakeholders, must be observed. Where circumstances require, an 'Authority to Modify or Destroy' will be sought from HNZ with the assistance of an archaeologist. Such Authorities are similar in function to a resource consent and, if granted, come with conditions that must be met. The process to apply for Authorities is documented in PF Olsen's EMPs. If necessary, consents from the local Territorial Authority (NCC) may also be required under the Heritage related rules of the NRMP.

Management responses to the potential presence of archaeological and cultural evidence may include, but are not limited to:

- Map and ground surveys to identify, mark and protect known heritage sites.
- Iwi consultation and surveys for unknown sites.
- Archaeological Authorities to modify sites if required.
- Accidental Discovery Protocols to stop work and engage experts if sites are discovered during operations.

Consents & authorities held

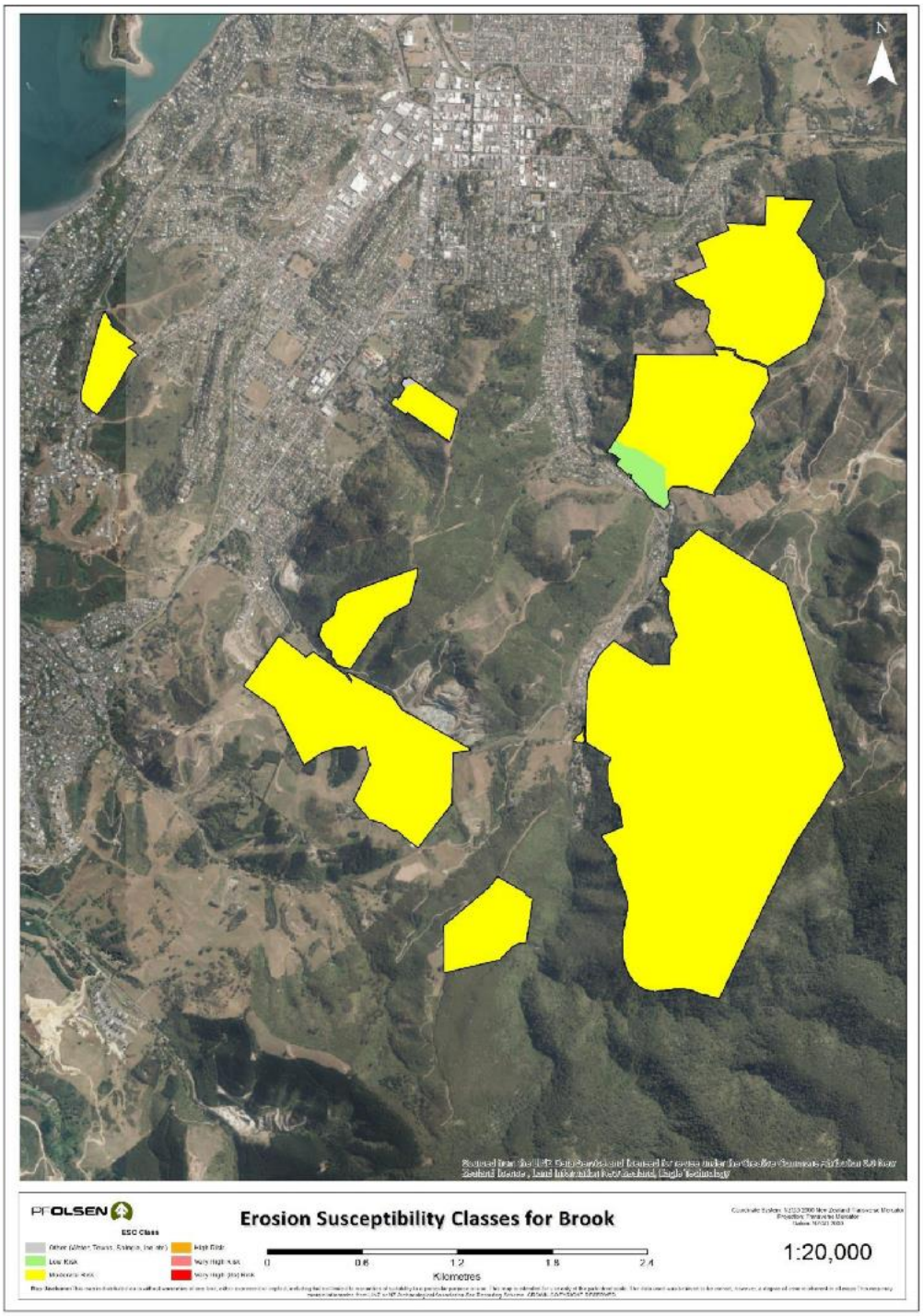
Brook, Maitai and Marsden Valley Forests each hold the resource consents, shown below.

Table 12: Current resource consents applied to Nelson City Council Forests

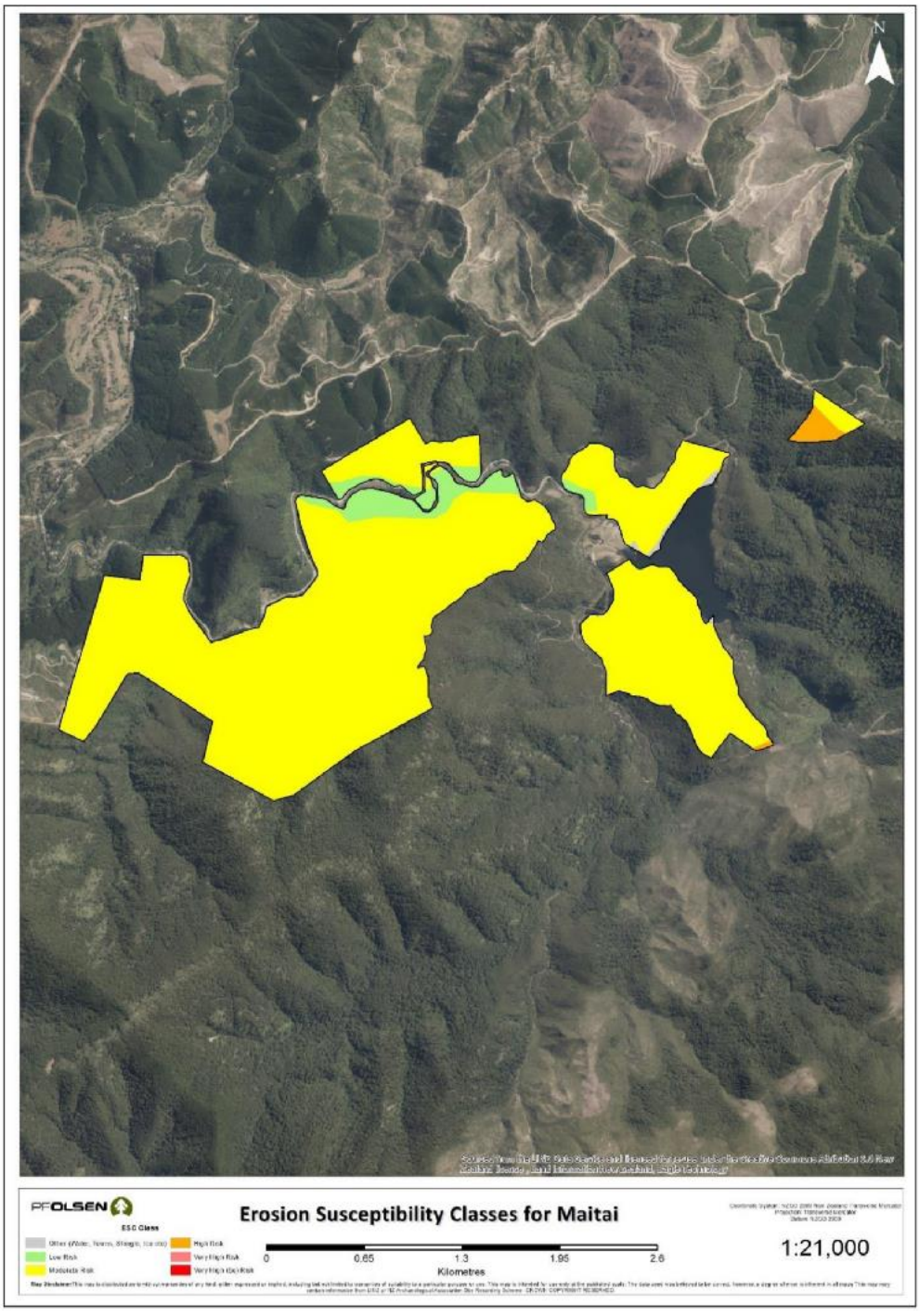
Forest	Resource Consent ID	Expiry
Brook	RM155199	06/07/20
Maitai	RM165434	24/02/22
Marsden Valley	RM145096	25/06/19

There are no Heritage New Zealand archaeological authorities current applying to Brook, Maitai, Roding or Marsden Valley Forests.

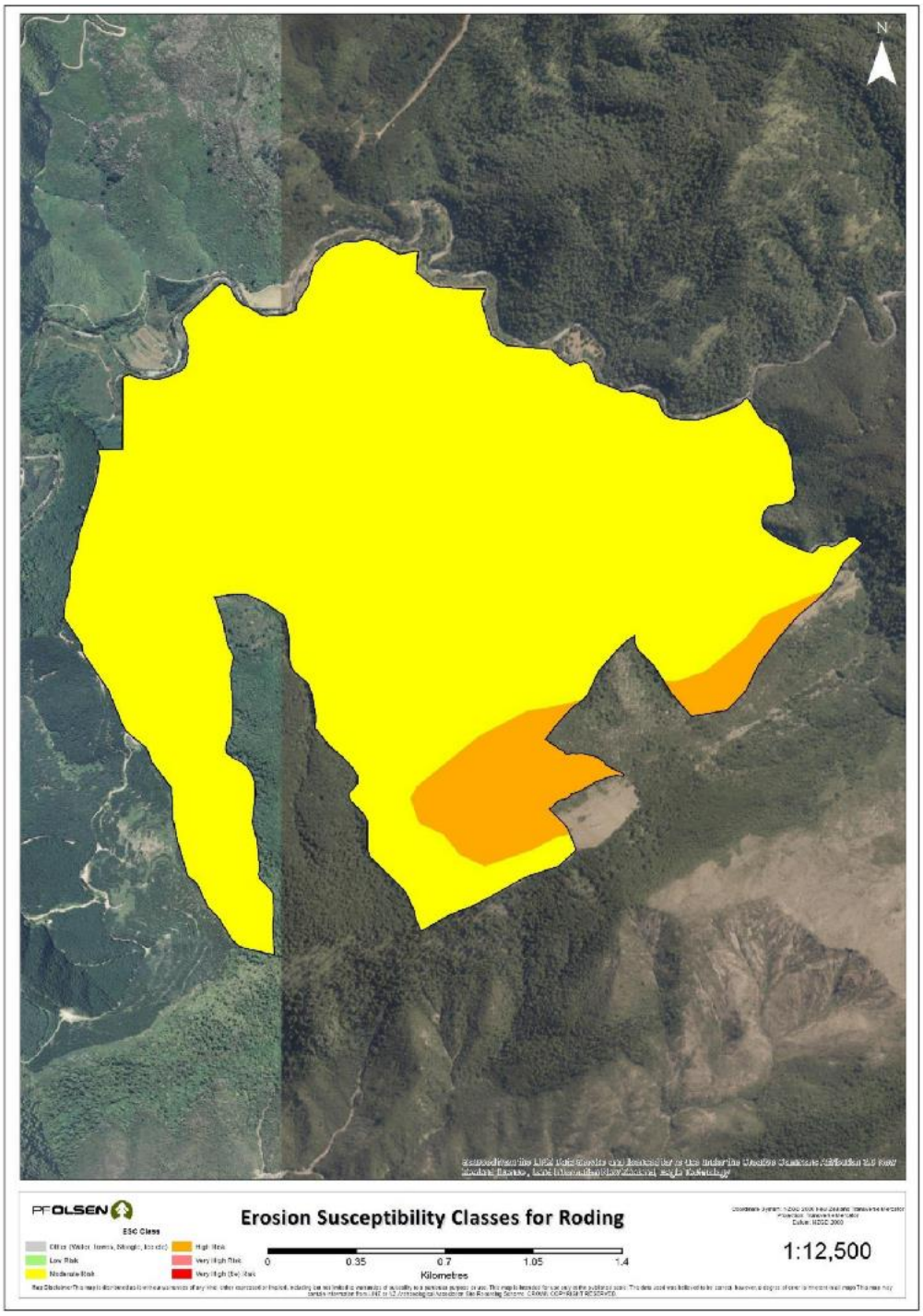
Map 5(a) - National Environmental Standard Erosion Susceptibility Classes in Brook Forest



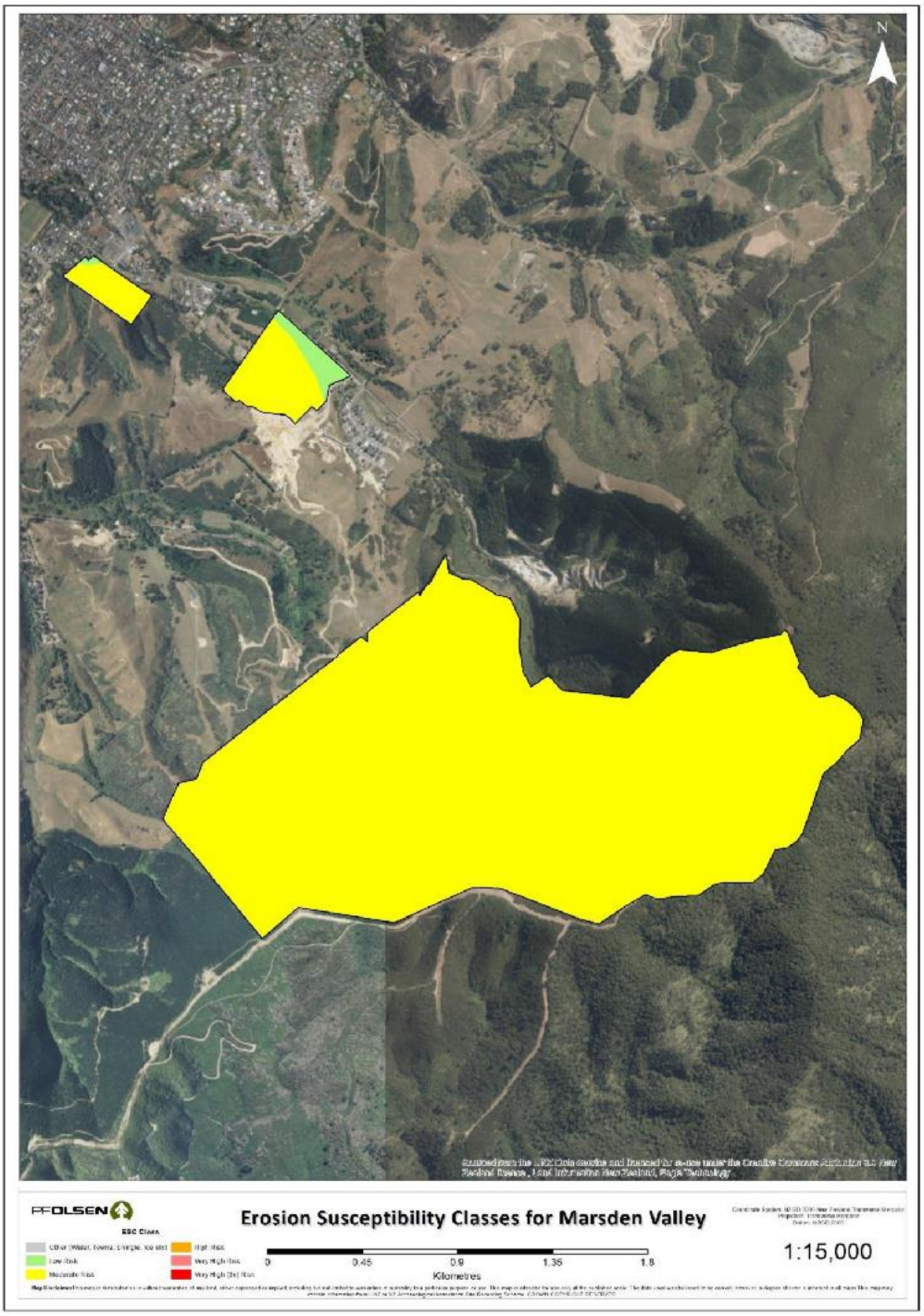
Map 5(b) - National Environmental Standard Erosion Susceptibility Classes in Maitai Forest



Map 5(c) - National Environmental Standard Erosion Susceptibility Classes in Roding Forest



Map 5(d) - National Environmental Standard Erosion Susceptibility Classes in Marsden Valley Forest



Emissions Trading Scheme

Forests in New Zealand are governed by legislation, the Climate Change Response Act 2002 (the Act) and associated Emission Trading Scheme (ETS), which is related to New Zealand's Kyoto commitments to reduce the nation's carbon emissions and contribution to associated climate change.

Most of the NCC estate qualifies as pre-1990 forest land because this land was used for forestry as at 31st December 1989. Deforestation of this pre-1990 forest land would require the owner of this land to surrender carbon credits related to the carbon stocks (tonnes of CO2) at the time of the clearing. Deforestation is deemed to have occurred if the forest is not replanted or, if left to regenerate naturally, does not achieve the regulated heights and stocking densities.

Within the Council estate there were 123ha of land that was eligible as post-1989 forest land, land that was used for farming as at 31 December 1989.

Because of the age-class profiles of the areas meaning full carbon liabilities at harvest, and uncertainties over the market predictability for Carbon prices these areas were deregistered from the emissions trading scheme and the carbon units handed back so there are no residual potential long-term liabilities.

Other relevant legislation

There are numerous other statutes and regulations that impact on forest operations. Forest owners can be held liable for breaches of these Acts and may be held responsible for damage to third party property. Management processes seek to manage and minimise these risks.

Other relevant legislation is listed in Appendix 2.

6. Commercial Risk Management

Market access retention

It is a major focus of the Property Manager to ensure contracted products are delivered on time and in specification to ensure Nelson City Council retains credible access to its markets.

Nelson City Council is seeking to maintain independent third party environmental certification for its estate under Forest Stewardship Council certification (FSC) to assist in this process. PF Olsen Ltd acting under the instruction of its client will be responsible for the excecution and maintenance of the required FSC certification elements of which this management plan forms an important component.

Log customer credit risk

There have been a number of NEW ZEALAND sawmills fail in recent years leaving log customers unpaid for the last month's deliveries. The PF Olsen Investment Manager manages customer credit risk exposure and mitigation measures for export markets while PF Olsen manages these risks for domestic log customers. PF Olsen also provides NCC with a payment protection insurance against log buyers who foreclose on payments.

Infrastructure damage or service disruption

Brook, Maitai, Roding and Marsden Valley Forests all have multiple over-ground electricity lines that either run directly through or along the boundaries of the forests. There are also a series of underground main water pipelines that run along or through boundaries. Risks around these are managed by:

- Identification on maps and on the ground any utilities at planning stage.
- Early engagement with utility owner to plan operations to minimise risks.
- Operational execution of agreed plans with parties specifically qualified for the tasks involved when working close to utilities.

Pests and diseases

Pests and diseases are managed according to any statutory obligations and best practices as identified by scientific research and past experience, with the type and intensity of treatment (if any) subject to what is at risk and the age of trees (see Section 13).

Fire

Fire is always a risk to forests. The, Brook, Maitai, Roding and Marsden Valley Forests have, through a matrix assessment, been assessed as having a high fire risk (see Property Management & Protection) although the components that lead to that assessment vary slightly between the forests. As this region of the South Island can be prone to drought periods over the summer the risk can become elevated and an increased frequency of these events is a possibility under climate change scenarios.

Fire risk is managed through:

- Protocols to restrict work hours or to stop work in periods of extreme fire risk.
- Annual auditing and regular monitoring of contractors' fire prevention and first response equipment prior to fire season each year.
- Maintenance of trained personnel and fire suppression equipment.
- Protocols for pooling of resources as a first response to fires under the leadership of the relevant Fire and Emergency NEW ZEALAND organisation.
- Management of public and recreational use when risks become high.

7. Environmental Risk Management

Environmental risk

Environmental risk is managed by PF Olsen as appointed property manager, through a cascade framework from high level 'intent' determined by the Forestry Rights owner, through PF Olsen's own environmental policies, thence through defined and documented processes constituting an Environmental Management Process (EMP's), supported by monitoring and reporting. PF Olsen's policies and Nelson City Council business objectives are considered to be well in alignment.

Environmental policy

PF Olsen Limited is committed to:

- ***Sustainable forest and land management;***
- ***Promoting high environmental performance standards that recognise the input of the community in which we operate;***
- ***Supporting an environment of continuous improvement in environmental performance;***
- ***Obtaining and retaining independent 3rd party forest certification in conformance with the Principles and Criteria of the Forest Stewardship Council and / or the Programme for Endorsement of Forest Certification as specified by forest owning clients, or in any case ISO:14001 Environmental Management Systems.***

In order to achieve these commitments **PF Olsen** (and PF Olsen Certification Scheme Members) will undertake the following:

- Where applicable to a particular forest, comply with the presiding **Certification Standards** as set out in any agreements between the forest owners and PF Olsen.
- **Planning** of operations to avoid, mitigate or remedy degradation of **ecological, heritage** and **amenity** values;
- Compliance with all relevant **legislation** and where appropriate exceed environmental statutory requirements;
- **Training** for all employees and contractors to ensure an understanding of certification member's commitments to high standards of environmental performance, their responsibilities under the environmental legislation and to assist the implementation of sound environmental practices;
- **Monitoring** environmental and socio-economic research and international agreements that may improve environmental and certification performance;
- Regular environmental performance **audits** of operations;
- Support for environmental **research**;
- Undertake forest management in accordance with the principles and ethics of the **NEW ZEALAND Forest Accord** the **Principles for Commercial Plantation Forest Management in NEW ZEALAND**, and other relevant agreements, conventions and accords.
- Promotion of the prevention of **waste** and **pollution** / efficient use of **energy**;
- Due regard for the well-being of the **community.**

Objectives, targets and monitoring

PF Olsen's objectives, targets and monitoring categorised across five key aspects of the business:

1. Economic;
2. Legal;
3. Social;
4. Health & Safety; and
5. Environment

A systematic management approach ensures these objectives and targets remain the cornerstone of PF Olsen's business, backstopped by monitoring processes that form a regular review of practices. These are summarised in Appendix 9.

EMP framework

The Environmental Management Process (EMP) is an integrated set of cloud based, defined and documented policies, processes and activities that govern the physical implementation of forest management activities. The EMP's apply a systematic approach certified to ISO:14001 standards to ensure effective mechanisms to manage potential adverse or harmful impacts from operations.

The framework is reviewed annually with the input of an Environmental Management Group (EMG).

Environmental Code of Practice

As a member of the New Zealand Forest Owners Association, all operations carried out on the property should be undertaken in conformance to the NEW ZEALAND Forest Owners Association 'New Zealand Environmental Code of Practice for Plantation Forestry'[11]. This publicly available document sets out guidelines that underpin the requirements for sound and practical environmental management.

Operations will also be following the Forest Practice Guides[12] published in support of the National Environmental Standard.

Forest Road Engineering Manual

As a member of the New Zealand Forest Owners Association, roading and engineering techniques employed within the forest should conform to the industry best practice as outlined in the New Zealand Forest Owners Association publication, 'New Zealand Forest Road Engineering Manual', published 2020[13].

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[11] https://www.nzfoa.org.nz/resources/file-libraries-resources/codes-of-practice/44-environmental-code-of-practice/file
[12] https://docs.nzfoa.org.nz/forest-practice-guides/
[13] https://www.nzfoa.org.nz/images/NZ_Road_Engineering_Manual_Web_Feb_2020_compressed.pdf

Assessment of environmental risks

Environmental risks arising from forest operations are assessed and managed on a site-by-site basis prior to execution. The relative probability and magnitude of adverse effect attributable to any particular operation on any particular site is highly variable.

At a high level, 'risks' are presented as consuming services summarised for a typical plantation life cycle in Appendix 10. As a broad assessment over all Brook, Maitai, Roding and Marsden Valley Forests, the **potential** for adverse impacts across the range of operations and forest sites is indicated in the Environmental Assessment matrix below (Table 13), which summarises the identified risks across 'key management aspects'. The level of potential risk has been evaluated in the matrix as high 'H', medium 'M' or low 'L', or not applicable 'NA' and is thus indicative of the level of care that might need to be applied to ensure the potential for adverse effects is minimised.

Table 13: Risk assessment for key aspects involved in forest management activities

Forestry Operational Activities	ENVIRONMENTAL VALUES/ISSUES MATRIX												
	Erosion& Sediment Control	Water Quality	Soil Conservation & Quality	Air Quality	Aquatic Life	Native Wildlife	Native Vegetation	Historical &Cultural Values	Landscape &Visual Values	Neighbours	Public Utilities	Recreation Values	Threatened Species
Harvesting	H	M	H		M	H	L	M	M	M	M	M	M
Earthworks	H	H	H		M	M	L	H	L	L	L	L	L-M
Slash Management	H*	H*	H		H	L	L		L	L	H	L	L
Stream Crossings	M	M	M										M
Mechanical Land Preparation	NA	NA	NA	NA	NA	H	NA	NA	NA	NA	NA	NA	M
Burning	L	L	L	H	L	H	L		H	H	L	H	L-M
Planting							L	L	L	L	L		L
Tending										L	L		L
Fertiliser Application		H		L	H					L	L	L	L
Agrichemical Use		H	L	L	H	M	M		L	H	H	H	L-H
Oil & Fuel Management		H	L		H		L			H	L		L
Waste Management		L			L				L	L			L
Forest Protection		L			L	L	L			L		L	L

Hazardous substances management

Hazardous substances are any substances, which may cause adverse environmental impacts and/or injury or health problems if incorrectly handled or used. The permitted hazardous materials are:

- Pesticides
  - Herbicides : for commercial and ecological weeds;
  - Fungicides : for forest fungal disease control; and
  - Vertebrate or invertebrate toxins: used for control of pest mammals e.g hares and possum or wasps.
- Fuels and oils.
- Fire retardants – only ever used if there is a fire.
- Surfactants – to increase herbicide efficacy.

Transportation, storage and labelling of these hazardous materials must all comply with the provisions of legislative controls under the Environmental Protection Agency (EPA) and the NZS 8409:2004 Management of Agrichemicals code of practice.

During actual usage, the highest risks are associated with chemical trespass or bulk fuel spillages. These risks are managed by:

- Neighbour consultation over planned spray operations.
- Careful planning and timing of any aerial operations having regard to wind and spray drift.
- Unsprayed buffer strips on neighbour boundaries and riparian or other protected reserves.
- GPS flight path control and records.
- Monitoring and recording of weather conditions during the operation, including using smoke bombs and photos/video.
- Moving contractors into the use of double skinned bulk fuel storage tanks as the preferred method of containment for all larger capacity tanks.
- Tracking of all active ingredient usage within the estate.

Risk management includes active involvement in and review of technologies and research into alternative methods for the control of weeds, pests and diseases where these are effective and efficient.

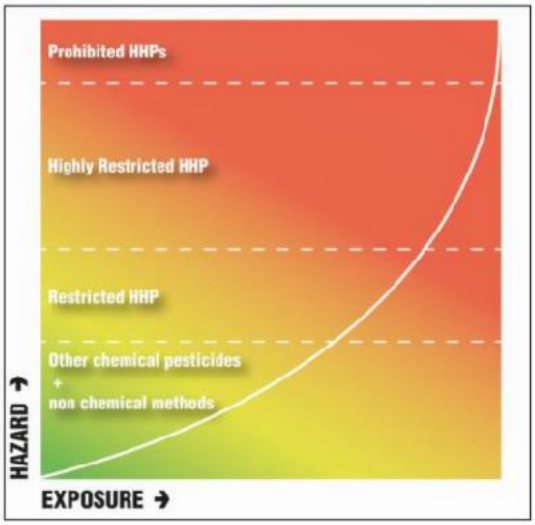
Fuel use is directly related to the machinery used in forestry operations and the market locations. Using modern efficient machine technology is still the primary area where efficiency gains can be made. There is a steady programme to transfer chain bar oils to vegetable based low toxicity oils.

Hazardous Chemicals

FSC applies a risk-based approach to rules around the use of Chemical pesticides. The framework defining this approach is documented in new policies released by FSC in 2019[14]. Chemicals are classified according to an FSC Hazard rating. The rating then requires differing levels of actions by managers to enable their use under regionally prescribed situations.

The hazardous rankings run from 'Prohibited', to 'Highly Restricted' to 'Restricted' and finally those with no particular FSC obligations.

Figure 2 FSC Hazardous Risk Management approach



Of the chemical pesticides used or potentially used in the NCC forest estate, none fall into the Prohibited or Highly restricted categories. Those that fall into the Restricted category are listed in Table 14 below.

Most of the Restricted pesticides are vertebrate poisons and insecticides that if used, would be targeted at specific pest problems, such as wasps or high possum or pest predator numbers. In the latter case such use is only likely in conjunction with a wider coordinated application aimed at achieving positive biodiversity outcomes.

Within the herbicides and fungicides, usage is expected at between 1-2 and 2-4 times per radiata rotation respectively.

All the classes of formulations used are registered and legally approved for in use New Zealand by the NEW ZEALAND Environmental Protection Agency, subject to various controls, and for the purposes to which they are applied as listed below.

Continued on next page...

[14] FSC Pesticides Policy FSC-POL-30-001 V3-0 https://www.fsc.org/en/document-centre/documents/resource/208

...continued

Table 14: FSC Highly hazardous chemicals used or potentially used within Brook, Maitai, Roding and Marsden Valley Forests

Active ingredient	Purpose	FSC Hazard	Common usage
Boric Acid	Fertilizer	Restricted	Component of micro-nutrient fertilization
Copper based products	Fungicide	Restricted	Needle cast control
Glyphosate	Herbicide	Restricted	Establishment weed control/pest weed control
Haloxyfop-methyl	Herbicide	Restricted	Establishment weed control/pest weed control
Picloram	Herbicide	Restricted	Establishment weed control/pest weed control
Animal and insect pest control			
Brodifacoum	Vertebrate pesticide	Restricted	Ground-based Vertebrate pest control
Carbaryl	Insecticide (wasps)	Restricted	Localised wasp control
Cholecalciferol	Vertebrate pesticide	Restricted	Ground-based / Vertebrate pest control
Fipronil	Insecticide (wasps)	Restricted	Localised wasp control
Pindone	Vertebrate pesticide	Restricted	Rabbit and hare control
Sodium Monofluoroacetate (1080)	Vertebrate pesticide	Restricted	Vertebrate pest control / extensive aerial possum control
Sodium cyanide	Vertebrate pesticide	Restricted	Vertebrate pest control, ground-based possum control

The Managed Plantation Estate

8. Commercial Plantation Estate

Productive capacity strategy

Forest management is carried out to ensure the productive capacity of Brook, Maitai, Roding and Marsden Valley Forests is not compromised. This encompasses multiple aspects that include:

- Pests and weeds and forest health - can reduce productivity,
- Inventory - to feed into growth estimation, a core step in timing silviculture and formulating the cutting strategy,
- Silviculture - to enhance the value of the resource,
- Harvesting - achieving a successful harvest in terms of the forest owner's health and safety, environmental and commercial objectives.

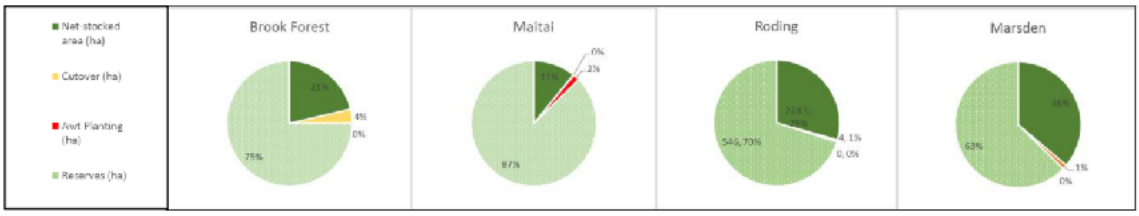
Forest area

The net stocked areas have been measured from a map produced by PF Olsen. The estimated net stocked areas of each stand are set out in the Table 15.

Table 15: Brook, Maitai, Roding and Marsden Valley Forest area (ha)

Forest	Gross Forest Area (ha)	Net-stocked area (ha)	Cutover (ha)	Awt Planting (ha)	Reserves (ha)
Brook	**529.4**	113.0	19.4	0.0	397.0
Maitai	**1,475.8**	160.0	2.8	24.0	1,289.0
Roding	**778.5**	228.5	4.0	0.0	546.0
Marsden Valley	**381.5**	138.0	4.4	0.0	239.1

Figure 3. Brook, Maitai, Roding and Marsden Valley Forest area proportions



Current species

The predominant species planted at Brook, Maitai, Roding and Marsden Valley Forests is radiata pine. Brook Forest contains a range of different species, although in small numbers. The three other forests contain at least one to four other species in small numbers.

Radiata pine has been selected as it is the most commercially viable species. However, the small areas that have been planted in a range of species are for the purpose of primary functions such as shelter or riparian protection.

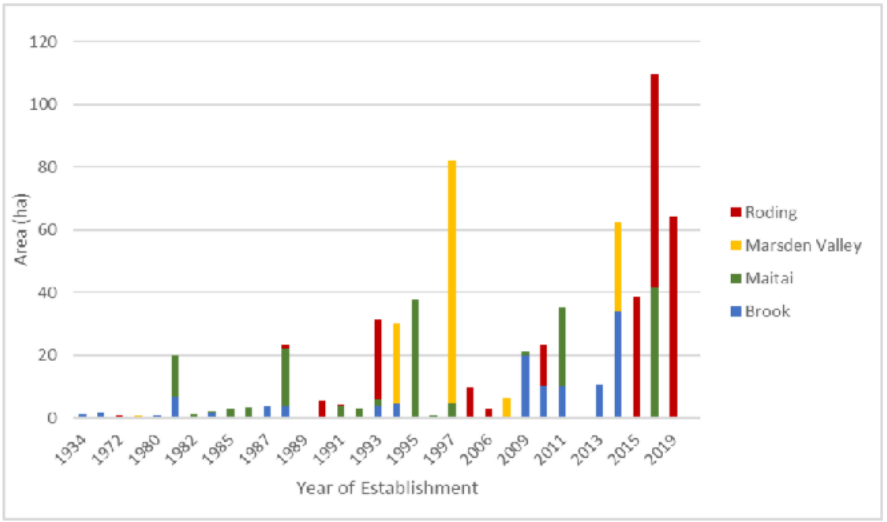
Forests with mixed species help reduce risk, acting as a buffer for market changes and pest and disease threats. Downturn in the markets for radiata pine may be offset somewhat by access to minor species timber resources. The same offsetting in risk could apply if a pest or disease was introduced that caused damage or mortality to radiata pine.

For establishment that has occurred since PF Olsen commenced management of these forests, the radiata pine treestocks planted by year and stand are contained within FIPS.

Age class distribution

The combined age class distribution of Brook, Maitai, Roding and Marsden Valley Forests is illustrated in the figure below. There are a number of small older stands that have not been harvested, mostly due to access and poorer quality of these stands. The age class distribution is irregular for each forest, with two distinct age class groupings – those established between 1993 and 1997 and 2014 onwards.

Figure 4. Area/Age class distribution in Brook, Maitai, Roding and Marsden Valley Forests



Species Mix

Table 16 below shows the combined species distribution for each Nelson City Council forest.

Table 16: Species distribution within Brook, Maitai, Roding and Marsden Valley Forests

Species	Brook Forest (ha)	Maitai Forest (ha)	Roding Forest (ha)	Marsden Valley Forest (ha)
P.rad	101.5	152.9	224.1	111.3
C.mac	4.6	0.1	0	6.3
Ps.menz	3.6	5.7	0	20.6
E.fas	0.2	0	0	0
Mix.exo	1.9	0	0	0
Sq.sem	1.2	0	0	0
Ac.mel	0	1.0	4.4	0
Euc.spp	0	0.3	0	0
Forest Totals	113.0	160.0	228.5	138.2

Productivity indices

The two most common estimators of the productivity of a site are the Site index and 300 index.

Site index is a measure of productivity of a site in terms of height growth of radiata pine. The parameter used is the mean height in metres of the largest 100 trees per hectare at age 20 years. Equations exist to predict this height given a measured height at any age.

The 300 index is a measure of productivity of a site based on stem volume growth (mean annual increment) of 300 stems per hectare.

Based on the productivity surfaces produced by Future Forests Research the estimated productivity indices for each forest are illustrated in Table 17 below.

Table 17: Productivity indices for Brook, Maitai, Roading and Marsden Valley Forests

Forest	Site Index (m)	300 Index (m^3)
Brook	22.5 – 37.5	25 – 35
Maitai	22.5 – 32.5	22.5 – 32.5
Roding	20 – 35	22.5 – 30
Marsden Valley	20 – 37.5	25 – 35

The site productivity for each forest varies quite a lot between the different blocks and in the region as a whole is quite irregular.

Current crop status

Measurement data from the most recent inventory is stored in PF Olsen databases and summarised in reports to provide the current status of the stands. Due to the number of stands, data for these forests is not presented in detail. Currently just over 50% of stands are currently pruned with the balance unpruned and no further pruning planned. Due to the largely steep topographies of the forests no production thinning is planned.

Table 18 below illustrates the area by forest in each National Exotic Forest Description (NEFD) tending regime.

Table 18: NEFD crop type for Brook, Maitai, Roding and Marsden Valley Forests

Forest	Species	Hardwoo	Other cypress, softwoods, eucalypts & hardwoods	Radiata-Pruned without production thinning	Softwood	Radiata - Unpruned without production thinning	Douglas fir - without production thinning	Grand Total
	C.mac				4.6			4.6
	E.fas	0.2						0.2
	Mix.exo		1.9					1.9
	P.rad			54.9		46.6		101.5
	Ps.menz						3.6	3.6
	Sq.sem		1.2					1.2
Brook		**0.2**	**3.1**	**54.9**	**4.6**	**46.6**	**3.6**	**113**
	Ac.mel		1					1
	C.mac				0.1			0.1
	Euc.spp	0.3						0.3
	P.rad			82.8		70.1		152.9
	Ps.menz						5.7	5.7
Maitai		**0.3**	**1**	**82.8**	**0.1**	**70.1**	**5.7**	**160**
	C.mac				6.3			6.3
	P.rad			111.3				111.3
	Ps.menz						20.6	20.6
Marsden Valley				**111.3**	**6.3**		**20.6**	**138.2**
	Ac.mel		4.4					4.4
	P.rad			91.9		132.2		224.1
Roding			**4.4**	**91.9**		**132.2**		**228.5**
	Grand Total	**0.5**	**8.5**	**340.9**	**11**	**248.9**	**29.9**	**639.7**

9. Commercial Crop Establishment and Silviculture

Introduction

Forest operations are implemented to ensure a good quality crop and maximum growth. These operations include land preparation, establishment, weed control, pest and disease control, fire protection, pruning and thinning, and general property asset maintenance.

The choice of species is the most important issue in plantation forestry. The species has to be suitable for the site and meet the objectives of Nelson City Council. Also important is to ensure that the planting material is of good quality.

Forest management goals

The Nelson City Council forest owners are committed to ensure that Brook, Maitai, Roding and Marsden Valley Forests will be managed to:

- Grow trees and produce logs for the manufacturing of different wood products in New Zealand and overseas with a focus on 'fit for purpose' log production;
- Ensure that the productivity of the land does not decline;
- Ensure that environmental values are identified and maintained;
- Ensure that historic sites are identified and protected;
- Ensure that other forest values and products are identified, protected and where possible enhanced;
- Ensure that the forest estate's contribution to carbon cycles is maintained or enhanced;
- Harvest the trees as close as possible to their economic optimum age and achieve the best possible financial returns to the owners;
- Replant following harvesting where agreements require;
- Meet all statutory requirements and comply with forest industry best practice;
- Provide recreational opportunities where practical;
- Act as a good corporate citizen and neighbour; and
- Ensure all forest management practices are consistent with the principles of the Forest Stewardship Council and NZS AS:4708:2014

These goals are further detailed in 'PF Olsen Key Aspects - Objectives, Targets and Monitoring' in Appendix 9.

Crop species

Radiata pine, when intensively managed, will produce a range of different log types suitable for various processing options. The pruned butt log can be used to make knot-free veneer or decorative timber. The unpruned logs can be used for structural timber, for veneer or for feedstock for finger jointing. Small logs and those with defects and excessive knots can be used for pulp and paper, MDF and other reconstituted wood products such as tri-board and particle board.

Radiata pine is the most common species processed in New Zealand and export markets are well developed for both finished products and logs.

In New Zealand radiata pine is also the main focus in terms of research and development. Past research and development has resulted in improvements in growth, form and wood characteristics as well as development of a range of finished products, building codes and timber standards.

Other species

There are a number of small areas planted in alternative species at Brook, Maitai, Roding and Marsden Valley Forests. Recent plantings have been predominantly radiata pine. Alternative non spreading species may continue to be considered for future establishment for small areas where other management objectives predominate.

Wilding spread avoidance.

Two management strategies are employed.

1. Avoidance of planting any forests in wilding prone species such as Douglas fir. This also includes as part of the requirement of the NES-PF that any change in species must be evaluated on the basis of the "wilding Spread calculator"[15] to ensure that the threshold for spread will not be exceeded.
2. Execution of an policy decision to remove and convert areas currently planted in Douglas fir, and replant in the lower spread risk radiata pine or native species dependent upon locational factors. (See also "Retirement Programme").

[15] https://www.mpi.govt.nz/growing-and-harvesting/forestry/national-environmental-standards-for-plantation-forestry/wilding-tree-risk-calculator/

Retirement programme

As in many areas of New Zealand, parts of the NCC estate were planted in locations with little consideration for the practicalities of access and harvesting, the environmental risks associated with the location or in some cases the needs of society e.g. aesthetics, have simply resulted in altered priorities.

To this end Council commissioned a study[16] to look at the whole plantation estate and come up with recommendations in relation to the future of parts of the estate. In the lead-up to the final recommendations a range of parties relevant to the particular areas were consulted including the 'Biodiversity Forum' and Recreational interests, neighbours etc.

The recommendations include a variety of actions for implementation depending on the specifics of the sites. These range from natural reversion, or active native planting to conversion to non-spreading commercial species after harvest, stand poisoning to retention of existing stands but with no harvest.

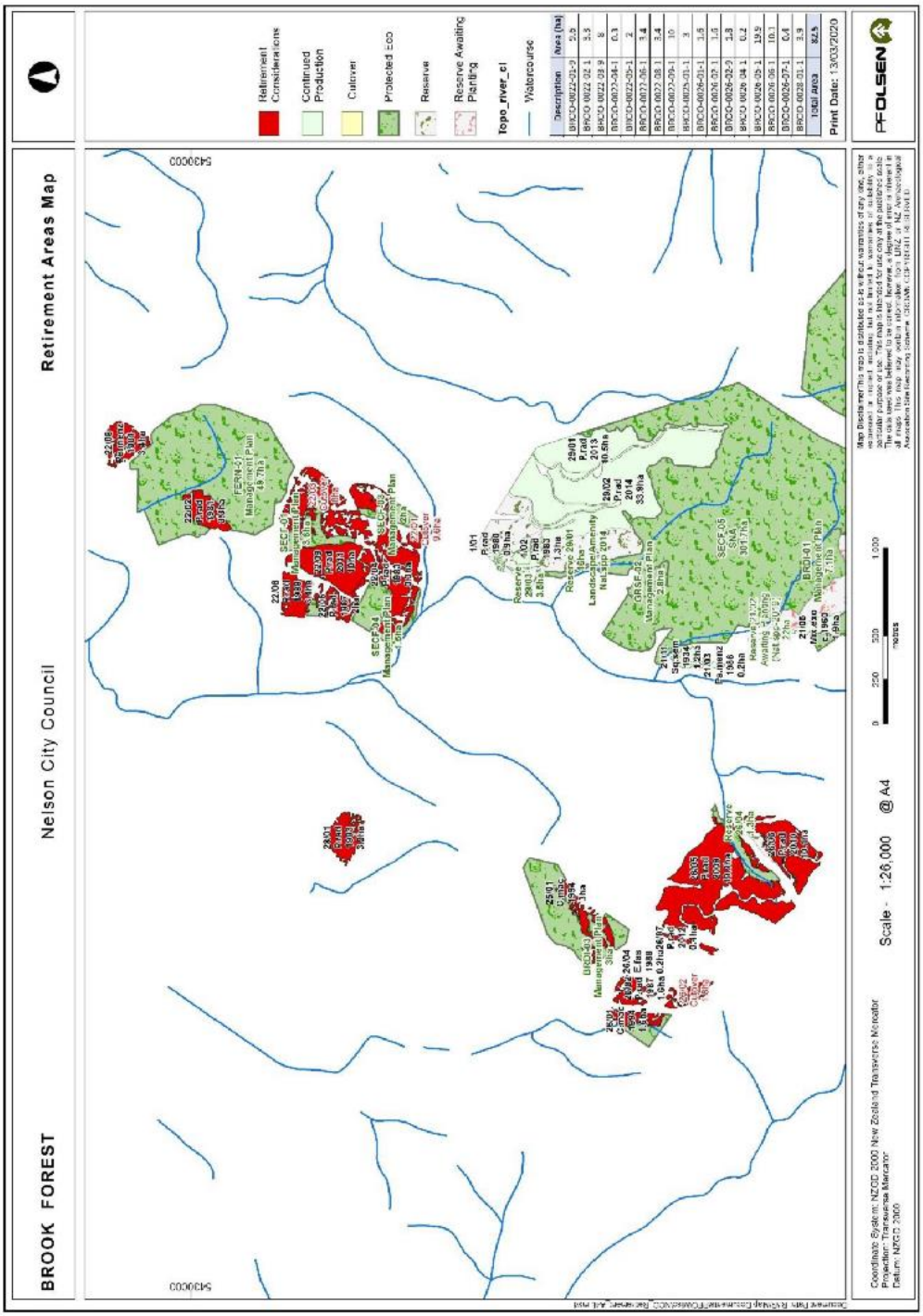
The areas subject to this assessment are summarised below and mapped in the following maps. Details are contained in the referenced report and the list of stands tabulated in Appendix 3

Table 19: Commercial crop retirement recommendations

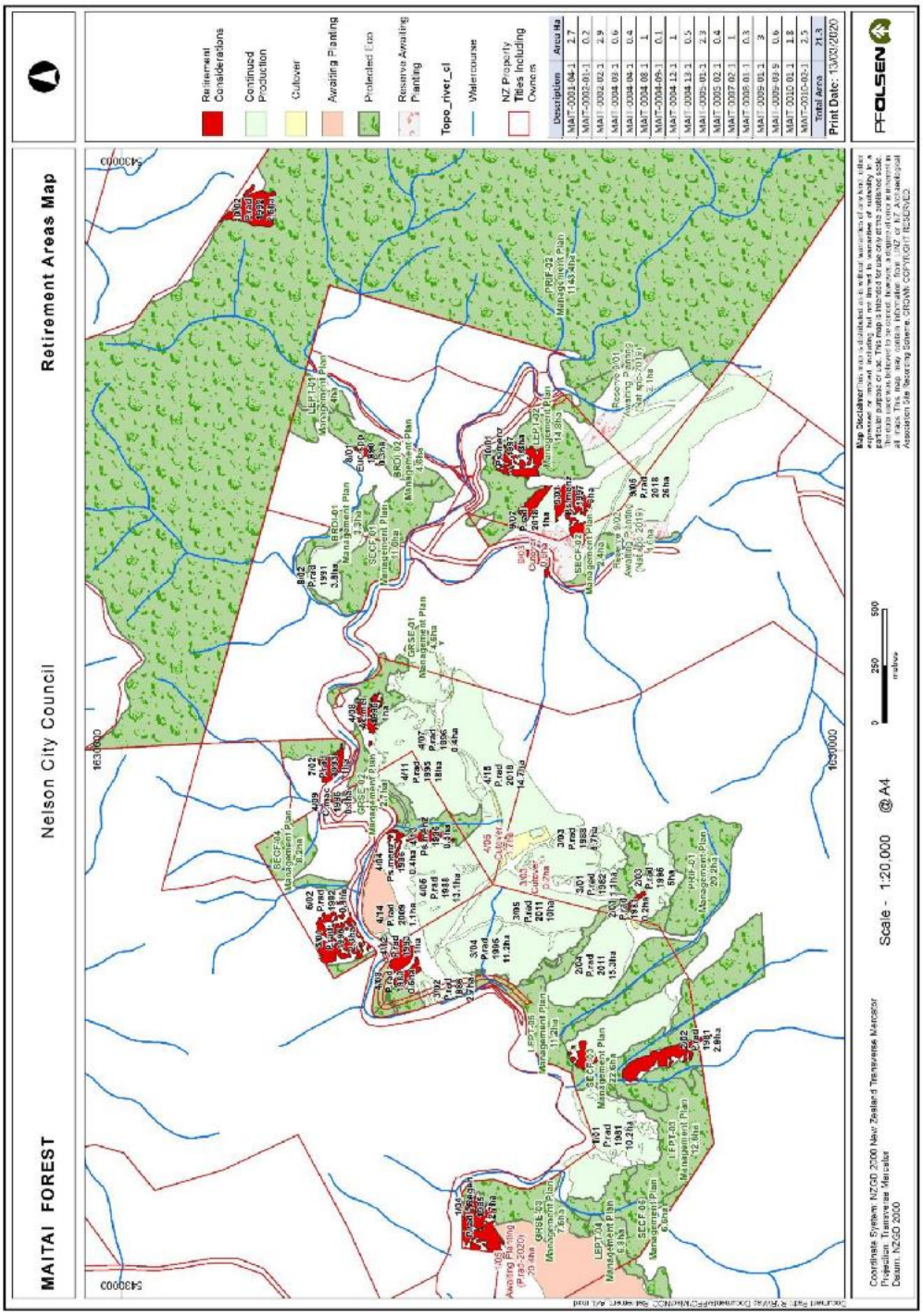
Forest	Number of Stands	Area subject to recommendations
Brook	18	94.4 ha
Maitai	19	21.6 ha
Marsden	3	21.7 ha
Roding	8	66.3 ha

[16] Nelson City Council Forestry Alternative Management 2018 – LandVision Ltd

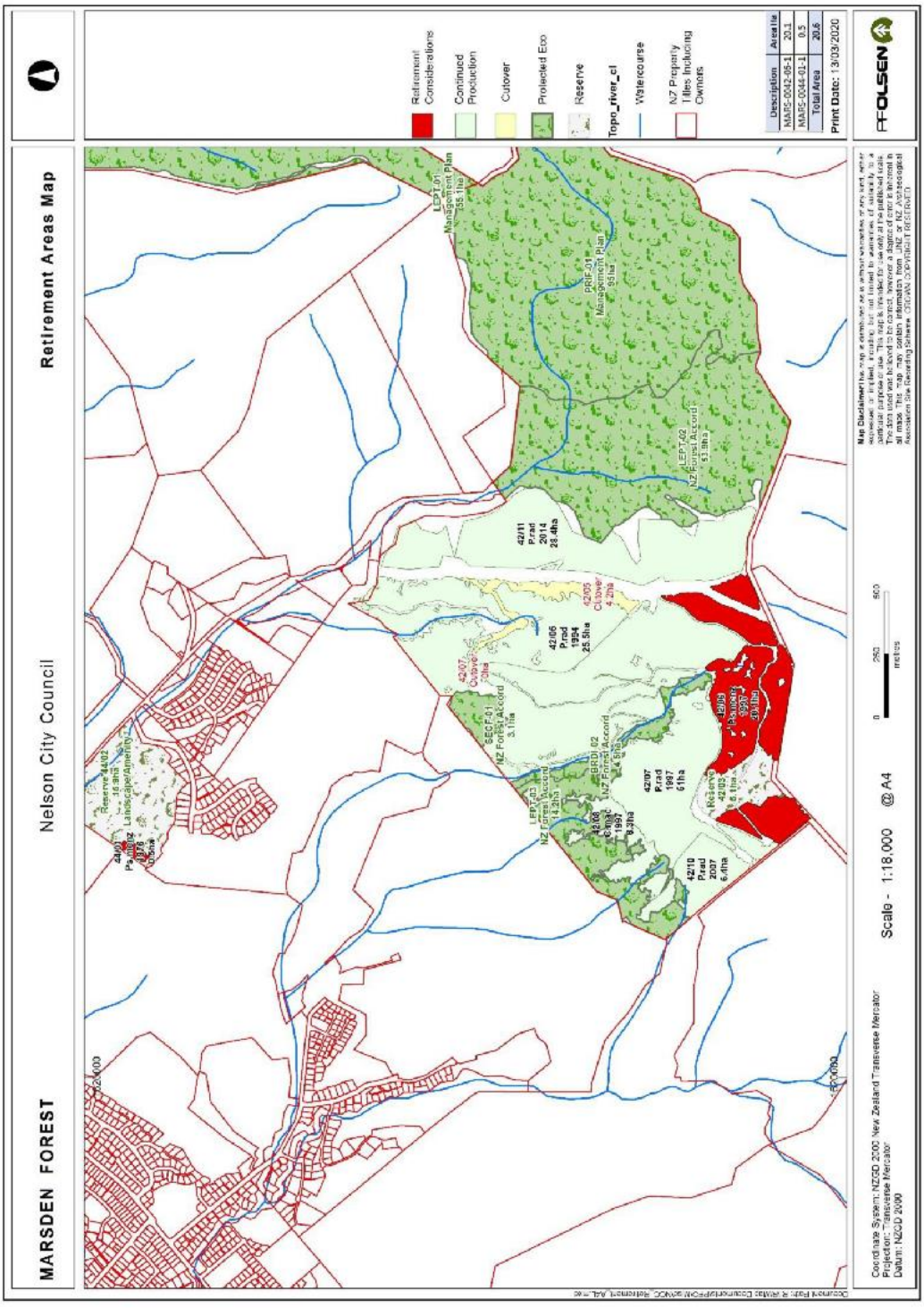
Map 6(a) – Areas for retirement from commercial forestry-Brook



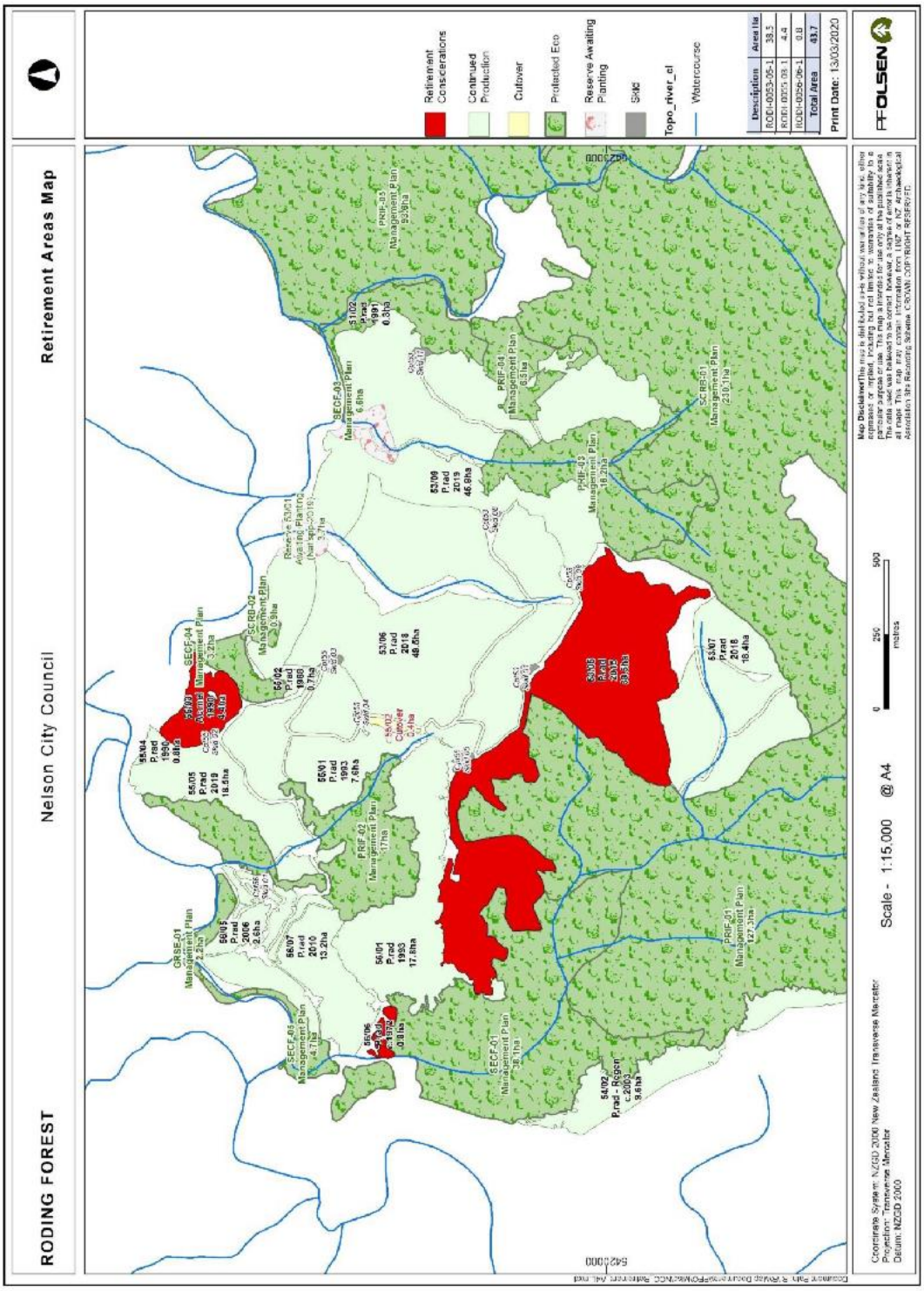
Map 6(b) – Areas for retirement from commercial forestry - Maitai



Map 6(c) – Areas for retirement from commercial forestry- Marsden



Map 6(d) – Areas for retirement from commercial forestry-Roding



Establishment methods

Re-establishment where provided under the terms and conditions of the various agreements will aim to use high quality tree stocks suitable for the site and market. These will be investigated at the time of establishment.

Under the respective agreements that make up Brook, Maitai, Roding and Marsden Valley Forests, the current re-establishment regime will take place after harvest and involves a combination of:

- Crushing or line raking felling debris/waste (where necessary) to enable planting access;
- Spot mounding in frost prone sites;
- Line ripping of compacted skid sites;
- Aerial desiccation spraying of weeds (including naturally regenerated pines);
- Oversowing with various species of legumes to facilitate nitrogen fixing, and temporary soil stability;
- 'Planting with genetically improved radiata seedlings at 800-1000 stems per hectare;
- Fertilising those sites where required at planting; and
- Spot releasing or aerial releasing where necessary to eliminate competition from weeds.
- Replanting, which is important for maintaining soil stabilisation functions of the forests, will follow harvesting as it occurs with only minor deviation for seasonal or operational logistics reasons and boundary rationalisation.

Pre-establishment considerations

In addition to any actions predicated from the Alternative Management Review (see 'Retirement Programme'), prior to re-establishment of the tree crop, a review will be conducted to identify and incorporate any boundary changes or other considerations in relation to riparian or reserve protection what would assist better outcomes for both the commercial management of the crop and or the environmental outcomes within the forest as a whole.

Tending

The tending regime executed to date in NCC Forests for radiata pine stands up until ~2010 had been a clearwood regime consisting of two pruning lifts and one thinning to waste operation.

The intention for all future silvicultural treatment is that the forests will be managed for a 'structural or framing' regime involving a single thinning to waste at age eight.

Tree nutrition

The soils in the specific locations of the Brook, Maitai, Roding and Marsden Valley forest plantations are not generally seen to be deficient in nutrients for healthy tree growth. However, there are soils within New Zealand and locations close by in the Nelson 'mineral belt' that are deficient in one or more nutrients. I the locations of these plantations, the most common nutrient deficiencies are likely to be:

- **Nitrogen** – Generally west coast sands in the North Island and the Canterbury Plains, West Coast and Nelson regions in the South Island.
- **Phosphate** – Upper North Island, Marlborough and West Coast have marginal available phosphate concentrations. This is often associated with clay soils.
- **Boron** – Boron deficient trees can suffer dieback from the terminal buds and this symptom is closely associated with moisture stress and drought. Trees growing on the drier East Coast of both Islands and on the pumice soils of the Central North Island are prone to boron deficiency.

Foliar samples are taken if nutrient deficiency symptoms are seen or expected. Fertiliser will only be applied if the health and the growth of the trees are significantly affected or where economic analysis demonstrates a benefit.

Site productivity and tree nutrition are actively researched components of industry research programmes in which PF Olsen is an active stakeholder and all harvesting entities are a financial contributor through the Forest Research Levy Fund.

10. Harvesting Strategy and Operations

Harvesting strategy

The harvesting strategy employed Brook, Maitai, Roding and Marsden Valley Forests is to harvest the forest as close as possible to the optimum economic age as practical. This is the age at which the growth in volume and improvement in quality is offset by the accumulated interest costs to maintain the forest for another year. The optimum rotation length for radiata pine is expected to be within 25 to 30 years (this may be less for framing or unpruned stands).

Of importance in this assessment is the actual growth of the tree crop, the market for the wood at the time of the harvest and the outlook then for the near future. These factors, together with logistics such as the availability of suitable harvest contractors and the requirements of resource consents, will determine the actual harvest time.

The planned harvesting over the next five years at Brook, Maitai, Roding and Marsden Valley Forests is outlined in the table below. The stands scheduled for harvesting are small to moderate sized and spread amongst the four forests.

Table 20. Planned harvest schedule – Hectares per year

Year	Brook	Maitai	Marsden	Roding	Total
2019-20	12	26	-	-	**38**
2020-21	2	22	-	-	**24**
2021-22	3	-	45	26	**74**
2022-23	-	27	-	-	**27**
2023-24	-	5	-	-	**5**
2024-25			51	-	**51**
Total	**17**	**80**	**96**	**26**	**219**

Forward planning is essential when considering harvesting activities. Planning should commence 2 years before harvesting to enable roading infrastructure to be developed and any resource consents, archaeological surveys, etc. to be undertaken. This reduces the chance of hold-ups to the commencement of harvesting, which can be costly and disruptive in relation to market supply chains and contractors.

The harvest planning process is comprehensively outlined in the PF Olsen EMP's and I.T supported through a harvest planning system that requires a an array of ~120 planning issues to be addressed, assists in the development of an 'Assessment of Environmental Effects' and the resulting operational prescriptions that address those effects.

Post-harvest retirement

Policy decisions have been made post-harvest, to convert areas of the spread prone Douglas fir, either to radiata where the site is conducive to the commercial management of that species or to allow and encourage reversion to native species where that conforms to a better outcome within the overall landscape/landuse matrix. (See Retirement Programme)

Infrastructure

Forest infrastructure includes roads, tracks, landings, bridges and culverts. Design specifications are aligned with those of the industry Road Engineering design manual[17] and associated forest guidelines for support of the NES-PF.

Typically, infrastructure within an early- to mid-rotation age 'greenfields' forest is limited to access for a 4WD vehicle. During harvest planning, upgrades of existing roads/culverts/bridges and planning for new roads, landings and crossings will be identified and scheduled. The type of infrastructure designed and constructed is influenced by topography, harvest duration and intensity of use.

Once established, these require maintenance. The PF Olsen Asset Hazard Register is a GIS-linked database of forest assets that includes bridges, culverts and crossings under resource consent. This provides the framework for a record of the asset attributes, and its associated maintenance schedule, some of which are required under consent conditions.

Infrastructure programme

Over the next 5 years the estimated infrastructure programme is scheduled as below:

Table 21. Planned road infrastructure schedule.

Forest	2019/20	2020/21	2021/22	2022/23	2023/24
Brook	Road upgrade				
Maitai	Road upgrade				Road upgrade
Marsden			Road upgrade	Road upgrade	
Roding				Road upgrade	

[17] New Zealand Forest Road Engineering Manual 2020

River crossings

Historically, a number of access points to some forest areas relied on ford crossings. At time of harvest these pose a major source of fine sediment transport direct to the rivers. To address this matter NCC have committed to bridge installations to replace fords. Two significant bridge installations are proposed over the next 5 years.

Table 22. Planned ford replacement schedule.

Forest	2019/20	20/21	21/22	22/23	23/24
Maitai	Bridge Maitai River - South branch				
Roding		Bridge Roding River			

Contractor management

Prior to engaging a new contractor, a comprehensive review of the contractor's safety systems, safety record, systems of work organisation and equipment is carried out. Where topography and terrain allows, mechanised felling, extraction and processing is a mandatory requirement. PF Olsen as the Property Manager must be satisfied on this review, regardless of the tendered price.

All new contractor crews undergo a comprehensive safety and environmental inductions, while PF Olsen Ltd, in conjunction with its contractors and NZQA training providers NorthTech, runs a comprehensive programme of training to ensure the workforce is competent for the work they are required to perform. The formal NZQA qualifications are supplemented periodically by internally run training courses including those on environmental matters.

All harvesting, engineering and silviculture contractors are subject to quarterly contractor monitoring audits and random drug testing. A full safety systems audit is scheduled and carried out annually. Full crew re-inductions take place every 5 years.

Weekly crew visits and monthly (or fortnightly according to risk) KPI assessments including environmental audits pick up corrective actions and follow-up on those.

WorkSafe undertakes audits on an unannounced basis from time to time.

11. Forest Inventory, Mapping and Forest Records

Inventory

Forest growth and development is monitored through forest inventory. Forest inventories providing stand information are required at different times and for different reasons throughout the life of the rotation:

- Pre-assessment: for silviculture rate setting and validating operational timing vs silvicultural targets;
- Quality control: to check contractor's performance and update stand records;
- Mid-crop: to collect measurement inputs for growth modelling;
- Pre-harvest inventory is scheduled for stands around age 24, to collect measurement data on the crop. This is used for harvest planning, marketing and revenue estimation.

New technologies may see some of this information gathered and analysed using remote sensing in the future.

Pre-assessment

Pre-assessment is the collection of stand parameters prior to a tending operation. It allows for:

- The calculation of contract rate for tending;
- A final check on the validity of the regime and timing of commencement of operations i.e. DOS targets can be achieved, or crop height is sufficient for pruning lift scheduled.

Sampling intensity is low but pre-assessment does provide good quality information on the work content involved in each tending operation and sets a base price for negotiation.

Pre-assessment was completed at Brook, Maitai, Roding and Marsden Valley Forests prior to tending operations commencing.

Quality control

Quality control is carried out during and after a tending operation. The aims of the quality control system PF Olsen have established are to:

- Collect sufficient data to monitor a contractor's performance and correct this if necessary, with minimum delay;
- Collect sufficient quantitative data to provide reliable estimates of the crop state;
- Provide data as input for growth modelling; and
- Provide data for estimating timing of the next tending operation.

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PF Olsen's 'Tending Manual' details the procedures to follow for pre-assessment and quality control plotting.

Quality control was completed at Brook, Maitai, Roding and Marsden Valley Forests at the completion of each tending operation.

Mid-crop inventory

The principal aim for the mid-crop inventory is to collect stand data for inputs for growth modelling. Under current tending regimes mid-crop inventory is scheduled for between 11 and 15 years of age.

Sampling intensity is targeted to achieve 10% confidence limits on basal area on a stand-by-stand basis. Smaller stands may be aggregated into crop types to achieve this.

Pre-harvest inventory

The principal aim for the pre-harvest inventory is to obtain estimates of recoverable volume by log grade. This information can then be used to develop marketing and harvesting strategies. Pre-harvest inventories will be undertaken when stands reach five years or less from harvesting.

Sampling intensity is targeted to achieve 10% confidence limits on basal area on a stand-by-stand basis. Smaller stands may be aggregated into crop types to achieve this as in mid-crop inventory. Use of Lidar is increasingly able to replace plot based inventory systems.

Mapping and stand records

All mapping within Brook, Maitai, Roding and Marsden Valley Forests is in digital format and is constantly updated in a Geographic Information System (GIS). The GIS and forest information system spatially records a large array of forest data, from stand and legal boundaries, to reserves, rivers, roads, infrastructure, topography, soils, environmental constraints, stand operational and cost histories and productivity and post-harvest yield information.

Accurate mapping assists operational budgeting & planning, silvicultural payments, calculation of future revenue/tree crop value, protected ecosystems management, infrastructure location, and harvest planning. They also provide a means of measuring the performance of a Forest Manager. In a management audit, forest records can be verified against the status of the tree crop and unit costs derived for each operation.

Non-commercial Estate Management & Protection

12. Protected Forests, Habitats, Ecosystems and Species

Introduction

Consideration of Indigenous biodiversity in or associated with exotic forests is a normal component of everyday forest management. Environmental certification systems place obligations upon the forest manager to be aware of and, where required, enact procedures to assist with the maintenance and protection of important biodiversity where they are able.

Exotic forests can and do provide a level of biodiversity, though this is often enhanced by natural forest ecosystem remnants embedded within the plantation matrix. These are often the most important contributor to the total of the productive landscape's biodiversity. However, rare and threatened species can also be found associated with exotic forests and may require special attention for management.

Protected areas

The areas of indigenous forest that abut the external boundaries of all the planted forest areas form extensive tracts of natural ecosystems that have been assessed as part of the Council's obligations to protect areas of significant vegetation and significant habitats of indigenous species. These areas form, in their own right, "significant natural area (SNA 186-188)[18]" the assessment reports of which is included in Appendix 4

A further SNA assessment has been completed for the "Orphanage creek" within the Marsden Forest[19]. The assessment concludes the area just met SNA criteria on the basis of a presence of remnant lowland tree species now poorly represented in the locality but was seriously compromised by its shape and weed infestation levels that were severe over much of the area.

Other than at the boundary interface, forestry operations are not expected to conflict with the management nor function of these SNA's in any way. They remain fully protected.

These classifications **do not** override any assessment processes used by Council in executing its statutory obligations under the RMA but in relative terms provide an indicative means for prioritised action or avoidance / mitigation according to the 'Protection Category' status allocated to the areas from the assessments and classifications undertaken.

[18] 2006/2007 Survey of Areas of Significant Indigenous Vegetation and Significant Habitats of indigenous Fauna Michael North (2008)
[19] Nelson City Council Ecological Significance Assessment Report - Orphanage Creek within NCC Forestry 22 March 2016 Michael North

Biodiversity planning

Conservation and Landscape Reserves Management Plan 2009

However, all these areas, as NCC property, are effectively fully incorporated into 'reserve areas', namely the Roding and Maitai water reserves, the Marsden valley and Brook conservation reserves and the Grampians and Tangratree reserves.

A management plan prepared by Council in 2009 covers the Objectives and policies for these areas until 2019[20]. These are presented below.

Table 23. Biodiversity and monitoring objectives and policies of the Conservation and Landscape Reserves Management Plan 2009.

Current Situation/Issue	Objectives	Policies
5.2 Biodiversity Protection The reserves covered by this plan contain some very important biodiversity values. Legislation, Council policies and public demand require that these values are protected as best possible. Some indigenous ecosystems within the reserves are substantially degraded. Restoration of degraded indigenous ecosystems may be necessary for successful biodiversity protection.	To protect, enhance and restore indigenous biodiversity in reserves.	5.2.1 Protect areas of indigenous vegetation and habitats of indigenous fauna on reserves, especially those areas adjoining streams and rivers, and on or adjacent to mineral belt areas. 5.2.2 Enhance indigenous biodiversity values of reserves as part of reserve maintenance and development. 5.2.3 Restore, or encourage the restoration of, indigenous vegetation and habitats of indigenous fauna on reserves, where appropriate. 5.2.4 Permit the removal of indigenous plants and animals (alive or dead) from reserves only when the species is not 'threatened' or 'at risk', the adverse effects are minor and the removal is specifically authorised, or where removal is for reserves management or scientific purposes and is specifically authorised. 5.2.5 Ensure that any works or other activities (such as forest harvesting or quarrying) undertaken in reserves or on adjoining lands are managed to minimise the adverse affects on instream habitats, including fish passage, and the water quality and quantity.
Current Situation/Issue	**Objectives**	**Policies**
5.8 Monitoring Information on the condition of reserves provides the basis for making management decisions. Currently low levels of monitoring are in place.	To ensure a regular system of monitoring key species, habitats and threats is in place to guide management actions.	5.8.1 Monitor the condition of reserves and key species and habitats within them to identify threats and guide management actions. 5.8.2 Monitor the performance of measures taken to reduce threats to key species and habitats.

Nelson Biodiversity Strategy- 2018

More recently an updated "Nelson Biodiversity Strategy"[21] produced in association with the Nelson Biodiversity Forum which includes NCC produced a revised set of priorities and actions for biodiversity protection in the area. At a high level, the summary of outcomes from proposed actions are presented below. More detail is in Appendix 7.

Table 24. Outcomes sought from the Nelson Biodiversity Strategy

Outcome	Symbol
1. Nationally and regionally threatened indigenous species are sustained or restored.	
2. Rare and representative examples of native communities are protected and restored.	
3. Indigenous biodiversity is ecologically connected to sustain its functioning.	
4. Degraded indigenous ecosystems are restored and then sustained.	
5. Biodiversity is resilient in the face of climate change.	
6. Ecologically unsustainable use is prevented.	
7. Valued resources are available for use.	

[20] *Conservation and Landscape Reserves Management Plan 2009 – Nelson City Council*
[21] *Nelson Biodiversity Strategy- Reviewed 2017/2018 Nelson Biodiversity Forum*

Protected ecosystems

PF Olsen's EMP's provide broad guidance and specification on the application and execution of ecological management targets and actions.

The first steps are to accurately map the indigenous vegetation present within the plantation areas. The NCC estate is a little atypical in that the Council has jurisdiction and is undertaking a range of biodiversity management functions over much larger areas associated with or adjacent to the plantations. For the purposes of the defining a "zone of influence" Council owned property parcels that include parts of the commercial plantations have been included in this plan to their fullest extent, including the indigenous vegetation within those property parcels.

Brook, Maitai, Roding and Marsden Valley Forests contain a combined 1,241 hectares of protected ecosystems. Characteristics of the protected ecosystems are summarised in tables 21-23 following, while they are also shown on the forest stands map 7(a) – (d).

The protected ecosystems are recorded and ranked based on ecological criteria reflecting the stands representativeness, rarity of species, size and connectivity, function and landscape values. Relative status in relation to the 'ecological landscape' also informs that process as does any Council related ecological assessments of areas.

Table 25. Protected Ecosystems Management Categories

Protection Category	Primary Management Objective	Activity Level	Monitoring
Passive	Minimise non-essential damage, maintain area	Fire protection	- Area - with adjacent stand assessments
	Observe RPMS obligations	3rd party arrangements regarding pests, apply RPMS	- Pests - to meet RPMS
			- General forest health survey
Limited	Protect from non-essential damage, maintain area, maintain function (where practical)	Fire protection	- Sample forest condition monitoring
	Observe RPMS obligations	3rd party arrangements regarding pests, apply RPMS. Associated maintenance pest control	- Low level pest monitoring where relevant - Sample related fauna if relevant
Full	Protect from all controllable damage, maintain area & function	Fire protection	- Area monitoring
	Improve quality	Specific management	- Forest condition monitoring
	Observe RPMS obligations	Targeted pest control, 3rd party arrangements regarding pests	- Pest monitoring where relevant - Related fauna monitoring if relevant
Special	Restoration if practical	As above, plus fencing, covenanting, co-management agreements & funding (where practical)	- As above, plus as defined in any restoration agreement

The tables below provide a breakdown of the indigenous ecosystems identified, mapped and classified within the scope of this plan, providing an indications of the key ecological functionality of areas and their relative ranking and well as the key vegetations associations by canopy species dominance.

Table 26. Protected Ecosystems management categories by function and area.

		Protective Status					
Forest	Ecosystem function	Special	Full	Limited	Passive	Other	Grand Total
Brook			182.5	59.5	29		271
	Landscape/Amenity			49.7	7.9		57.6
	Non Specific			9.8			9.8
	Riparian Ecosystem				4.6		4.6
	Terrestrial Ecosystem		182.5		16.5		199
Maitai		45.6	122.6	56	53.6	16.4	294.2
	Non Specific				5.7		5.7
	Riparian Ecosystem	22.6	2.4	20.4	2.7		48.1
	Terrestrial Ecosystem	23	120.2	35.6	45.2		224
	Other					16.4	16.4
Marsden Valley			98.1	58.4	14.2	29.7	200.4
	Other					29.7	29.7
	Riparian Ecosystem			4.5			4.5
	Terrestrial Ecosystem		98.1	53.9	14.2		166.2
Roding		316.4	117.3	6.5	15.3	19.9	475.4
	Terrestrial Ecosystem	316.4	117.3	6.5	15.3		455.5
	Other					19.9	19.9
Grand Total		362	520.5	180.4	112.1	66	1,241

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Table 27. Protected Ecosystems management categories by function

		Key functionality of the different vegetation types					
Forest	Vegetation types / Functionality	Landscape / Amenity	Non Specific	Riparian Ecosystem	Terrestrial Ecosystem	Other	Grand Total
Brook		57.6	9.8	4.6	199		271
	Beech Hard/Red dominant/ Podocarp		9.8		175.7		185.5
	Broadleaved Hardwood Shrub&fernland	54		2.7	13.7		70.4
	Hardwood/Podocarp/beech			1.9			1.9
	Manuka/kanuka/BroadleavedHW	3.6			2.8		6.4
	Podocarp/hardwood/Hard_Red Beech				6.8		6.8
Maitai			5.7	48.1	224	16.4	294.2
	Adventive and exotic weeds & grasses			4.6		16.4	21
	Black beech/ hardwoods/softwoods			30.9	19.6		50.5
	Broadleaved Hardwood Shrub&fernland				13.7		13.7
	Exotic Species		1.1				1.1
	Gorse / nurse crop cover		4.6	10.2			14.8
	Hard beech/ mixed hardwood/softwood				112.4		112.4
	Hardwood/Podocarp/beech				8.2		8.2
	Manuka/kanuka/BroadleavedHW				70.1		70.1
	Podocarp/hardwood/Hard_Red Beech			2.4			2.4
Marsden Valley				4.5	166.2	29.7	200.4
	Broadleaved Hardwood Shrub&fernland			4.5			4.5
	Kahikatea/matai/podocarp/HW				3.1		3.1
	Manuka/kanuka/BroadleavedHW				68.1		68.1
	Podocarp/Hard_Red Beech				95		95
	Other					29.7	29.7
Roding					455.5	19.9	475.4
	Adventive and exotic weeds & grasses					19.9	19.9
	Black beech/ hardwoods/softwoods				101.1		101.1
	Broadleaved Hardwood Shrub&fernland				0.9		0.9
	Gorse / nurse crop cover				2.2		2.2
	Hard Beech/Red Beech/Mixed Hardwoods				43.7		43.7
	Mountain beech/ Black beech				127.3		127.3
	Silver beech/Hard beech/ Hardwoods				29.3		29.3
	Subalpine mixed flax/shrubhardwood &tussock				151		151
Grand Total		58	16	57	1,045	66	1,241

Management and riparian setbacks

A standardised GIS-based stream classification system based on NIWA's River Environment Classification (REC) has been used to develop a rationale for defining riparian management with a set of rules in the EMP's that apply to operations occurring near the riparian corresponding with each stream category. Categorisation of each stream reach is done by the physical characteristics of the particular reach, e.g. underlying geology, streambed slope, climate, and reach order.

The guidance also includes minimum set-backs upon establishment or reestablishment of forest after harvest where riparian setbacks had not existed before which are aligned with the NES-PF. Notwithstanding these minima, FSC standards yet to come into play at the time of writing, will set a 10m minimum setback on all streams and this will apply across the estate. In many instances in this estate, the morphology of streams and the presence of existing native riparians can mean that the minimum set back is significantly wider.

The stream categories within Brook, Maitai, Roding and Marsden Valley Forests are summarised below. The total length of waterways within all four forests is **19.3 km.**

Table 28(a). Length of streams by REC class for Brook Forest

REC Class	Length (m)	Length (km)
Large_Mod_Wet_Hard	80.1	0.08
Large_Steep_Wet_Hard	18.7	0.018
Med_Low_Wet_Hard	269.5	0.27
Med_Mod_Dry_Soft	462.7	0.46
Med_Mod_Wet_Hard	239.8	0.24
Med_Steep_Wet_Hard	2439.1	2.44
Small_Mod_Wet_Hard	591.2	0.59
Total	**4,101**	**4.1**

Table 28(b) Length of streams by REC class for Maitai Forest

REC Class	Length (m)	Length (km)
Large_Mod_Wet_Hard	859.1	0.86
Large_Steep_Wet_Hard	187.3	0.19
Med_Mod_Wet_Hard	1814.8	1.81
Med_Steep_Wet_Hard	875.7	0.88
Small_Mod_Wet_Hard	1765.9	1.77
Small_Steep_Wet_Hard	1001.6	1.0
Total	**6,504**	**6.5**

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Table 28(c). Length of streams by REC class for Roding Forest

REC Class	Length (m)	Length (km)
Large_Mod_Wet_Hard	240.0	0.24
Large_Steep_Wet_Hard	525.1	0.53
Med_Mod_Wet_Hard	166.1	0.17
Med_Steep_Wet_Hard	2353.0	2.35
Small_Mod_Wet_Hard	728.9	0.73
Small_Steep_Wet_Hard	1258.5	1.26
Total	**5,271**	**5.3**

Table 28(d). Length of streams by REC class for Marsden Valley Forest

REC Class	Length (m)	Length (km)
Med_Low_Wet_Soft	452.2	0.45
Med_Mod_Wet_Hard	2480.5	2.48
Med_Steep_Wet_Hard	224.4	0.22
Small_Steep_Wet_Hard	231.2	0.23
Total	**3,388**	**3.4**

Rare and threatened species

Plantation forests and their intertwined native habitats have proved capable of supporting or contributing to the support of important NEW ZEALAND fauna including threatened species.

Information arising from NCC records from surveys in surrounding environments indicate a potential presence of a number of species within the plantation areas and their immediate surrounds.

Records of sightings and locations are currently starting to be collected using the NatureWatch application "Biodiversity in Plantations" project which provides means for recording any sightings of any biodiversity into a spatial dataset from which long-term data can be extracted for rare species reporting. These records can be made available to conservation authorities.

A listing of key species of interest is held by all contractors and staff and a request to report such information using the application is part of their training. Over time, data from this application has enabled the build-up of a spatial distribution picture of species within different geographical locations within plantations in NZ. The geographical resolution of that data will improve the more forests (such as NCC forest) are added and the more sightings are recorded.

Avifauna & Bats

Local checklists of avifauna present in the Nelson region are extensive due to the wide range of habitat types and altitudinal ranges. Records derived for the general region have recorded 98 species[22] within 40 groupings (Appendix 5). Many of these are shore birds or common introductions and not likely present and or significant within forest habitats. Those native species that are potentially or most likely to occur in the forests and their adjacent environments are listed below[23]:

Table 29. Species of particular interest that are or maybe present in the Maitai, Roding and Marsden Valley Forests.

Nationally Critical	Nationally endangered	Declining	Recovering
Bittern	Kea	Fernbird	Kaka
L-tailed Bat	Landsnails	S.I Robin	NEW ZEALAND Falcon
		Spotless crake	Pied shag
		Forest gecko	
		Speckled skink	

At this point, the first recordings of bird species in the Biodiversity in Plantations project are as tabled below:

Table 30. Recent recorded sightings of species reported in Maitai, Roding and Marsden Valley Forests.

NZ Threat Classification System Category	Maitai Species	Roding Species	Marsden Valley Species
Nationally endangered		Kea	
Recovering	New Zealand Falcon		New Zealand Falcon
Naturally uncommon		Little Black Shag	
Common		Weka /Fantail	

Primary actions

Primary management actions in relation to avifauna and bats are:

- Adherence to industry protocols developed for management of NEW ZEALAND falcon, kea, & bats if required[24].

[22] https://ebird.org/newzealand/region/NZ-NSN?yr=all&m=&rank=hc

[23] https://rarespecies.nzfoa.org.nz/

[24] Kea: https://go.promapp.com/pfolsen/Documents/Minimode/Permalink?crypto=D0KKqOc8QPbj7lWYFNJ0Dr
Falcon: https://go.promapp.com/pfolsen/Documents/Minimode/Permalink?crypto=GpQDQzJNsfpId30mDb64yR
Bats: https://go.promapp.com/pfolsen/Documents/Minimode/Permalink?crypto=BgAibCbpqIrW32GGdw35jy

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- Deployment of bat detection devices along possible corridor areas ahead of harvest operations to check for a possible presence and if confirmed seek further professional advice.
- Inclusion of threatened species sightings into the PF Olsen sightings database, and subsequently into the NEW ZEALAND Forest Owners NatureWatch – Biodiversity in Plantations Project[25],
- Minimising damage to natural forest areas and any small wetlands and shrublands during harvest and reforestation, particularly any gully systems that already form natural corridors through the larger plantation areas,
- Promotion of the development of improved riparian corridors after harvest.
- Integration and co-operation within Council biodiversity protection / enhancement programmes applied across the wider landscape within and external to the stocked plantation areas.

Herpetofauna

Most NEW ZEALAND lizard species are now threatened, principally due to predation but also habitat loss. Nelson is home to the Nelson Green Gecko which is confined to the area and incredibly rare. The forest Gecko and speckled skink have some potential to be present within or immediately adjacent to the operational plantation areas.

This suggests some preliminary work should be undertaken to assess the likelihood of their presence within at least some parts of the forest.

Primary actions

Primary management actions in relation to herpetofauna are:

- Adherence to industry protocols developed for management of NEW ZEALAND lizards which are currently under development.
- Minimising damage to natural forest areas and any small wetlands and shrublands during harvest and reforestation, particularly any gully systems that already form natural corridors through the larger plantation areas.
- Seek advice on necessity of pre-operational surveys.
- Inclusion of threatened species sightings into the PF Olsen sightings database, and subsequently into the NEW ZEALAND Forest Owners NatureWatch – Biodiversity in Plantations Project[26]
- Integration and co-operation within Council biodiversity protection / enhancement programmes applied across the wider landscape within and external to the stocked plantation areas.

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[25] http://naturewatch.org.nz/projects/biodiversity-in-plantations
[26] http://naturewatch.org.nz/projects/biodiversity-in-plantations

Fish

The Niwa Freshwater fisheries database and Freshwater Environments of New Zealand (FWENZ) models have been used to inform the potential for threatened fish species to be present in streams affected by operations and if necessary, any response to such a presence.

While the forests abut (with some setbacks) larger rivers such as the Maitai and Roding, the actual effects upon their fish populations are likely to be low. Tributaries from within the forest production areas are very small and fish information is sparse as a result. The Poorman running through Marsden forest is a larger tributary but the majority of its length is through the upper large native forest headwater areas with only a short section in close proximity to the planted forest.

Species presence as derived from the sources and relevant to small in-forest tributaries is shown below.

Table 31: Fish species present or likely in the small tributaries of the forests

	Brook	Maitai	Marsden	Roding
Brown trout	?	Y	?	
Lonfin eel	?	Y	Y	y
Koaro		Y		
Koura		Y		
REgfin Bully		Y		
Torrent fish		Y		
Y: present (NZFFDB or FWENZ high probability ?: FWENZ moderate possibility				

Primary actions

Primary management actions in relation to fish, in addition to those already covered under water quality are:

- Utilisation of the Fish Spawning Indicator as a management tool[27], to avoid operations involving works over or in the beds of streams during spawning periods and at all times maintain good sediment controls around earthworks.
- Development and maintenance of a register of crossings and an inspection routine to ensure fish passage,
- Sound design and construction of all new stream crossings,
- Timing of in bed crossing construction to avoid peak spawning period,
- Minimising damage to streamside environments and provision of setbacks where they were not originally present,
- Identification of, and avoidance and/or buffering of waterbodies during aerial spraying for replanting and *Dothistroma* control or aerial fertilisation if ever required,
- Protection of any wetlands identified within the plantation matrix.

[27] Published by NIWA to support the regulations of the NES-PF

CITES species

CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora) is an international agreement between governments.

Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species in the wild, and it accords varying degrees of protection to more than 34,000 species of animals and plants.

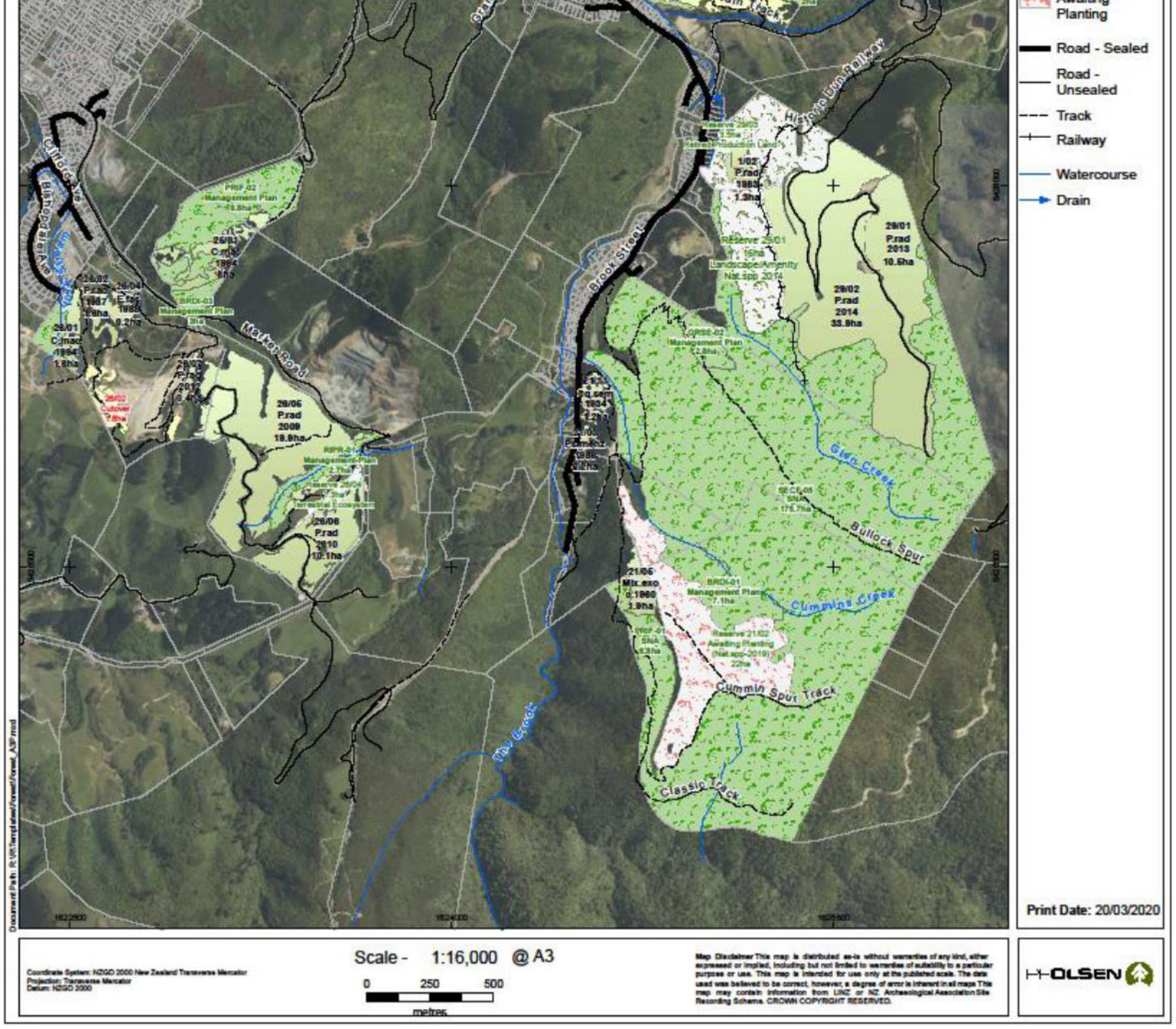
The full list of New Zealand CITES listed species are available in the EMP's, or online at http://www.doc.govt.nz/about-doc/role/international/endangered-species/cites-species/nz-cites-listed-species/.

Anticipated activities

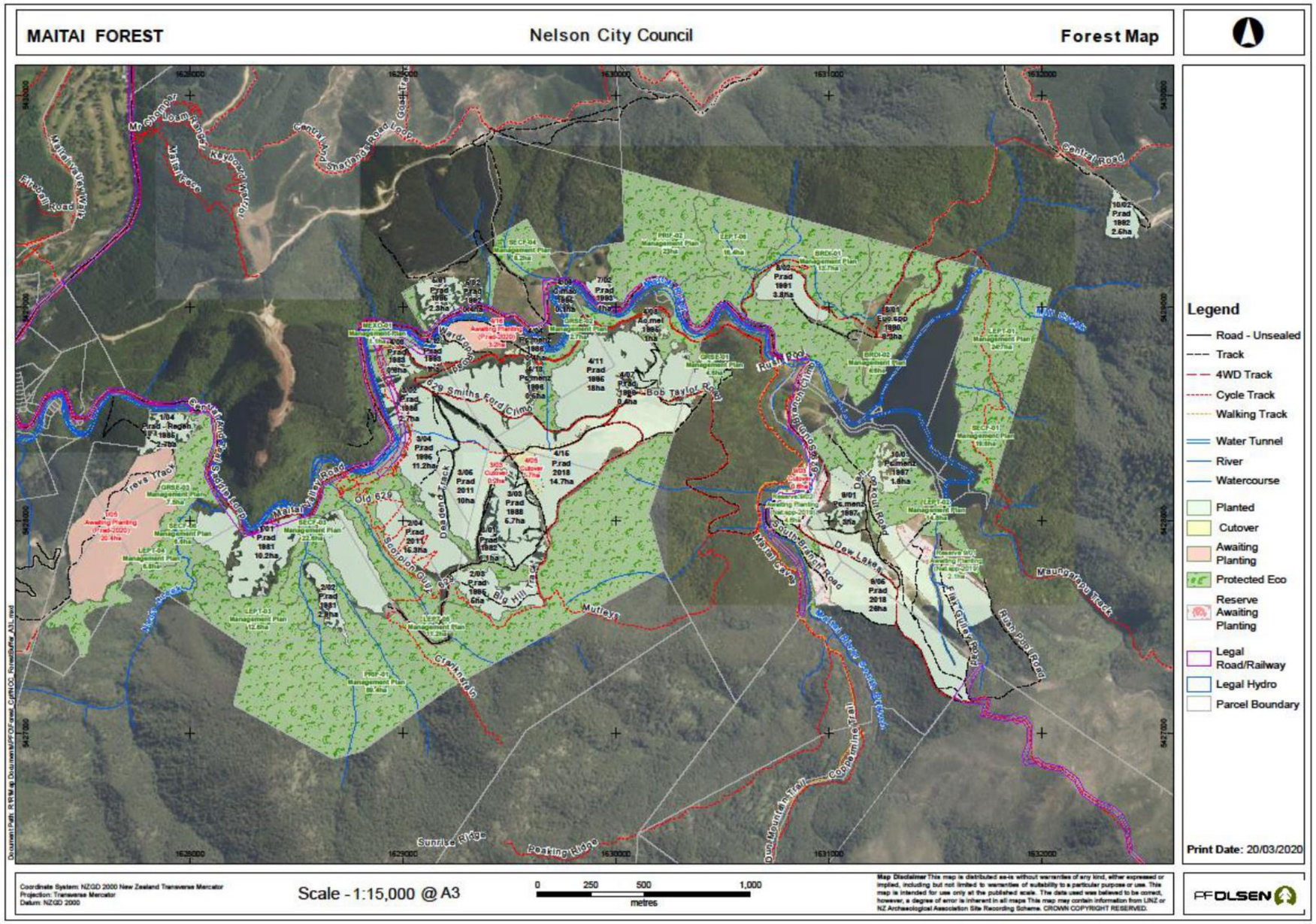
The primary actions noted for each key element of biodiversity identified within the NCC forests as well as pest control operations (see: Property Management and Protection) and land retirements are anticipated to contribute to the sum total of positive biodiversity outcomes sought from the implementation of both the Conservation and Landscape Reserves plan and the Nelson Biodiversity Plan (Appendix 7).

Other specific actions and responses may also be implemented over time as the need arises as a consequence of both physical discoveries or co-ordination with the Reserves Managers within NCC identifying new areas where mutual benefits can be identified and leveraged.

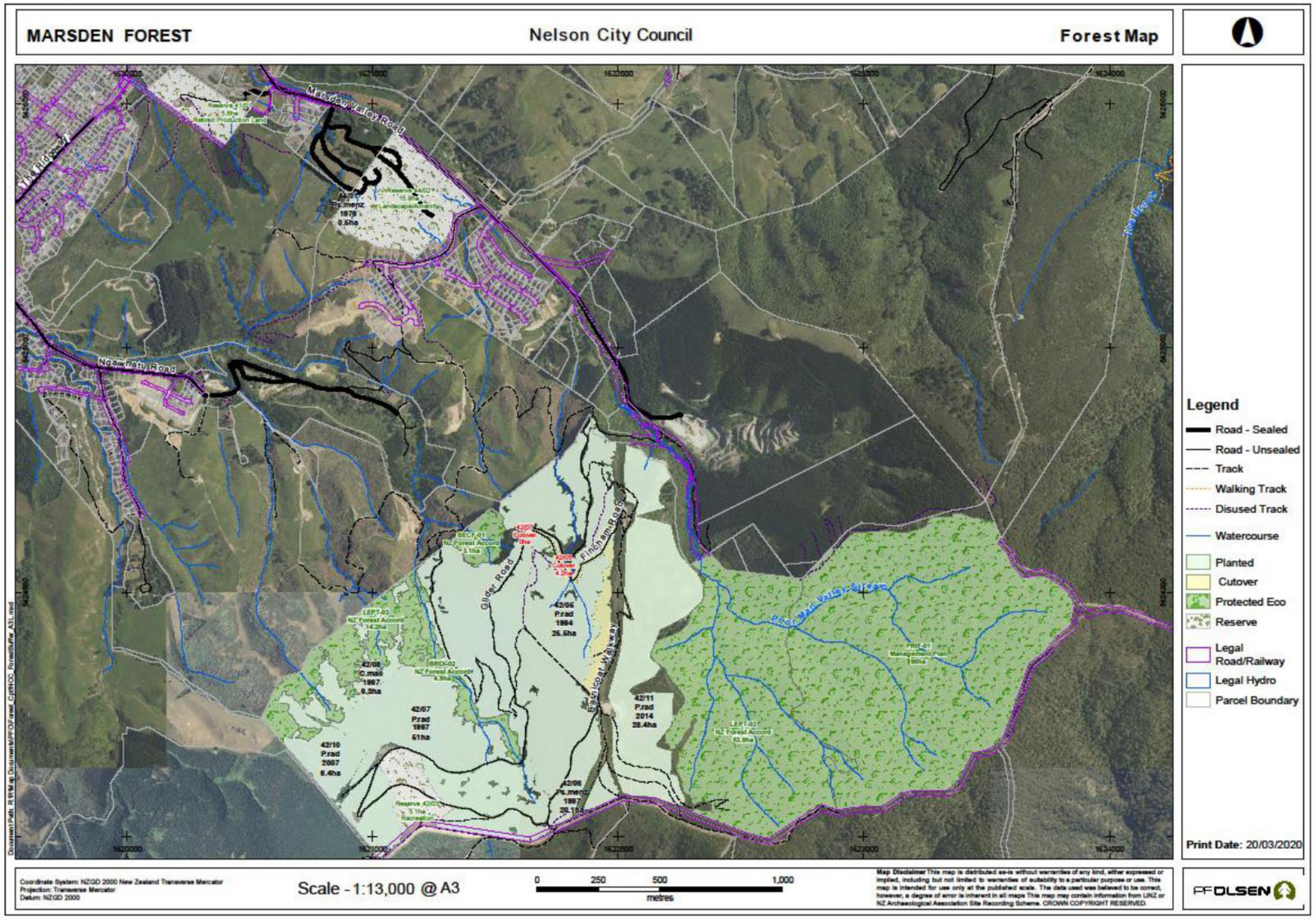
Map 7(a) – Brook Forest Detail



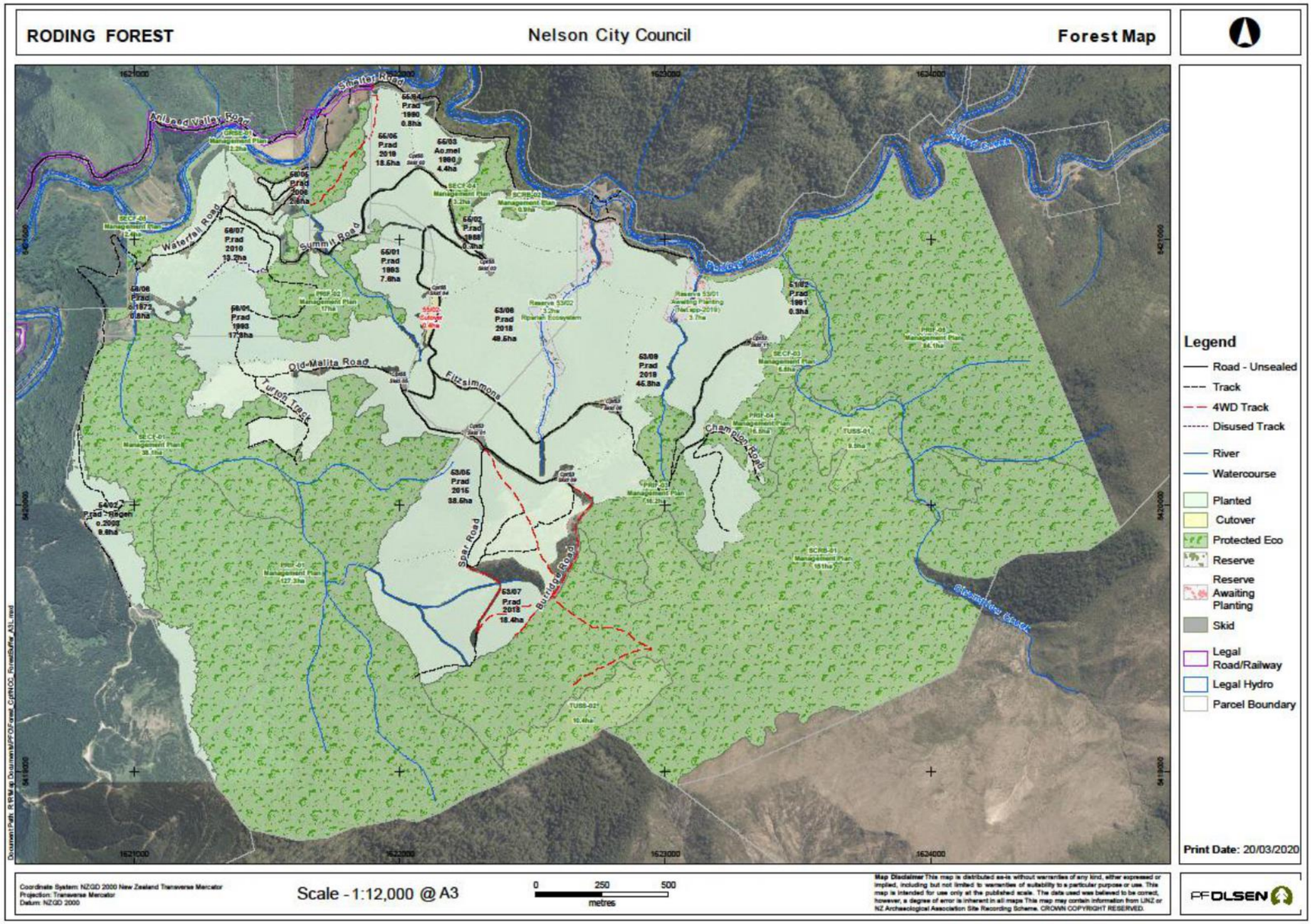
Map 7(b) – Maitai Forest Detail



Map 7(c) – Marsden Valley Forest Detail



Map 7(d) – Roding Forest Detail



13. Property Management and Protection

Statutory pest obligations

Pest management Brook, Maitai, Roding and Marsden Valley Forests is subject to statutory obligations under the Regional Pest Management Strategy administered by Nelson City Council.

The strategy applies to both pest plants and animals and categorises them, in terms of management objectives. The categories, objectives and land owner obligations are summarised the Regional Pest Management Strategy Plan 2019-29(RPMS)[28] in Appendix 6. These plans are maintained online by the relevant Council.

Reserves Management Plan

The NCC Conservation and Landscape reserves Management plan also lists a policies and objectives in respect of the management of pest plants and animals within these areas. The management of pests within the plantations will be targeted to manage commercial pests specific to plantation health and direct obligations under the RPMS and thereafter wider control initiatives will be coordinated within the Council's wider programmes covering the relevant reserves and objectives as appropriate to the areas of concern.

Table 32: Pest control policy and objectives from the NCC Conservation and Landscape reserves Management plan.

5.7 Plant and Animal Pest Control The reserves covered by this plan are all affected to some extent by introduced (naturalised) plants and animals. In most reserves plant and animal pests pose a major threat to biodiversity values. The most effective control is early detection and removal of new pest infestations and the targeted control of existing populations.	To control populations of pest species in accordance with identified targets so that reserve values are protected.	5.7.1 Carry out surveillance to detect new plant and animal pest infestations and gather information on the size and extent of existing infestations. 5.7.2 Control plants and animal pests in accordance with the Tasman-Nelson Regional Pest Management Strategy. 5.7.3 Undertake priority plant and animal pest control in accordance with identified targets in reserves where such pests pose a threat to the natural values of the reserve or to public enjoyment of the reserve. 5.7.4 Coordinate pest control activities with those of the Department of Conservation, the Animal Health Board, immediate neighbours and other agencies or groups wherever possible. 5.7.5 Support projects which seek to control plant and animal pest populations or which prevent the establishment or re-invasion of pests. 5.7.6 Allow recreational control of animal pest populations, as specified in Policy 5.16 (Hunting and Fishing) and in individual reserve policies. 5.7.7 Consider best practice control methods and approaches to avoid adverse environmental impacts from pest control.

[28] file://pfo/userhome$/richk/Downloads/Tasman%20Nelson%20Regional%20Pest%20Management%20Plan%20new%20logo.pdf

Plant pests

Unfortunately, within the Nelson region, due to climatic and probably a long history of urban proximity, there is a long list and large reservoir of problematic pest plants. Within the greater forest property boundaries, old man's beard, passionfruit, broom, gorse pampas, blackberry and wilding pines (Douglas fir) are issue.

In the low elevation sites Oldman's beard, and passionfruit are ecological threats within the native forest remnants. A number of the species pose risk if they become established in locations close to the mineral belt.

Animal pests

The main mammal pests in Brook, Maitai, Roding and Marsden Valley are the introduced possum, which can attack the growing tips of both plantation and native trees, causing stem malformation and die back. Possums are also a nationally significant ecological pests, predating on native birds and their eggs. Deer, goats and pig are present and while less commercially significant are again problematic for natural ecosystems. Stoats, rats and mice have no commercial impact but are a massive ecological threat in all natural ecosystems.

Rabbits and hares can be a problem at the time of plantation establishment.

Wasps are another pest that is both an ecological and general pest that can become a major problem to human safety over the (late) summer period.

Insects and fungal disorders

Diseases, which can affect the forest trees and adjacent native vegetation, are monitored throughout the year by the forest manager, and once a year by a professional independent forest health assessor. Most diseases cause little damage and do not require control. The exception is *Dothistroma*, a fungus which attacks pine needles.

Pest control approach

Plant pest control

Of the pest weeds, the major species are designated for 'sustained control' under the RPMS, meaning that at least their spread off-boundary, should be prevented and densities maintained at levels that do not create significant external effects.

The overall objective in managing plant pests is to:

- Meet statutory obligations under the Regional Pest Management Strategy which for most of the species around the forests is that of "Sustained Control"
- Ensure that any impacts on neighbouring properties are promptly dealt with,
- Monitor the distribution of these species within Brook, Maitai, Roding and Marsden Valley Forests.
- Reduce their direct impacts on both plantations and indigenous biodiversity values in accordance with the RPMS and in coordination or cooperation with the wider pest weed control programmes undertaken by NCC.

Wilding pines have been subject to ongoing off-site control and eradication as an integral part of the NCC Conservation and Amenity Reserves management programmes. Within the commercial forest boundaries this problem is also being managed on site long-term by the removal and replacement either by the less spread prone radiata pine or reversion back to native vegetative cover (see: Retirement Programme)

For the control of plant pests, chemical herbicides are the usual approach whether for dealing with establishment weeds or ecological pest plants.

All chemicals used are subject to Environmental Protection Agency (EPA) approval and will also have to meet the FSC Hazardous chemicals policy (see:Hazardous Chemicals) and are applied in keeping with all legislative and safety requirements and with industry best practice.

Herbicides are used to desiccate most harvested areas prior to re-establishment, usually by aerial spraying, but occasionally by spot spraying in sensitive areas and where grasses are the main problem rather than woody weeds. Re-established trees are also released with another chemical application where necessary, during the first one to two years after establishment.

Pest weed control, where required can include aerial applications through to groundbased manual cut and swab or similar techniques dependent upon the site and weed species.

Animal pest control

Under the RPMS, the highly significant ecological pests are subject to limited, targeted "site led" control programmes involving sensitive areas with definable and defensible boundaries and often involving local community efforts. At the top end of this spectrum of activity is the 'Brook Sanctuary" mainland island project abutting Brook forest and on NCC land. The project is strongly supported by the NCC and involves complete ecological restoration through predator proof fencing and complete predator control.

Control of commercial animal pests in Brook, Maitai, Roding and Marsden Valley plantation forests are expected to be controllable using ground-based methods as required, to prevent impacts on planted species.

Wasps can easily be controlled in required areas through the ground application of Vespex (active ingredient fipronil) to make areas safe for both workers, and recreationalists alike as well as proving a major benefit to native fauna. The forest manager will liaise and coordinate with the NCC reserves managers where appropriate for these operations.

In respect of ecological pest control operations, the forest manager will coordinate operations with other branches within Council tasked with wider scale pest control in the Council owned parks and reserves and if necessary also with the Department of Conservation, in order to achieve effective and efficient control within the areas of jurisdiction, where required. While access in the plantations or their immediately adjacent native forest areas would likely be amenable to ground based trapping and poisoning. Broader scale operations within the wider reserve environments would likely involve aerial controls and would be a process driven by NCC reserves managers and potentially the Department of Conservation. The forest managers would seek to co-operate in the facilitation of any such proposed operations.

Fungal pest control

Dothistroma pini is the most commonly occurring fungal disorder within the radiata pine plantation. This fungus is controlled using an aerially applied copper-based fungicide spray, usually required between 1 to 4 times only, during the first third of a radiata rotation and only when the infection reaches a critical level.

Dothistroma can also be controlled through silviculture by timely thinning and pruning operations, which increases air movement and lowers humidity levels.

Chemical management framework

All chemical applications are managed in accordance with PF Olsen's EMP's, the NEW ZEALAND Standard for agrichemical application, HSNO regulations and the obligations conferred by FSC to manage and minimise the use of chemicals including use of alternatives where available and to manage stakeholder expectations.

As part of the FSC commitments:

- All chemical usage is tracked by active ingredient and application area to enable reporting and monitoring of trends and is reported on an annual basis.
- PF Olsen is an active participant in research into chemical reduction, efficacy and safety issues related to the 'restricted use' derogations applied by FSC to various activities pursuing biological control agents.
- Chemicals classified by FSC as 'Restricted' are used only under the terms of any conditions agreed through the FSC Standards Development sub-process in NZ that includes representation from Commercial, Environmental, Social and Maori interests. (See the FSC Pesticides Policy for this process[29])

Fire prevention and control

With the weather patterns normally experienced in the Northern South Island region during the period late spring/summer, fire can be a potential threat to the forests. This can be minimised by:

1. Having an effective fire plan and rural fire control organisation.
2. A close link with the relevant fire authorities, and an understanding of equipment and trained manpower requirements.
3. Active prevention measures which include restrictions on allowable access, fire prevention signage, publicity when fire danger prevails, access to adequate water sources, and if required constructing and maintaining firebreaks.
4. Effective fire reporting communications systems, mapping, and fire plan alert procedures.
5. Good forest management that recognises the influence of terrain, roading network and accessibility, and fuel build-up from silvicultural practice that will influence fire prevention and control measures.

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[29] FSC Pesticides Policy FSC-POL-30-001 V3-0 https://www.fsc.org/en/document-centre/documents/resource/208

...continued **Table 33: Summary of the Fire Risk Assessment for NCC Forests**

Block	Fire potential	Fire Intensity	Fire Damage	Overall risk	Opportunities comments
Marsden Valley	High	Medium	moderate	High	Limit access when the vegetation index gets to a certain level starting with partial restriction through to total restriction. Consider for the next rotation pruning buffer zones adjacent to the high use areas for the public.
Maitai	High	Medium	moderate	High	Limit access when the vegetation index gets to a certain level starting with partial restriction through to total restriction. Consider for the next rotation pruning buffer zones adjacent to the high use areas for the public.
Brooke – Fringe Hill compartments	High	High	Moderate	High	Public access in this area in the future may increase from mountain biking. Limit access when the vegetation index gets to a certain level starting with partial restriction through to total restriction. There is an option to reduce the risk of the Fringe Blocks by pruning these stands. A decision on this need to be made now due to the age of the trees.
Brooke – Codgers	High	High	Moderate	High	The unpruned 2011 stand is unpruned and un thinned. Creating a pruned buffer zone adjacent to mountain bike tracks is an option or whole block pruning. The alternative species – higher flammability species have been planted however these are considered less risky than the alternative gorse and broom areas. Limit access when the vegetation index gets to a certain level starting with partial restriction through to total restriction.

Fire authority responsibilities

The legal responsibility for fighting forest fires lies with the local Rural Fire Authority (RFA), which in the case of Brook, Maitai, Roding and Marsden Valley Forests, is the Nelson Tasman Fire and Emergency New Zealand (FENZ) sector.

In the event of a fire that starts within the forest, the RFA is responsible for attending and providing the resources to extinguish the fire. Costs are borne through a general insurance levy that supports a rural firefighting fund.

If a fire starts outside the forested area and moves into the forest, those costs remain covered under the fund, however in both cases loss of crop value due to fire will be a matter for the forest owners crop insurance if any.

If in the event a fire, either internally or external to the forest boundaries was caused by negligence or identifiable criminal acts, the cost recovery might be attempted by FENZ.

There is a liaison with FENZ in terms of developing the 'fire plan' and the maintenance of good communication relative to potential risks and fire danger ratings.

Crop insurance

Nelson City Council maintain crop insurance cover for fire under a PF Olsen managed crop insurance scheme. This is reviewed regularly.

Public liability insurance

Nelson City Council and PF Olsen Ltd both maintain full public liability insurance as do contractors employed on forestry operations. This would include cover in the case of fire spreading from the forest onto adjoining land, where Nelson City Council could be liable for costs of any damage to the adjoining property.

Other Benefits from the Forest

14. Recreation, Forest Products and Other Special Values

Introduction

Forest plantations can provide non-timber forest products, recreational opportunities and special values that enhance the economic wellbeing of the owner or legitimate forest users. Non-timber products are an important means of maximising the productive capacity of the forest whilst maintaining environmental and social values. This management plan outlines the other values and the framework for managing their integration into the landscape.

Environmental and social cost-benefit analysis

Forests can deliver numerous social and environmental products and services, both positive and negative to varying degrees. These non-timber products can be difficult to quantify, unlike financial costs and benefits.

The table below rates the relative positivity and negativity of the more common social and environmental products produced relative to the most likely alternative primary production system, pastoral dry stock farming. A high-level generalised analysis of provisioning and consuming services related to forest management is shown in Appendix 10.

Table 34. Environmental and social cost-benefit analysis of key non-timber products & services

Environmental or social product	Increasingly negative				Neutral			Increasingly positive			
	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
Soil stabilisation							HP				MR
Erosion/soil loss				HP							MR
Water quality				HP							MR
Riparian shading					HP					MR	
Water quantity					MR			HP			
Carbon sequestration				HP							MR
Native wildlife habitat			HP							✓	
Threatened fauna				HP					✓		
Native fish				HP						✓	
Air quality							HP				MR
Native reserve protection										✓	
Landscape/visual			HP						MR		
Recreation				HP						MR	
Commercial forest use										✓	
Firewood											HP
Local employment							MR				HP

NOTE: where the ratings differ throughout a rotation, 'MR' is used to indicate the mid rotation (growing) stage of the forest, and 'HP' refers to during or post-harvest.

Nelson City Planning

Nelson City Council has encouraged recreational development and use of its production forests. This is to be applauded, even though it does raise the potential for conflict between production values and the current suite of values ascribed to, and uses of, the production forest resource. The potential for conflict has been further heightened by recent developments adjacent to existing production forests i.e. Brook Waimarama Sanctuary and residential subdivision development, and changes in the community's environmental awareness (e.g. landscapes and water quality).

In the Conservation and Landscape Reserves Management Plan a number of objectives and policies were developed to facilitate and manage high levels of public usage within the NCC estate. Key issues requiring facilitation and encouragement along with appropriate management are:

- **Public access and use** – objective of maximising wherever possible.
- **Walking & Mountain biking** – Objective to provide for these activities
- **Hunting and fishing** – Objective to permit as appropriate.
- **Camping, Huts and overnight stays** – Objective to maximise opportunities.
- **Fossicking and rock hounding** – Objective to allow for enjoyment while protecting features.
- **Aircraft and aerial sports** – Objective to restrict activity (non-motorised and foot launched motorised permitted subject to controls).

A more detailed listing of the Issues, objectives and policies extracted from the Conservation and Landscape Reserves Management Plan[30] is contained in Appendix 8.

[30] Conservation and Landscape Reserves Management Plan – Nelson City Council 2009

Recreational usage

Brook, Maitai, Roding and Marsden Valley receive strong recreational demand from the wider public.

- A series of mountain biking tracks (Codgers Mountain Bike Park) are present within some of the northern sections of Brook forest.
- Walking / Hiking tracks include the Dun Mountain Trail that runs through part of Maitai Forest or the Barnicoat Walkway through Marsden Valley Forest.

In addition to the use of the Dun Mountain / Barnicoat walkways or Codgers Mountain Bike Park in Brook, the forests will all continue to be open for legitimate recreational use subject to entry by permit. This data will be collated for FSC reporting purposes.

All access is controlled through a permit system which is managed by Nelson City but involves close regular coordination between Council managers and the Forest Manager to ensure the potential for operational conflicts are avoided and PCBU obligations under health and safety legislation is managed.

Primary requirements in management of such forest usage are:

- Access subject to non-conflict with current operations and any other safety requirements,
- Acceptable fire danger status,
- Access provided to defined areas other than those freely open to the public.
- Appropriate liability and fire insurance to be carried by permittees,
- Forest usage rules to be adhered to.

To further facilitate smooth interactions between parties on the Council controlled lands, the NCC and Nelson Mountain Bike Club signed a Memorandum of Understanding in 2017 to promote close cooperation and communication between the parties over issues that may impact their mutual interests.

Public access roads

Brook, Maitai, Roding and Marsden Valley Forests all contain some public access areas and a series of mountain biking or hiking trails. These routes remain open to public, subject to any temporary closures, organised through the Nelson City Council, as required for safety such as during times of high fire risk or forestry operations. All signage must be followed and those using the routes will still require a permit if there is any intention to access other parts of the forest itself, from the road routes or trails.

As well as being widely signposted and publicly documented by NCC, these public road locations are publicly viewable in the Walking Access Commission website[31]. Any users are expected to abide by the intent of the Outdoor access code[32] published by the Walking Access Commission and the Nelson City Council Website and specifically with any restrictions or rules put in place by NCC reserves managers.

Non-timber forest products

There are no FSC certified non-timber forest products arising from Council or 3rd party commercial activities within the forest estate.

However, there are apiary sites leased in some forests and these are likely to continue subject to appropriate agreements.

Visual /Amenity

There are recommended visual amenity/landscapes called 'Barnicoat Range', 'Grampions', 'Sharland Hill' and 'Fringed Hill' that overlap most of the Marsden and Brook forest blocks.

As noted in the 2016 Assessment of non-monetary values[33], "the inclusion of part of Council's production forest within visual amenity landscape zones is not a cause for alarm. Production forestry within these landscape units is an existing use, and over the forest's growth cycle has contributed positively to the visual amenity of these units. However, there is potential for issues when the forest is harvested, through until the forest is re-established.

In an operational sense, while some parts of the estates are visually accessible, most of those parts also comprise quite small areas that are themselves fragmented across the wider landscape. This the removal of some areas from production and conversion to natural vegetation, the overall landscape effects will remain quite small and in keeping with much of the surrounding landuse pattern.

Other special values

[31] https://www.wams.org.nz/wams_desktop/index.html
[32] http://www.walkingaccess.govt.nz/walkways-and-access/outdoor-access-code
[33] Assessment of non-monetary values – Catalyst Group Jul 2016 Report 2016/066

Looking Ahead

15. Monitoring

Introduction

To ensure that the management objectives identified in this plan are being achieved, various monitoring exercises outside normal operations management have been developed. Monitoring results are summarised and reported as and when required and are also, where appropriate, made publicly available through the PF Olsen webpage.

Values monitored

Management inspections are undertaken regularly. The direct forest monitoring framework implemented and applicable to Brook, Maitai, Roding and Marsden Valley Forests is tabulated below.

Table 35. Environmental process monitoring framework

Monitored Element	Components	Data Source	Data medium	Reporting / Website Frequency
Chemical Usage	- A.I Usage - Area Overuse	- Operational Supervisors	- FIPS - Form	- On Demand - Annual
Client Satisfaction	- Post-operation client survey	- Clients	- Survey Form	- Post-operational - Annual
Consultation Activity	- Complaints - Other Interactions	- Operational Supervisors - Planners	- FIPS - Form - Meeting Minutes	- Annual - Annual
Environmental Incidents	- Incident Number - Categories	- Operational Supervisors	- FIPS - Form	- On Demand - Annual
Environmental Goals	- All	- Environmental Management Group	- Meeting Minutes	- Annual
Environmental Training	- Courses - Numbers - Names	- Staff	- FIPS - NZQA	- Annual - Individual
Flora & Fauna	- Species & Status Frequencies - New Finds	- Operational Supervisors - Public - Crews	- FIPS - Form - Naturewatch	- On Demand - Annual
Forest Estate Structure	- Area: Plantation & Protected Ecosystem - Age-class - Species - Forest Type - Protection Status	- Management Plans - Stand Records	- FIPS Stand Records	- On Demand - Annual
Forest Growth	- PSP Protocols - Periodic Inventory - ISO 9001	- Contractors	- Volume Reconciliations - Estate model	- Periodic-annual - Not on web

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Monitored Element	Components	Data Source	Data medium	Reporting / Website Frequency
Forest Health	- Disease & health	- NFH Surveillance Program[34]	- Document	- Periodic-Annual - Not on web
FSC Membership	- Block - Location - Name	- Certifying Body	- Certificate	- On Demand - Annual
Health & Safety Statistics	- LTI / MTI / TIFR - Accidents & Incidents - Initiatives	- Operational Supervisors	- Noggin	- Monthly - Annual
High Conservation Value Forests	- Condition Trends - Photopoint Monitoring	- Contractors - Supervisors	- Drone, photos, - Spreadsheet	- Annual
Internal Audit CAR Activity	- Frequency * Category	- Auditors(ees) - Operational Supervisors	- Noggin	- Annual
Log Production	- Total Logs - FSC Certification	- Log dockets at harvest	- Woodtrack	- On Demand - Annual
Operational Monitoring	- Audit Trends - Cause Analysis	- Operational Supervisors	- FIPS - Form	- Monthly - Annual
Pests	- RTC / RTI - Kill Returns - Other	- Contractors - Supervisors - Permitees	- FIPS - Various	- Annual - Where Relevant
Protected Ecosystem Condition	- Condition Trends - Photopoint Monitoring	- Contractors - Supervisors	- Spreadsheet	- Bi-annual if restoration initiated
Recreational & Non-Timber	- Permits Issued	- Branch Offices - Forest Security	- FIPS	- Annual
Resource Consents	- Number - Compliance	- Operational Planners	- FIPS	- Monthly - Annual
Social Survey	- Demographics, - Values - Work Conditions	- Contractors	- Survey form	- 3 yearly
Stream Monitoring	- Clarity +/- other specific - Full NOF	- Supervisors - Contractors - BOPRC	- Various	- Operational - BOPRC S.o.E.

[34] Forest health inspections are undertaken annually, by an independent specialist forest health assessor, through the NZ Forest Owners Association forest health scheme.

Other monitoring

Other operational standards are monitored through a variety of concurrent and post operational assessment procedures that cover all critical aspects of the business of the estate. This information which includes log manufacturing quality performance, safety performance, financial and budget performance as well as stakeholder feedback and client satisfaction surveys and other private or commercially sensitive is not made public.

However, the framework around this monitoring is tabulated in Appendix 7.

16. Industry Participation and Research

NZFOA and FGLT

Nelson City Council's primary means of participating as part of the forest owner community, and to gain industry intelligence and access to research findings is via:

- Membership of New Zealand Forest Owners' Association Inc. (NZFOA) http://www.nzfoa.org.nz/ and representation through its Property Manager on the Executive Board and working committees of NZFOA.
- Payment of a commodity levy (currently 27 cents/tonne or JAS) to the Forest Growers' Levy Trust (FGLT). http://fglt.org.nz/ .The FGLT uses these funds to finance pan-industry good programmes and contracts NZFOA to carry out this work.

Research

A little over 50% of the funds raised by FGLT are allocated to forestry research projects. These funds are supplemented by New Zealand Government research for industry funds that are bid for on a contestable basis every few years.

Application of the research is via knowledge gained in workshops and uptake by contractors, commercial providers, PF Olsen staff and through the deployment of better genetics. PF Olsen's direct involvement with other research bodies across all the estates it manages contributes to and benefits Nelson City Council through early application of good ideas and research findings.

FISC

The Forest Industry Safety Council (FISC) was set up in early 2016 following an independent review of safety in the forest industry. FISC is a forum for exchange of safety improvement initiatives, and to develop resources for forest managers and contractors. These resources are primarily delivered via the Safetree website http://safetree.nz/. FISC is financed jointly from FGLT and government, primarily Accident Compensation Corporation (ACC).

PF Olsen's continued support of FISC in the form of senior staff involvement in the OAG and TAG committees ensure Nelson City Council interests are considered and that outcomes are understood and applied in practice.

Additional representation	Other bodies that the Property Manager are active in, that bring benefit to Nelson City Forests include: • Wood Council of New Zealand (Woodco) • Business Leaders' Health and Safety Forum • NEW ZEALAND Forest Nursery Growers' Association • Forest Health and Biosecurity Committee • Forest Owners Association – Transport, Environment and Safety committees. • Log Transport Safety Council • NEW ZEALAND Institute of Forestry Inc. • NEW ZEALAND International Business Forum • NEW ZEALAND China Council • Various organisations dealing with fresh water quality regulations • Nelson Tasman Fire and Emergency New Zealand Rural Fire Authority • Tr Uru Rakau and MPI (review of the National Environmental Standard for Plantation Forestry. • MFE – (Freshwater and biodiversity legislation)

17. Future Planning

Introduction

This plan will provide guidance on the management of the NCC forests for the next 5 years. Minor revisions may be made on an annual cycle. Any material changes made will be documented in the following section. The next major review date for this plan is June 2025

Deviations from this plan will only be justified on the basis that the changes do not adversely affect the environment and are necessary or beneficial to achieving the management goals and objectives.

The forest management plan is used for both medium and long-term planning.

Associated management plans

As already noted and referenced, this plan, although directed at the commercial management of a group of plantation forests and their immediate surrounds, does not exist in isolation. The estate's management and outcomes are implicitly integrated with the wider land bases of the Nelson City Council reserves. As such the objectives and policies of those plans will influence the outcomes expected of this plan and future reviews will need to take account of those wider planning documents and their successors.

Operation plans

Short term tactical planning is accomplished through development of annual operations plans in conjunction with detailed budgeting. These plans are prepared in accordance with this Management Plan. Harvesting operations are also planned on a block by block basis because of the level of detail required.

Such operational plans and associated budgets are subject to approval by the forest owners at the beginning of each financial year.

Stakeholder consultation

Consultation with key stakeholders has been enabled as part of the development of this plan which will be publicly available on the PF Olsen Certification website. Feedback from stakeholders (and others as they become apparent) is monitored, including actions undertaken to resolve disputes and issues and may inform changes in operational practice or future plan reviews.

18. Register of Plan Change and Review

Introduction

This plan pertains to the management of Brook, Maitai, Roding and Marsden Valley Forests and will be reviewed on an annual basis. This section documents specific changes made during each review.

Change	Date	Section/Page

Appendix 1: Legal description of Nelson City Council Forests

Forest	CT	Legal Description
Brook	The Nelson City Council	Pt Section 33 Blk E Wakatu DIST
Brook	DP 430237	Nelson City Council Lot 3
Brook	DP 5365	The Nelson City Council Lot 1
Brook	DP 19858	The Nelson City Council Lot 2
Brook	The Nelson City Council	Pt Section 7 Suburban South DIST
Brook	DP 210	The Nelson City Council Pt Lot 34
Brook	DP 210	The Nelson City Council Pt Lot 37
Brook	DP 13488	The Nelson City Council Lot 1
Brook	DP 443557	The Nelson City Council Lot 5
Brook	DP 12745	The Nelson City Council Lot 2
Brook	DP 12745	The Nelson City Council Lot 1
Brook	The Nelson City Council	Pt Section XVIII Suburban South DIST
Brook	SQ 18	The Nelson City Council Secton 22
Brook	The Nelson City Council	Pt Section 41 Brook Street and Maitai DIST
Brook	DP 764	The Nelson City Council Lot 2
Maitai	DP 6465	The Nelson City Council Pt Lot 1
Maitai	SQ 18	The Nelson City Council Pt Lot 31, 32
Maitai	DP 6465	Pt Lot 1
Maitai		Pt Section 2 Blk I Maungatapu SD
Maitai	SQ 18	The Nelson City Council Pt Section 6, 8, 9, 33, 35, 37, 39, 41, 43, 46, 47, 48, 49, 50, 58
Maitai	DP 17062	Nelson Ciy Council Lot 1
Maitai	The Nelson City Council	Section 1 Blk II Maungatapu SD
Roding	The Nelson City Council	Section 12 Blk XII Waimea SD
Roding	The Nelson City Council	Pt Section 9 Blk XII Waimea SD
Roding		Section 7 Blk VIII Waimea SD
Roding	The Nelson City Council	Pt Section 8 Blk VIII Waimea SD
Roding	The Nelson City Council	Section 2 Blk VIII Waimea SD
Marsden Valley	SO 14979	Nelson City Council Section 6
Marsden Valley	DP 18451	Nelson City Council Lot 1
Marsden Valley	DP 18204	Nelson City Council Lot 2

Appendix 2: Other Relevant Legislation

Commercially relevant statutes & regulations

Accident Compensation Act 2001 #49
Animal Welfare Act 1999
Biosecurity Act 1993
Climate Change Response Act 2002
Conservation Act 1987
Crown Forest Assets Act 1989
Fencing Act 1978
Fire and Emergency New Zealand Act 2017
Forestry Rights Registrations Act 1983
Forests Act 1949
Freshwater Fisheries Regulations 1983
Hazardous Substances and New Organisms Act 1996
Health and Safety at Work Act 2015
Heritage New Zealand Pouhere Taonga Act 2014
Protected Objects Act 1975
Reserves Act 1977
Resource Management Act 1991 regulations
Soil Conservation and Rivers Control Act 1941
The Treaty of Waitangi Act 1975
Trespass Act 1980
Wildlife Act 1953

Relevant regulations to the above legislation also apply as well as various industry Accords, Codes of Practice as listed below.

Industry Accords & Codes

New Zealand Forest Accord
Principles of Commercial Plantation Forest Management
New Zealand Environmental Forestry Code of Practice
New Zealand Code of Practice for the Management of Agrichemicals.
Climate Change Accord
NEW ZEALAND Log Transport Safety Accord
Eliminating Illegal Forest Products in New Zealand
MoU Federated Farmers and Forest Owners Association and Farm Forestry Association
New Zealand Forest Road Engineering Manual

Appendix 3: Stands programmed for conversion to alternative use.

Roding	51.01	Y		Y	P radiata	Unpruned	
	51.02	Y		Y	P radiata	Unpruned	Maintain 200m buffer from Roding River
	51.03	Y		Y	P radiata	Unpruned	
	52.01	Y		Y	P radiata	Unpruned	
	52.02	Y		Y	P radiata	Unpruned	Maintain 200m buffer from Roding River
	52.04	Y		Y	P radiata	Unpruned	
	53.01	Y		Y	P radiata	Unpruned	Convert to alternate use if seedlings fail
	53.02	Y		Y	P radiata	Unpruned	Convert to alternate use if seedlings fail
	53.04	Y		Y	P radiata	Unpruned	Convert to alternate use if seedlings fail
	53.05	Y		Y	P radiata	Unpruned	Convert to alternate use if seedlings fail
	54.02	Y	Harvest via Hancocks	Y	P radiata	Unpruned	Convert southern portion to alternate use
	55.01	Y		Y	P radiata	Unpruned	
	55.02	Y		Y	P radiata	Unpruned	Maintain 200m buffer from Roding River
	55.03	N	Poison/fell to waste				
	55.04	Y		Y	P radiata	Unpruned	
	55.06	Y		N			Convert to alternate use
	56.01	Y		Y	P radiata	Unpruned	
	56.04	Y		Y	P radiata	Unpruned	
	56.05	Y		Y	P radiata	Unpruned	Maintain 10m buffer around Roding River
	56.06	Y		Y	P radiata	Unpruned	
	56.07	Y		Y	P radiata	Unpruned	
Brook	21.03	N					Retain as amenity planting
	21.04	Y	Partially clear	Y	P radiata	Unpruned	Native regeneration of currently clear area, convert remainder to native vegetation after next rotation
	21.05	N		N			Retain as amenity plantings
	21.05		Currently clear	N			Native regeneration
	21.11	N					Retain as amenity plantings
	22.01		Currently clear	N			Convert to alternate use
	22.02	Y		N			Convert to alternate use
	22.03	Y	If economic, or poison/fell to waste	Y	P radiata	Unpruned	Convert to alternate use after next rotation
	22.04	Y		N			Convert to alternate use
	22.05	Y		N			Convert to alternate use
	22.06	Y		N			Convert to alternate use
	22.08	Y		N			Convert to alternate use
	22.09	Y		N			Convert to alternate use
	25.01	N	Poison/fell to waste	N			Convert to alternate use
	26.01	Y	Harvest when landfill moves	N			Convert to alternate use
	26.02	Y	Harvest when landfill moves	N			Convert to alternate use
	26.04	Y		N			Convert to alternate use
	26.05	Y	If get to harvestable age	Y	P radiata	Unpruned	Only those areas that won't be destroyed by landfill expansion
	26.06	Y	If get to harvestable age	Y	P radiata	Unpruned	Only those areas that won't be destroyed by landfill expansion
	26.07	Y	If get to harvestable age	N			Convert to alternate use
	28.01	Y		N			Convert to alternate use
	29.01	Y		Y	P radiata	Unpruned	Part of this stand already converted to native plantings
	29.02	Y		Y	P radiata	Unpruned	This decision can be reviewed at the time of harvest
Bell Island		Y		Y	P radiata	As per rest of block	

Appendix 4 SNA report: Significant natural area (SNA 186-188)

Appendix 5: Potential Avifauna Species in the Nelson Area

Appendix 6: Regional Pest Management Plan for Nelson Region 2019- 2029

Table 1: Organisms Classified as Pests

COMMON NAME	SCIENTIFIC NAME	UNWANTED ORGANISM (YES/NO)	PROGRAMME	GNR (YES/ NO)	LEAD RESPONSIBILITY FOR CONTROL*
African feather grass	*Pennisetum macrourum*	Yes	Eradication		TDC
Banana passion vine (Golden Bay and Upper Riwaka – different rules apply)	*Passiflora tripartita var. mollissima, P. tarminiana*	Yes	Sustained control		Occupier
Bathurst bur	*Xanthium spinosum*	No	Eradication		TDC
Blackberry	*Rubus fruticosus agg.*	No	Sustained control		Occupier
Black spot	*Venturia inaequalis*	No	Sustained control		Occupier
Bomarea	*Bomarea multiflora*	Yes	Progressive containment		Occupier
Boneseed (outside Port Hills)	*Chrysanthemoides monilifera*	Yes	Eradication		TDC
Boxthorn	*Lycium ferocissimum*	No	Eradication		TDC
Broom (Howard – St Arnaud)	*Cytisus scoparius*	No	Sustained control		Occupier
Broom (outside Howard - St Arnaud)	*Cytisus scoparius*	No	Sustained control	Yes	Crown and private occupiers
Brushtail possum (Waimea Estuary)	*Trichosurus vulpecula*	No	Site-led		TDC/groups Occupier
Cape tulip	*Moraea flaccida*	Yes	Exclusion		MPI
Cathedral bells	*Cobaea scandens*	Yes	Eradication		TDC
Chilean needle grass	*Nassella neesiana*	Yes	Exclusion		TDC
Chinese pennisetum	*Cenchrus purpurascens (was Pennisetum alopecuriodes)*	Yes	Progressive containment		Occupier
Chocolate vine	*Akebia quinata*	Yes	Sustained control		Occupier
Climbing asparagus (E. Golden Bay)	*Asparagus scandens*	Yes	Sustained control		Occupier
Climbing spindleberry	*Celastrus orbiculatus*	Yes	Eradication		TDC
Codling moth	*Cydia pomonella*	No	Sustained control		Occupier
Cotoneaster spp. (Abel Tasman)	*Cotoneaster glaucophyllus and others*	No	Site-led		Occupier
Darwin's barberry (St Arnaud Village)	*Berberis darwinii*	Yes	Site-led		Occupier
Douglas fir (wildings only) (Abel Tasman)	*Pseudotsuga menziesii*	No	Site-led		Occupier

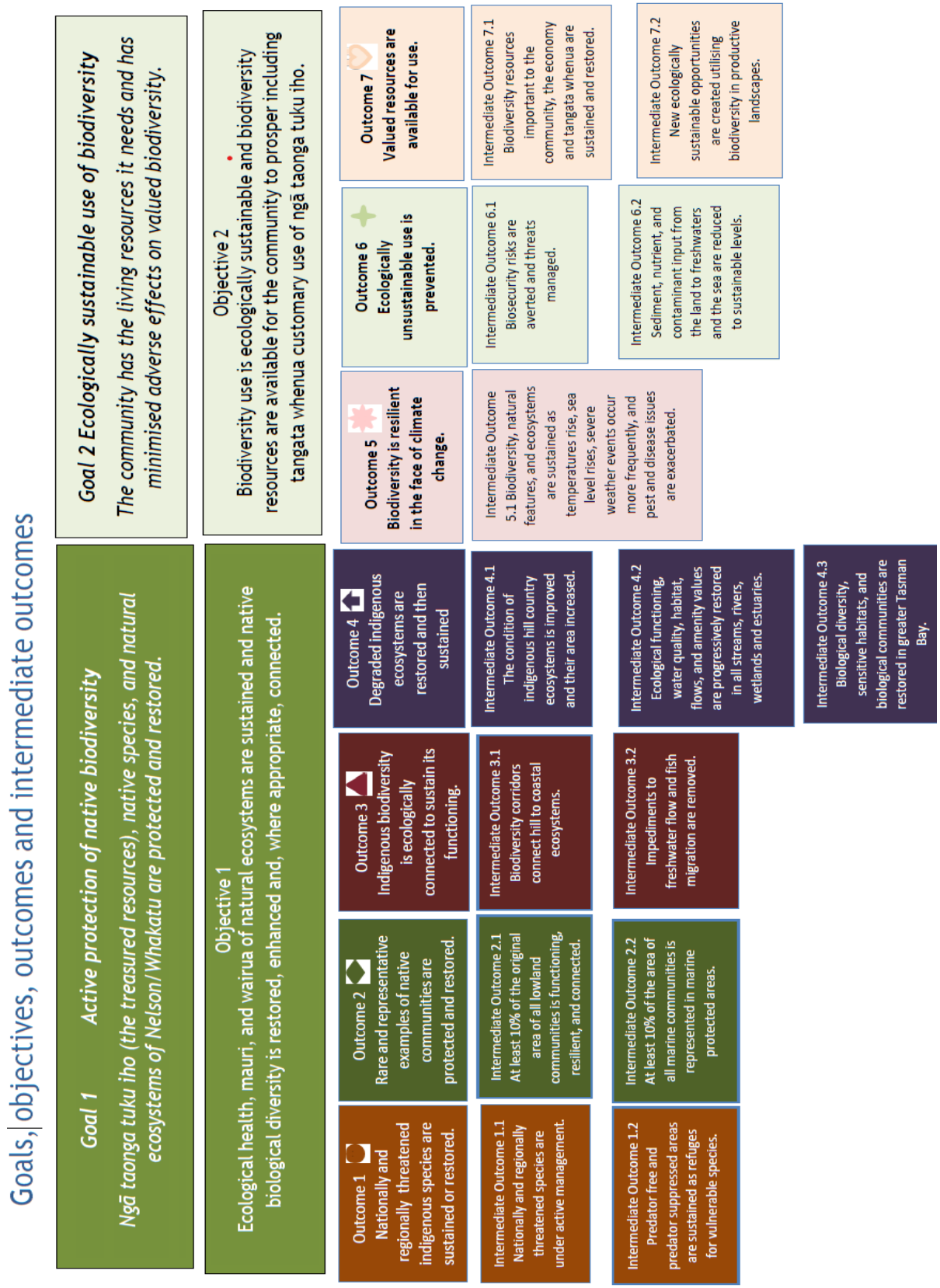
*Note: lead responsibility for control in the sixth column does not infer 'management agency' responsibilities.

COMMON NAME	SCIENTIFIC NAME	UNWANTED ORGANISM (YES/NO)	PROGRAMME	GNR (YES/NO)	LEAD RESPONSIBILITY FOR CONTROL*
Egeria	*Egeria densa*	Yes	Eradication		TDC
Entire marshwort	*Nymphoides geminata*	Yes	Eradication		TDC
European canker	*Neonectria ditissima*	No	Sustained control		Occupier
European holly (Abel Tasman and St Arnaud Village)	*Ilex aquifolium*	No	Site-led		Occupier
Feral cats (Waimea Estuary)	*Felis catus*	No	Site-led		TDC/groups
Feral rabbits (Golden Bay)	*Oryctolagus cuniculus*	No	Eradication		Occupier
Ferrets (Waimea Estuary)	*Mustela putorius furo*	Yes	Site-led		TDC/groups
Fireblight	*Erwinia amylovora*	No	Sustained control		Occupier
Gambusia	*Gambusia affinis*	Yes	Eradication		DOC
Giant buttercup	*Ranunculus acris*	No	Sustained control		Occupier
Gorse (Howard – St Arnaud)	*Ulex europaeus*	No	Sustained control		Occupier
Gorse (outside Howard - St Arnaud)	*Ulex europaeus*	No	Sustained control	Yes	Crown and private occupiers
Greater bindweed (St Arnaud Village)	*Calystetia sylvatica*	No	Site-led		Occupier
Gunnera	*Gunnera tinctoria, G manicata*	Yes	Sustained control		Occupier
Himalayan balsam	*Impatiens glandulifera*	No	Eradication		TDC
Hornwort	*Ceratophyllum demersum*	Yes	Exclusion		TDC
Indian myna	*Acridotheres tristis*	No	Exclusion		TDC
Indian ring-necked parakeet (feral)	*Psittacula krameri manillensis*	Yes	Eradication		TDC
Johnson grass	*Sorghum halepense*	Yes	Exclusion		MPI
Knotweeds (Asiatic, giant and hybrids)	*Fallopia japonica, F. sachalinensis*	Yes	Eradication		Occupiers (TDC assist)
Koi carp	*Cyprinus carpio*	Yes	Exclusion		DOC
Kūmarahou (gumdigger's soap – Abel Tasman)	*Pomaderris kumeraho*	No	Site-led		Occupier
Lagarosiphon	*Lagarosiphon major*	Yes	Sustained control		Occupier
Madeira vine	*Anredera cordifolia*	Yes	Eradication		TDC

COMMON NAME	SCIENTIFIC NAME	UNWANTED ORGANISM (YES/NO)	PROGRAMME	GNR (YES/NO)	LEAD RESPONSIBILITY FOR CONTROL*
Magpie (Golden Bay)	*Gymnorhina species*	No	Eradication		TDC
Nassella tussock	*Nassella trichotoma*	Yes	Progressive containment		Occupier
Nodding thistle	*Carduus nutans*	No	Sustained control		Occupier
Old man's beard (Golden Bay – Riwaka, Upper Buller)	*Clematis vitalba*	Yes	Sustained control		Occupier
Perch	*Perca fluvitalis*	No	Eradication		DOC
Phragmites	*Phragmites australis*	Yes	Exclusion		MPI
Powdery mildew	*Podosphaera leucotricha*	No	Sustained control		Occupier
Purple loosestrife	*Lythrum salicaria*	Yes	Progressive containment		Occupier
Queensland poplar	*Homalanthus populifolius*	Yes	Sustained control		Occupier
Ragwort	*Jacobaea vulgaris (previously Senecio jacobaea)*	No	Sustained control		Occupier
Rat species (Waimea Estuary)	*Rattus rattus; Rattus norvegicus*	No	Site-led		TDC/groups
Red-eared slider turtles (feral)	*Trachemys scripta elegans*	No	Eradication		TDC
Reed sweet grass	*Glyceria maxima*	No	Progressive containment		Occupier
Rooks	*Corvus frugilegus*	Yes	Exclusion		TDC
Rosemary grevillea (Abel Tasman)	*Grevillea rosmarinifolia*	No	Site-led		Occupier
Rowan (St Arnaud Village)	*Sorbus acuparia*	No	Site-led		Occupier
Rudd	*Scardinius erythrophthalmus*	No	Eradication		DOC
Russell lupin (St Arnaud Village)	*Lupinus polyphyllus*	No	Site-led		Occupier
Sabella	*Sabella spallanzanii*	Yes	Eradication		TDC
Saffron thistle	*Carthamas lanatus*	No	Eradication		TDC
Senegal tea	*Gymnocoronis spilanthoides*	Yes	Exclusion		TDC
Spartina	*Spartina spp.*	No	Eradication		DOC

COMMON NAME	SCIENTIFIC NAME	UNWANTED ORGANISM (YES/NO)	PROGRAMME	GNR (YES/NO)	LEAD RESPONSIBILITY FOR CONTROL*
Stoats (Waimea Estuary)	*Mustela ermine*	Yes	Site-led		TDC/groups
Sycamore (St Arnaud Village and Abel Tasman)	*Acer pseudoplatanus*	No	Site-led		Occupier
Taiwan cherry and cultivars	*Prunus campanulata*	No	Eradication		TDC/NCC
Tench	*Tinca tinca*	No	Eradication		DOC
Variegated thistle	*Silybum marianum*	No	Progressive containment		Occupier
Velvet leaf	*Abutilon theophrasti*	Yes	Exclusion		TDC
Wallabies (dama, Bennett's)	*Macropus eugenii, M. rufogriseus*	Yes	Exclusion		TDC
Water hyacinth	*Eichhornia crassipes*	Yes	Exclusion		MPI
Weasels (Waimea Estuary)	*Mustela nivalis vulgaris*	Yes	Site-led		TDC/groups
White-edged nightshade	*Solanum marginatum*	Yes	Progressive containment		Occupier
Wild ginger (Golden Bay – Kaiteriteri)	*Hedychium gardnereianum, H. flavescens*	Yes	Sustained control		Occupier
Wild kiwifruit (including unmanaged or abandoned)	*Actinidia spp.*	No	Eradication		Occupier
Woolly nightshade (Golden Bay)	*Solanum mauritianum*	Yes	Sustained control		Occupier
Yellow bristle grass (Golden Bay and Upper Buller)	*Setaria pumila*	No	Sustained control		Occupier
Yellow flag	*Iris pseudacorus*	Yes	Sustained control		Occupier
Yellow jasmine	*Jasminum humile*	Yes	Sustained control		Occupier

Appendix 7: Goals, Objectives and Outcomes – Nelson Biodiversity Plan.



Appendix 8: Recreational Issues, Objectives and Policies from the Nelson Conservation and Landscape Reserves Management Plan 2009

Current Situation/Issue	Objectives	Policies
5.12 Public Access and Use One of the most important purposes of the reserves is to provide opportunities for public use. The reserves covered by this plan provide excellent opportunities for a range of recreational uses, notably walking, mountain-biking and scenery appreciation. There can sometimes be conflicts between different reserve users or between reserve use and reserve values. This plan aims to achieve a balance between unrestricted public access and the protection of reserve values and reserve users.	Maximise accessibility by ensuring that reserves are available, wherever possible, for public access and use.	5.12.1 Allow public access to and recreational use of reserves, unless restrictions are required for reserves management, Council-approved projects and activities, public safety, to manage conflict between users or for the protection of water quality and reserve values. 5.12.2 Encourage multiple uses of reserves. 5.12.3 Ensure that restrictions on reserve use are for the minimum period necessary for the event or activity. 5.12.4 Ensure that the reasons for any restrictions on reserve use are clearly communicated to the public.

Current Situation/Issue	Objectives	Policies
5.14 Tracks and Track Marking There are a number of tracks in the reserves. Public use may create a demand for additional tracks. It is important that the reserves provide for a range of recreational experience. Reserve lands also provide opportunities to provide public access to other areas, such as Mt Richmond Forest Park.	To ensure tracks are appropriately sited, marked and maintained.	5.14.1 Provide, and upgrade where required, using modern design and construction techniques, paths and tracks through reserves where necessary to enable public use and to facilitate reserve management. 5.14.2 Site paths and tracks at locations that avoid natural hazards, help ensure public safety and seek to avoid damage to sensitive vegetation and habitats. 5.14.3 Ensure that the network of paths and tracks in reserves provides for a range of recreational experiences, and practical and enjoyable use of reserves by the public. 5.14.4 Seek to improve appropriate access through reserves to other public lands, especially public conservation lands in Mt Richmond Forest Park. 5.14.5 Prohibit the construction of unauthorised mountain-bike tracks in reserves.
5.15 Walking and Mountain-biking Walking and mountain-biking are popular uses of the reserves. In most areas these activities are appropriate and compatible. In some areas these activities may need to be restricted to protect reserve values or to avoid conflict with other users.	To provide for walking, and, where appropriate, mountain-biking, in reserves.	5.15.1 Allow walking access to reserves and mountain biking on tracks, except where necessary to restrict access as specified in Policy 5.12 (Public Access and Use), or as restricted by policies for each reserve. 5.15.2 Provide opportunities for walking and mountain-biking in reserves through the establishment of a range of different paths and tracks to suit different users.

Current Situation/Issue	Objectives	Policies
5.16 Hunting and Fishing Recreational hunting can assist in the control of populations of large animals (e.g. deer, pigs and goats). Inappropriate hunting can pose threats to indigenous biodiversity, water quality and public safety. There are very limited opportunities for recreational fishing in the reserves. Fishing has the potential to affect water quality of lakes in the water reserves.	To permit, where appropriate, recreational hunting and fishing in reserves.	5.16.1 Allow recreational hunting of large introduced mammals (e.g. deer, pigs, goats) in reserves, where permitted by policies for the reserve, and subject to a permit from Council. 5.16.2 Prohibit the use of small-calibre firearms in reserves, unless specifically authorised by Council, or for reserves management purposes. 5.16.3 Prohibit game bird hunting in reserves, unless specifically permitted by policies for the reserve, authorised by Council and subject to any licence required from Nelson/Marlborough Fish and Game Council. 5.16.4 Allow recreational fishing in reserves, with the exception of the Maitai and Roding Water Reserves, subject to any licence required from Nelson/Marlborough Fish and Game Council.
5.17 Camping, Huts and Overnight Stays Campsites, huts and shelters provide opportunities for overnight stays in reserves. In most of the reserves covered by this plan, there is little demand for overnight stays due to their size. In other reserves, overnight stays are guided by the reserve policies.	To maximise opportunities for recreational use by allowing, where appropriate, overnight stays in reserves.	5.17.1 Allow overnight camping or overnight stays at huts or shelters at specified sites, as determined by policies for the reserve, or for reserves management purposes. 5.17.2 Provide toilet facilities and fresh water at any campsites, huts and shelters where overnight stays are permitted. 5.17.3 Limit numbers at overnight campsites, huts or shelters if necessary to protect water quality and reserve values.

Current Situation/Issue	Objectives	Policies
5.18 Fossicking and Rock-hounding Uncontrolled fossicking and rock-hounding has been a problem in the past, causing damage to some features.	To allow for the public enjoyment of geological features while ensuring their protection.	5.18.1 Prohibit the hand-collection of small quantities of rocks and minerals unless authorised by Council. 5.18.2 Prohibit collection of rocks, minerals, artifacts or any other material from archaeological or historic sites, unless indicated otherwise at the site and in policies for the reserve, or for reserve management purposes.
5.19 Aircraft and Aerial Sports Motorised aircraft use is generally inappropriate in the reserves. Non-motorised flights and take-off sites generally have a low impact.	To restrict aircraft activity and aircraft use in reserves.	5.19.1 Prohibit recreational motorised aircraft landing and taking off in reserves, unless permitted by policies for the reserve and specifically authorised by Council. 5.19.2 Permit motorised aircraft landing and taking-off in reserves for search and rescue, public safety, reserve management purposes or for one-off events specifically authorised by Council. 5.19.3 Permit non-motorised launching and landing of flights from suitably accessible areas in reserves, subject to Civil Aviation Authority regulations. 5.19.4 Permit foot launched motorised launching and landing of flights from the Barnicoat Range only, or other areas in reserves where authorised by Council, subject to Civil Aviation Authority regulations
Current Situation/Issue	**Objectives**	**Policies**
5.20 Grazing and Domestic Animals Grazing in reserves can assist in reducing fire risk or maintaining grassed areas. There is a public demand for the use and taking of dogs and in some cases horses in reserves. Some restrictions on these uses may be required to protect biodiversity values and avoid conflicts with other users.	To restrict grazing and the use and taking of domestic animals in reserves as necessary to protect reserve values (including water supply) and avoid conflicts with other reserve users.	5.20.1 Permit grazing of livestock in reserves only if grazing is compatible with the protection of reserve values and does not conflict with other reserve users. 5.20.2 Restrict grazing animals from accessing waterways. 5.20.3 Allow horses on reserves only where individual reserve policies permit such use. 5.20.4 Allow dogs on reserves, provided they are under control, except where prohibited by individual reserve policies. 5.20.5 Prohibit the taking of domestic animals (other than dogs and horses) onto reserves.
5.21 Plantation Forestry and Firewood Gathering There are some substantial plantations of trees in some of the reserves. These plantations are appropriate at some sites. At other sites, it would benefit biodiversity values if regeneration of indigenous plant communities was encouraged following tree harvest. Recreational use is often compatible with plantation forestry.	To manage plantation forests in a way that protects reserve values and provides benefits to Council.	5.21.1 Manage forests in reserves in a way that is economically and environmentally sustainable. 5.21.2 Ensure plantation forests are planned and managed in a way that meets the objectives of this plan. 5.21.3 Encourage and manage the regeneration of indigenous vegetation after harvesting small or isolated or uneconomic or otherwise inappropriate areas of plantation forest. 5.21.4 Prohibit the gathering of harvesting of firewood from reserves unless specifically permitted by reserve policies and Council authorisation. 5.21.5 Allow and encourage the recreational use of plantation forests provided such use does not threaten the forest and is compatible with other reserve uses.

Appendix 9: PF Olsen Significant Aspects – Objectives, targets and monitoring

PF Olsen Significant Aspects - Objectives, Targets and Monitoring - within the organisational context

	Economic	Legal	Social and Cultural	Health & Safety	Environment
Objectives	Commercial viability Valuable Forest Asset Sustainable resource supply Sustainable work	Compliance with the letter Compliance with the intent	Retain our LtO Respect for our stakeholders and rights of indigenous people Good employer Accountable in the community	Home safe every day Drug and alcohol free work Culture of care Safest forestry company	Protect biodiversity Protect water Minimise erosion Responsible chemical use
Targets	- Appropriate R.o.I - Maintain and enhance value - Log grade outturn value maximised - Sustained product flows.... ... and employment - Appropriate land-use	- Zero non-compliance RMA - Zero non-compliance Heritage NZ Act - Zero non-compliance Worksafe - Zero non-compliance financial - Zero non-compliance employment - Professional & transparent - Valid & fair contracts- all staff & contractors - Taxes / payment and royalties paid	- External complaints < 3% of incidents - Zero unauthorised damage to cultural sites - Customer rankings rising - Recognition of transparency and respect in dealings with Tangata Whenua - Workforce trained and engaged - Communication to Community - Contractor/staff training	- Crew visit increase, year on year - LTIFR = 3, TIFR =7 - drug free D & A testing 100% - 100% Safetree signup - Safe Start-up - HPI >90% close-out by due date - 100% inducted	- Crew performances >91-92% Non Compliance = 0, Marginality <1% - Skid check / Post op tail <5% - Zero unauthorised damage to cultural sites - Zero unauthorised damage to key terrestrial ecosystems - Rare Fauna BPG's applied - Setbacks on all streams - Chemical A.I usage - Protect enhance key ecosystems (where applicable) - Carbon sequestration - 100 % inducted
Monitoring	**Factor / Freq / Mode** R.o.I against investment model / Annual / Woodstock Estate valuation / Annual / Financial Product flows / Annual / Woodtrack Plantation area / species / reserve trends / 5yrly / FIPS report / GIS Log quality audits / Contin'l / Noggin Client reporting / Mnth'ly / Written Independent accounting audit / Annual / Written TQM - CAR system / Contin'l / Noggin ISO internal audits (sample) / Annual / Noggin	**Factor / Freq / Mode** Regulatory Authority / Worksafe inspections / Mnthly / Noggin Incidents Archaeological Post-Op AEE's / Mnthly / Noggin Incidents Enforcement Actions / Ad hoc / Noggin Incidents Incidents - all forms / Cont'l / Noggin Incidents Master Contracts / Cont'l / FIPS Accounts / Cont'l / FIPs Formal reporting - Mngr /Client / Mnthly / Written Formal reporting - SMT / Qtrly / Power Pnt Formal reporting - Board / Qtrly / Written Formal reporting - Company meeting / Annual / Power Pnt Independent accounting audit / Annual / Written TQM - CAR system / Contin'l / Noggin ISO internal audits (sample) / Annual / Noggin	**Factor / Freq / Mode** Env Incidents / Ad hoc / Noggin Customer survey / Annual / Form Complaints - meetings minutes / Ad hoc / Noggin + notes Social survey / 3 yrly / Form Staff survey / Annual / Survey Monkey NorthTech Gap analysis & NZQA & other training / Annual / Cloud dbase 1 full day/yr environmental advocate training incl cultural awareness / Annual / FIPS training Formal Reporting SMT / Qrtly / Power pnt TQM - CAR system / Contin'l / Noggin ISO internal audits (sample) / Annual / Noggin	**Factor / Freq / Mode** Safety Incident management - Stats and closeout of HPI / Contn'l / Noggin Sentinel (near miss) / Mnth'ly / Noggin Safety system audits / Rolling Qtr / Noggin D & A testing / Rndom / Extrnl Safetree / Annual Safe start-up / Actual / FIPs Safety Champs meetings / Bi-mnth'ly / Written Central Safety Committee / Bi-mnth'ly / Written Formal reporting - Mngr /Client / Mnth'ly / Written Formal reporting - SMT / Quarterly / Power pnt Formal reporting - Board / Quarterly / Written Formal reporting - Company meeting / Annual / Power pnt Induction records / As req'd +5yrs / FIPs TQM - CAR system / Contin'l / Noggin ISO internal audits (sample) / Annual / Noggin	**Factor / Freq / Mode** Operational Env Audits / crew performance / Mnthly / FIPs Skid checks / Qtrly / FIPs Env Incident Mgmnt / Ad hoc / Noggin Rare species sighting D base / Ad hoc / FIPs Harvst Planning Checklist / Ad hoc / FIPs Chemical A.I tracking and Weed matching - review and research / Annual / FIPs Veg / photopoint monitoring (where applicable) / Annual , triennial / Document Regional branch compliance / Tri-annual / FIPs + written Carbon sequestration / 5 yerrly / Estate model EMG meeting / Annual / Written Formal reporting - Mngr /Client / Quartely / Written Formal reporting - SMT / Quarterly / Power pnt Formal reporting - Board / Quarterly / Written Formal reporting - Company meeting / Annual / Power pnt Induction records / As req'd + 5 yrly / FIPs TQM - CAR system / Contin'l / Noggin ISO internal audits (sample) / Annual / Noggin

TQM & roving quality managers

Executive Management Team

Appendix 10: Significant Aspects of a Plantation Forest Life Cycle

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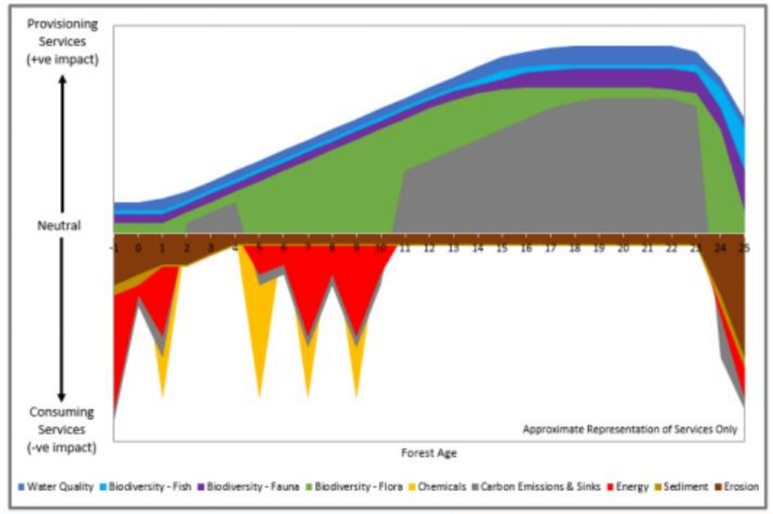
SIGNIFICANT ASPECTS OF A PLANTATION FOREST LIFE CYCLE

Provisioning and Consuming Services

Provisioning Services (+ves)

1. **Biodiversity — Fauna:** plantation forests are home to a wide range of native and endemic species, including kiwi, New Zealand falcon, fernbird, weka, kokako, geckos, skinks, frogs, and short- and long-tailed bats.
2. **Biodiversity — Fish:** streams provide habitat for a range of native fish species, including Giant and Banded Kokopu, Long-finned Eel, Koura and whitebait species.
3. **Biodiversity — Flora:** plantation forests host a variety of native plants. Pioneering plants (ferns, coprosmas, manuka etc.) eventually form the sub-canopy layer under the production species. In addition riparian zones, wetlands, native reserves and other natural areas add a native flora component to the overall forest matrix. These are often protected under Regional/District Council plans, the NZ Forest Accord, management agreements, or as part of forest certification schemes.
4. **Carbon sinks:** trees absorb carbon dioxide from the atmosphere and convert it into oxygen. Trees store the absorbed carbon, even after they are harvested.
5. **Water quality:** once canopy closure is achieved the in-stream temperature stabilises. Riparian zones and the plantation trees stabilise the land, reducing and removing excess nutrient loads. This in turn provides a better quality of habitat for fish and freshwater insects.
6. **Clean air**
7. **Employment,** especially at the time of harvest , both within the forest and ancillary services such as transport and processing
8. **Recreation** opportunities such as hunting, walking, mountain biking, hunting, orienteering, horse riding, motor sport events,



Aspect	Provisioning / Consuming Services	Frequency	Impact Level	Control Level	Time of Impact	Control Methods
Biodiversity	Fauna	Low	Variable	Medium	Land prep, roadworks & harvesting	Protection, BEP's, buffer zones, timing of operations, monitoring, species management plans
	Fish	Low	Variable	Partial	Land prep, roadworks & harvesting	Protection, BEP's, buffer zones, timing of operations, monitoring, species management plans, fish passage
	Flora	Low	Variable	Partial	Harvesting	Protection, BEP's, buffer zones, timing of operations, monitoring, species management plans, weed control, remedial/enhancement planting
Ecosystem Health	Pests & Weeds	High	Variable	Medium	Ongoing	Control based on identification of weed/pest and associated threat. Chemical (aerial or ground-based), mechanical, biocontrol, trapping, species/management selection. Research into non-chemical alternatives
	Carbon Emissions & Sinks	Oscillating	Medium	Low	Land prep, silviculture, spraying, roading & harvesting	Use of bio oils and lubricants, try to minimise machine movements, replanting new crop after harvest
	Chemicals	Infrequent	High	High	Land prep & ages 5-10 years	Research into amounts used and chemical types, limit spray drift
	Energy	Medium	Low	Low	Any operation involving machinery	Invest in / research energy efficient machinery and technology
Soil & Water	Erosion	Intermittent	High	High	Until canopy closure (~1 to 5 years), extreme weather events, harvesting	Hydroseeding, mulching, BEP's, appropriate earthwork engineering, check sites after weather events, replanting new crop after harvest
	Sediment	Continuous but Low	Medium	High	Until canopy closure (~1 to 5 years), extreme weather events, harvesting	Use of sediment control traps, appropriate earthwork engineering, check sites after weather events, replanting of new crop after harvest
	Water Quality	Low	Variable	High	Extreme weather events, harvesting	Use of sediment control traps, appropriate earthwork engineering, buffer/riparian zones, protection of wetlands, remedial planting, replanting new crop after harvest
Social	Recreation	Medium	Variable	Medium	Variable, dependent on forest and location	Access provided through forest permit system to ensure user and operational safety. Permits allow monitoring of forest usage and hunting kill returns
	Employment	High	Variable	High	Ongoing, peak at harvest/replant	Seek to provide continuity of employment for high performing contractors, provide training opportunities to engage and retain a professional and capable workforce

Consuming Services (-ves)

1. **Carbon Emissions:** heavy machinery and chainsaws during land prep, thinning and harvesting operations (fuel/oil use)
2. **Chemicals:** *Dothistroma* control and weed control
3. **Energy:** energy is released during any forestry operation involving machinery
4. **Erosion:** caused by harvesting, roading and land prep operations, plus extreme adverse weather events
5. **Sediment:** caused by harvesting, roading and land prep operations, plus extreme adverse weather events

Nelson City Council
te kaunihera o whakatū

Communications and Engagement Plan

For Forest Stewardship Council Certification – Management Plan consultation/feedback.

9 March 2020

Document Number: A302104

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Project description

Nelson City Council committed to achieving Forest Stewardship Council (FSC) certification, adopting the principles required so it can meet the relevant criteria relating to forest management.

The FSC Principles and Criteria describe the essential elements or rules of environmentally appropriate, socially beneficial and economically viable forest management.

Nelson City Council is committed to the PF Olsen FSC Group Scheme that is implemented through the Group Scheme Member Manual and associated documents.

A management plan for certification is required to be consulted on, with relevant stakeholders in Nelson

Communications and Engagement objectives

Objectives specific to this project:

- To publicise the Management Plan, and seek feedback from partners, affected stakeholders and the wider public
- To inform residents of NCC's responsible ownership and management of forestry
- To keep Elected Members informed of the proces

Target audiences

- Iwi partners
- Elected Members
- Internal Stakeholders (Forestry Advisory Group, SLT, NCC Regulatory officers)
- Affected parties (neighbours within 200 metres (To be confirmed), those on transport routes)
- Interest groups (e.g. Friends of the Maitai)
- Recreation groups (e.g. Nelson Mountain Bike Club, walking groups)
- Media
- Public

The process of consultation/seeking feedback is a voluntary process as part of the certification. It has no statutory framework, does not involve hearings nor appeals. It is an opportunity to suggest improvement that will benefit the overall land management outcomes within a commercially managed timber producing forest estate.

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Key messages

- Nelson City Council (NCC) is commited to being a responsible forestry owner. The FSC Certification is one mechanisim to show this.
- PF Olsen is a nationally recognised entity, and their group scheme ensures NCC is following industry best practice.
- NCC values the input from our iwi partners, interest groups and the wider public. It invites feedback on the Management Plan as part of the certification process.

Responsibilities

PF Olsen	NCC
Complete plans and prepare fully digital version of Management Plan	
Develop an initial professional & wider interest group contact list	Vetted and added to by NCC
Draft letter of invitation	Review of letter. Obtain addresses of neighbouring properties for mail out
Produce copies of plans	Identify special interest groups list.
Website portal	Links to website portal (Note: NCC to check if this is an appropriate medium)
	Our Nelson, Public notice (TBD)
Response to technical enquiries	Response to policy enquiries
	Receipt of submissions
	Compilation of issues
Resolution of issues	Resolution of issues
Update plan	Approval for updates

Budget and cost code

Dissemination and communication of the management plan will utilise Council channels where possible.

Action plan

- Duration of Consultation - 20 working days
- Simple or immediately addressable issues or corrections made as received.
- Complex issues – timeline flexible according to the situation. Further meetings with identified/(iable) groups may be needed to tease out issues, relevancy and solutions.

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Note: Consensus is not required and FSC is about responsible commercial forest management not no commercial management. Disagreements must be managed to the extent that engagement has been in good faith and a clear effort has been made to identify and resolve issues where they are reasonable requests and can be reasonably accommodated.

Resolving matters has no specific timeline there just must be a clear effort to give an issue the time it needs to be resolved or a line drawn if a request is out-of-scope, unreasonable and unresolvable.

Activity	Date	Details
Letter of invitation	TBD	To send to key partners and stakeholders
Face to face meetings	TBD	With partners and key stakeholders
Development of Shape Nelson Page	TBD	Opportunity to inform and provide feedback directly online
Our Nelson article	TBD	Utilising Our Nelson to inform the wider public about the certification process and good forest management
Social Media	TBD	Social media campaign to run in conjunction with Our Nelson story and the beginning of consultation/feedback. Reminders throughout 20 day period.

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XX XXXXX 2020

Dear Stakeholder

FSC® Nelson City Council plantation estate.

X....Y....Z Forests

Nelson City Council (NCC) has a number of plantation forests in the Nelson region. These forests play an important part in the community as commercial investment, a source of biodiversity and a recreational asset.

As part of NCC's focus on the environment, it is seeking Forest Stewardship Council (FSC) Certification. A key part of the certification process involves seeking feedback from interested or potentially interested parties who may have views on the management of these forests.

We wish to offer you the opportunity to provide your feedback on the management plan for these forests before it is finalised.

What is FSC Certification?

FSC (https://www.fsc.org/) is an internationally recognised not-for-profit organisation. It was established so forest management could be checked against an internationally standardised set of principles.

The certification involves a process of making sure good forest management is being followed. Forests are independently audited each year and recertified every 5 years. NCC has joined the PF Olsen Ltd FSC Group Scheme. Under this arrangement a group scheme allows for multiple forests and forest owners to operate as a group in terms of sharing the underlying fixed overhead costs and systems involved in operating to the FSC standards.

In New Zealand, the approved FSC standard is the:

National Standard for Certification of Plantation Forest Management in New Zealand.

FSC Code: FSC-STD-NZL-01-2012 New Zealand plantations EN Effective date: 27th September 2013.

The Role of PF Olsen Ltd

PF Olsen Ltd, is a New Zealand owned forest management services company. They manage forests throughout New Zealand and, where a forest owner also requires, will manage an estate to the FSC® standard.

NCC appointed PF Olsen Ltd (www.pfolsen.com) as property manager for their forest estate to manage the forest on a day to day basis. They will look after the estate according to the FSC certification standards and management plan. PF Olsen is also the manager of New Zealand's only FSC Group Scheme (see https://nz.pfolsen.com/environment-safety/about-fsc/) and is assisting in management of the certification process on behalf of the forest owners. Under the Group Scheme arrangement, the FSC certificate is held by PF Olsen Ltd but members of the scheme who

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are current and meet the standards are able to market their approved forest products as FSC certified.

Status of the process
Seeking FSC certification is a voluntary process by forest owners. It is a fundamental part of the FSC process to engage informally and in good faith with potentially affected parties. The desire is to try and make sure that the proposed forest management actions consider good social, environmental and economic outcomes.

There are no formal submissions, objections, hearings or similar process involved. Your participation is entirely at your discretion and without obligation.

Management Plan Review
If you would like to provide feedback on the Management Plan provided, then we welcome this input.

We would appreciate any comments on matters that you believe we should be aware of, or that would enhance the ongoing management of the forest. Where appropriate, we will look to incorporate feedback into the management plan or planning systems. Please indicate in your submission if you would be happy to speak to us should we need more information or clarity on your submission.

Providing comment
If you wish to provide comment you can either:

Fill out the consultation form (add further pages as required) included with this information package, and post direct to:

Nelson City Council
FSC Management Plan Submission
PO Box 645
Nelson 7040 (Note: Free post)

Use the form, scan it and email the scanned version to submissions@ncc.govt.nz

Or use the engagement website Shape.Nelson.govt.nz and Click on FSC Management Plan feedback.

The consultation period will be **open from the ../../…. to ../../…. 2020.**

If you have any queries please feel free to make contact via email, the postal address or telephone numbers shown below.

Yours faithfully
PF OLSEN LTD

Kit Richards
Environmental Manager

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