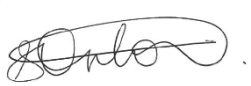
FSC® FOREST MANAGEMENT PLAN

Tasman District Council Forests

Tasman District Council

Reporting Period: April 2025 – March 2030

Author Signature	
Author Name	Sarah Orton
Author Role	Environmental Forester
Date	01 October 2024
Reviewed By	
Name	Author Name.
Role	Role
Date	Date

DISCLAIMER

This document has been prepared by PF Olsen Limited specifically for the purposes stated in the document and is for your information only. PF Olsen Limited has used reasonable endeavours to ensure that the data and any other information in the document including any estimates, quotes, valuations and analyses is based on reliable sources and, where applicable, industry appropriate methodology and software.

Although the information in this document is provided in good faith, PF Olsen Limited does not make any express or implied representations or give any warranties or guarantees as to the accuracy or completeness of the information. PF Olsen Limited does not accept liability for any claim, action, cost, loss or damage arising directly or indirectly from use or reliance on the information in this document and you agree to indemnify PF Olsen Limited against any losses, damages, costs, liabilities or expenses in relation to claims or disputes incurred as a result of you using or acting in reliance on the information in this document.

PF Olsen Limited
PO Box 1127 | Rotorua 3040 | New Zealand
T: 07 921 010 | info@pfolsen.com | nz.pfolsen.com

PF Olsen (Aus.) Pty Limited
Suite 6, 50 Upper Heidelberg Road | Ivanhoe | Vic | 3079 | Australia
T: 1800 054 659 | ausinfo@pfolsen.com | au.pfolsen.com

TABLE OF CONTENTS

1. What is this Plan?

About this Plan

This **specific** forest management plan provides details about the Tasman District Council Forests.

It is to be used in conjunction with the **standard** forest management plan[1], which outlines the typical management applied to the Forest Stewardship Council (FSC®) Group Scheme estate forests.

Where the Tasman District Council Forests are managed in a different way than described in the standard forest management plan, this is detailed within this plan, which takes precedence.

Foundation Principle

As a policy the:

- Tasman District Council has a long-term commitment to the FSC Principles and Criteria in the management unit, and to related FSC Policies and Standards, and
- Tasman District Council is committed to the PF Olsen FSC Group Scheme NC-FM/COC-000190 processes and associated documents.

Tasman District Council has sought FSC certification, to ensure that their forests are managed in an environmentally appropriate, socially beneficial and economically viable manner and to obtain the best access opportunities to the local processing market which is seeking to source FSC certified logs.

[1] https://nz.pfolsen.com/site/pfolsen/ForestManagemenPlan%20-%20Standard.pdf

2. The Forest Land

Location and access

The Tasman District Council Forests comprise of approximately 3,750 hectares (2,800 ha net stocked area (NSA), 450 ha awaiting planting, and 500 ha of reserves) spread across six properties in the Nelson Region. The location of the forests is shown in Appendix 1 while the table below gives more specific location details.

Forest	Location
Borlase	Approximately 45km south-west of Richmond. The main access is located off SH6.
Howard River	Approximately 110km by road south-west of Richmond off SH 63. It is located on the true right-hand side of the Howard River.
Kingsland	Off Hill Street, Richmond at the southern end of Harts Road on the Richmond Hills, approximately 4km from central Richmond.
Moturoa / Rabbit Island	Approximately 11km by road west of Richmond off State Highway 60.
Sherry River	Located in the Sherry River Valley approximately 15km south-west of Tapawera and 60km south of Richmond.
Tunnicliff	Approximately 21km south of Richmond. The main access is located off SH6.

The small Eves Valley forest, also part of the Council forest estate, is excluded from coverage under this Plan as its primary purpose is to complement the Eves Valley landfill operations.

Forest Area

Forest	Net-stocked Area (ha)	Awaiting Planting (ha)	Reserve – Natural Indigenous (ha)	Reserve – Planted Indigenous (ha)	Reserve – Exotic (ha)	Reserve - Other	Other (ha)	Total Legal Area (ha)
Borlase	734.50	114.08	111.94		8.76	0.71	6.92	**976.91**
Howard River	513.84	151.59	119.00		2.35		4.87	**791.65**
Kingsland	34.03		23.40					**57.43**
Moturoa / Rabbit Island	991.20	23.10	14.90	11.15	0.84	106.87		**1,148.06**
Sherry River	406.19	155.16	46.85		4.35	32.83		**645.38**
Tunnicliff	106.24		17.87		0.78	0.48		**125.37**
Total certified area	**2,786.00**	**443.93**	**333.96**	**11.15**	**17.08**	**140.89**	**11.79**	**3,744.80**

Legal ownership

All of the forests are freehold, except for the following areas:

- Moturoa / Rabbit Island which has been vested to the Council for plantation purposes under the provisions of the Reserves and Other Land Disposal and Public Bodies Empowering Act 1920.
- An area of Kingsland forest is held as a reserve for waterworks purposes.
- The Council has purchased the stumpage for approximately 11.7 ha of plantation forest immediately adjacent to Tunnicliff Forest, which belongs to OneFortyOne New Zealand Ltd.
- Small areas adjacent to Howard Forest have Forestry Rights assigned to two different parties, with the Council receiving a share of net returns at harvest.
- A further Forestry Right at the Sherry River forest is held over a small area of Douglas-fir trees; however, the Council receive no share of harvest revenue.

Markets

The location of the forests in relation to the Port of Nelson are listed in the table below. Major log processing facilities are located within 25km of the Port.

Distances from forest to log markets

Forest	Distance from Port (km)
Borlase	60
Howard	105
Kingsland	20
Moturoa / Rabbit Island	25
Sherry River	75
Tunnicliff	35

Topography

Forest	Topography
Borlase	Rolling to steep hill country. Slopes range from 10 - 25 degrees. Harvesting is suited to mainly hauler-based systems.
Howard River	Strongly rolling to moderately steep dissected terraces. Slopes are short and range from 20 - 35 degrees with large areas of flat terraces. Harvesting is suited to a mix of ground based and hauler systems.
Kingsland	Slopes are steep ranging from 20 - <45 degrees. Harvesting is suited to hauler-based systems.
Moturoa / Rabbit Island	Predominantly flat with some rolling sand dunes. All harvesting is using ground-based systems. The altitude ranges from 0 - 10 metres asl.
Sherry River	Rolling to moderately steep hill country with large areas of flat river terraces. Harvesting is suited to a mix of ground based and hauler systems.
Tunnicliff	Rolling to moderately steep hill country. Slopes range from 10 - 25 degrees. Harvesting is suited to ground-based systems.

Soil

Forest	Soil
Borlase	Low fertility hill soils related to yellow-grey earths. Prone to gully and soil slip erosion.
Howard River	Hill soils related to lowland yellow-brown earths. The forest consists of Howard silt and clay loams on the rolling areas, with Howard clays and Kawatiri silt-top stone on the hills. Slight sheet and soil slip erosion.
Kingsland	Whangamoa steep land silt and stony loams. Sheet and scree erosion present.
Moturoa / Rabbit Island	Yellow-brown (Tahunanui) sand and fine sand. Slight to moderate wind erosion.
Sherry River	Mixture of Sherry sand and sand loams formed on granite alluvium; Tadmor Hill soils formed on siltstone and sandstone on moderately steep hills; and Glenhope steep land soils and Kaiteriteri sandy loam, present on very steep slopes or gently sloping country and formed on deeply weathered granite. Potential for slight soil slop, sheet and stream bank erosion.

Forest	Soil
Tunnicliff	Hill soils related to yellow-grey earths or yellow-grey to yellow-brown earth intergrade. Slight sheet and soil slip erosion present.

Climate

- The climate of the Nelson region is moderate with cool winters.
- Summer droughts can occur, and occasional sub-tropical origin storms can bring periods of intense rainfall and strong winds.
- Overall Nelson enjoys one of New Zealand's most pleasant climates with high sunshine hours and is ideal for tree growing with few extremes.
- The mean annual temperature, measured at Nelson airport is 12.1 degrees, with 89 days of ground frost per year.
- Wakefield, the epicentre of Council's forests, receives around 1200 mm per year of rainfall.
- The forests closest to the coast receive around 920 mm rain per year while Howard River Forest receives the highest rainfall of about 1,500 mm per year.
- Highest rainfalls for all forests occur during September-October and the lowest rainfalls in January-February. In general rainfall is relatively evenly distributed throughout the year and is adequate for good tree growth although occasional low summer rainfalls limit tree growth during this period.

3. Ecological Information

Ecological District

The Tasman District Council Forests are spread across six Ecological Districts (ED's) (Arthur, Bryant, Motueka, Moutere and Rotoroa) within the Nelson, North-west Nelson and Spenser Ecological Regions. For more information on each of the ED's please refer to:

Department of Conservation, (1987), *Ecological Regions and Districts of New Zealand – Part 3*. Publication No. 5, 3rd Edition.

FSC requirement: Ecological District

Borlase, Howard River, and Kingsland forests all meet the 10% reserve requirement by forest. Moturoa / Rabbit Island can borrow reserve area from Kingsland to meet the 10% reserve requirements, as they are in the same ED. Both Sherry River and Tunnicliff forests are split across adjacent ED's that are ecologically similar. Therefore, the Moutere ED part of Sherry River forest can borrow from the Arthur ED part, and the Motueka ED part of Tunnicliff can borrow from the Moutere ED portion. As such, none for the TDC forests suffer from a reserve shortfall.

Reserve areas in Tasman District Council Forests by Ecological District

Ecological Region	Ecological District	Forest	Total Forest Area (ha)	Reserve Area (ha)	Reserve %	Meets FSC?
Nelson	Byrant	Kingsland	24.3	11.4	47%	Yes
	Bryant ED Total		**24.3**	**11.4**	**47%**	**Yes**
	Motueka	Kingsland	9.7	12.0	124%	Yes
		Moturoa / Rabbit Island	1,014.5	93.6	9%	Yes[2]
		Tunnicliff	69.9	6.1	9%	Yes[3]
	Motueka ED Total		**1,094.1**	**111.7**	**10%**	**Yes**
	Moutere	Borlase	862.8	121.4	14%	Yes
		Sherry River	290.2	25.6	9%	Yes[4]
		Tunnicliff	55.5	13.0	23%	Yes
	Moutere ED Total		**1,208.6**	**160.0**	**13%**	**Yes**
North-west Nelson	Arthur	Sherry River	200.1	58.4	29%	Yes
	Arthur ED Total		**200.1**	**58.4**	**29%**	**Yes**
Spenser	Rotoroa	Howard River	640.0	121.4	19%	Yes
	Rotoroa ED Total		**640.0**	**121.4**	**19%**	**Yes**

[2] Can borrow reserve area from Kingsland Forest to meet 10% forest reserve threshold
[3] Tunnicliff is split across two adjacent and similar ED's so the Motueka part of Tunnicliff can borrow from the Moutere part of the forest
[4] Sherry River is split across two adjacent and similar ED's so the Moutere part of Sherry River can borrow from the Arthur part of the forest

Threatened Environments Classification

Across the Tasman District Council forest cluster:

- 9.7% of the natural indigenous reserves fall into the < 10% remaining category (most threatened)
- 30.5% fall into the 10 – 20 % remaining category
- 3.8% fall into the 20 – 30 % remaining category
- 0.0% fall into the >30% protected and 10 – 20% remaining
- 56.1% fall into the > 30% remaining and > 20% protected category (least threatened).

Forest	< 10% indigenous cover remains	10 – 20% indigenous cover remains	20 – 30% indigenous cover remains	>30% remains and 10 – 20% protected	>30% remains and >20% protected	Total (ha)
Borlase		84.3			27.6	111.9
Howard River					119.0	119.0
Kingsland			9.5		13.9	23.4
Moturoa / Rabbit Island	14.4					14.4
Sherry River		17.4	3.1		26.4	46.9
Tunnicliff	17.9					17.9
Total (ha)	**32.3**	**101.7**	**12.6**	**0.0**	**186.9**	**333.5**

4. Cultural and Social Aspects

Forest history

The forests have been acquired and developed over many years. Property purchase since the 1990's has been opportunistic by acquisitions of uneconomic sheep farms with the intention to achieve a minimum stocked area of around 3,000 hectares. Priority has been given to land adjacent to existing holdings.

Borlase

Borlase was purchased to provide an alternative forest resource for the County in the event that Moturoa / Rabbit Island forest was lost to the County for production forestry. The forest was named after Jack Borlase, a Council Chairman. The bulk of the forest was purchased in 1972 but since then two further blocks have been added being the 160-hectare Moffat and the 104-hectare Quinney blocks acquired in 1992.

Howard River

The Howard block, totalling 995 hectares, was purchased in 1993 from the Marshall family. About 40 hectares (including the homestead) was sold following purchase. Included with the purchase are two Forestry Right Joint Venture blocks, one of 23 hectares and the other of 70 hectares. The Council will receive a share of revenue at harvest. Management of these blocks is carried out independently by the holder of the forestry right and neither of these blocks is included in the certified area.

Kingsland

Kingsland Forest comprises the Waterworks Reserve Block, the Heslop Block and the most recent acquisition, the Brown Block. The 72-hectare Waterworks Reserve Block was acquired by the Council (the then Richmond Borough Council) to provide a protected water catchment for the Richmond Borough. It was bought by Council in 1923. The 54-hectare Heslop Block was bought by Council in 1988. The 18-hectare Brown Block was purchased and planted in 1994. A further small area was bought from the Heslop family in 2013, near the reservoir.

In recent times the decision has been made to convert Kingsland Forest from a productive plantation forest into an indigenous forest for recreational purposes. This is part of TDC's adaptive forest management process the recognises the changing needs and social outcomes of the community. It is expected that this conversion into indigenous forest will be completed around 2038

Moturoa / Rabbit Island

Moturoa / Rabbit Island is Crown Land which was vested to the Tasman District Council (formerly the Waimea County council) in 1921 for plantation purposes under the provisions of the Reserves and Other Land Disposal and Public Bodies Empowering Act 1920. In 1921 the first plantings of radiata pine took place, with afforestation coming under the Council Engineers Department. The Order in Council of 22 August 1921 excluded some 143 hectares of Moturoa / Rabbit Island from use for plantation purposes. This land area consisted mainly of a 5-chain wide strip of land along the northern, western, and eastern coasts of the Island, along with a 15-chain strip along part of the northern side of the Island which now includes the main public domain area. The domain area has since been increased to 240 hectares.

Sherry River

The Tasman District Council purchased 623 hectares of terraces, hill country, pasture and reverting scrub land in the Sherry River area in November 1994. The better terraces and the homestead have since been sold, as have an additional 22 hectares of pasture which were sold in 2016. Included with the original purchase was a Forestry Right Joint Venture block that is progressively handed back to the Council, and currently the only remaining block comprises 7ha of Douglas-fir planted in 1982.

Tunnicliff

This block, legal title area 133 hectares, was purchased in 1971 from Henry Tunnicliff. Included in the title area is approximately 20 hectares of native bush. The first plantings took place in 1971-72 entirely in radiata pine. These have all been harvested and re-planted predominantly in radiata pine with some small areas of Douglas-fir and Cupressus species.

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.

While TDC's forests, only account for a small portion of the Tasman-Marlborough total production forest area 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.

Historic and archaeological sites

Records from the 'Archsite' web resource has revealed there are nine known historic sites within the Tasman District Council Forests; two in Howard River and seven on Moturoa / Rabbit Island. The sites on Moturoa / Rabbit Island are related to Māori settlement, while the sites in Howard River pertain to goldmining and European settlement. In addition, several koiwi tangata sites have been identified on Moturoa / Rabbit Island. These sites are being transitioned away from plantation forest and into indigenous species. All of the forests have additional archaeological sites present within one kilometre of the forest boundary.

Forest	Arch Site ID	Site Type	Description
Howard River	M29/28	Mining – gold	Alluvial gold mining complex – reservoir, races, rock stacks and hut site
	M23/95	Historic - domestic	Chimney of c.1916 house
Moturoa / Rabbit Island	N27/132	Midden / oven	Midden / oven
	N27/134	Oven stones, Artefact – fishing gear, Midden	Midden, oven stones and a scatter of elongated pebbles used as net sinkers.
	N27/152	Artefact find	Findspot for canoe/waka.
	N27/182	Midden / oven	Scattered shell midden recorded in 2007. Site visit undertaken in 2015 noted doubt as to whether the shells represent midden or a natural deposit.
	N27/214	Midden / oven	A dense deposit of oven-stones exposed in beach section with an argillite flake on beach in front of site.
	N27/216	Midden / oven	Shell midden
	N27/217	Midden / oven	Occupation horizon with midden (pipi and mussel) and oven stones exposed in dune section
	Other	Various koiwi and unidentified sites located throughout the forest	

Accidental discovery protocols will apply should any physical evidence be discovered during operations.

Tangata Whenua

Te Kahui Mangai, the NZ government's directory of Iwi and Māori organisations, identify Iwi groups associated with a region by:

- Iwi recognised by the Crown in the Māori Fisheries Act 2004; and
- Any other iwi/hapū groups that have been formally recognised by the Crown for historic Treaty settlement purposes.

Most of these recognised iwi/hapū are represented by an Iwi authority for the purposes of the Resource Management Act 1991. Māori groups associated with the area containing the Council forest estate as recognised by Te Kahui Mangai are:

- Ngāti Apa ki te Rā Tō
- Ngāti Kōata
- Ngāti Kuia
- Ngāti Rārua
- Ngāi Tahu
- Ngāti Tama ki Te Tau Ihu
- Ngāti Toa Rangatira
- Rangitāne o Wairau
- Te Ātiawa o Te Waka-ā-Māui

Tenure & resource rights

- All of the above iwi have various statutory acknowledgements, but none appear to relate to the TDC forests.
- There are currently no direct 'day to day' associations with local Iwi; however, where input is required for resource consents, extensive consultation is carried out.
- In the recent past, harvesting operations within Moturoa / Rabbit Island have involved Tiakina te Taiao Ltd, a non-profit iwi environmental agency that represents three of the nine iwi in the Whakatū and Motueka rohe.
- The following iwi have management plans that contain forestry, environmental, or consultation clauses:
  - Ngāti Kōata
  - Ngāti Rārua

- Ngāti Tama ki Te Tau Ihu
- Ngāti Toa Rangatira
- Te Ātiawa o Te Waka-ā-Māui

Neighbours

Appendix 2 lists the forest neighbours. Some or all of these parties should be consulted when operations are proposed in forest areas adjacent to their boundaries.

5. Regulations

National Environmental Standards for Commercial Forestry (NES-CF) Erosion Susceptibility Classification

The NES-CF regulations are generally based on the Erosion Susceptibility Classification (ESC) of the underlying land.

The forests are located on generally low and moderate erosion risk land. Only 5% of the total productive area is in the high erosion risk class, and none in the very high. This means that the majority of the forest activities will be permitted subject to meeting the NES-CF regulations.

The table below shows the proportion of each forest by the respective National Environmental Standards for Plantation Forestry (NES-CF) Erosion Susceptibility Classification (ESC).

Productive plantation area (ha) within each ESC Class

Forest	Low	Moderate	High	Very High	Very High (8e)	Other[5]	Total
Borlase	130.6	610.8					**741.4**
Howard River	14.1	422.6	81.5			0.5	**518.7**
Kingsland		34.0					**34.0**
Moturoa / Rabbit Island	991.2						**991.2**
Sherry River	144.5	195.5	66.3				**406.3**
Tunnicliff	106.2						**106.2**
Total	**1,386.6**	**1,262.9**	**147.8**	**0.0**	**0.0**	**0.5**	**2,797.8**

[5] Shingle, ponds, scree slopes etc

Council RMA Plans

The Tasman District Council Forests fall within Nelson City Council's and/or Tasman District Council's jurisdiction.

Both Councils have their own planning documents and associated rules, developed through public process. The plans, and the rules that might impact forestry operations are listed for both Council's below:

- Nelson City Council, Nelson Resource Management Plan
  - Discharge of agrichemicals
  - Earthworks
  - Harvesting
- Tasman District Council, Tasman Resource Management Plan
  - Afforestation
  - Discharge
  - Discharge of pesticides (agrichemicals)
  - Earthworks
  - Harvesting
  - Indigenous vegetation clearance
  - Replanting
  - River crossings
  - River crossings - culverts

If consents are required at any stage, consideration should be given to the Iwi management plans.

Consents & authorities held

There are two resource consents relevant to the Tasman District Council Forests.

Forest	Consent ID	Authority	Consent Type
Howard River	RM190636	Tasman District Council	Single-span bridge construction

Howard River & Sherry River	RM210239	Tasman District Council	Culvert installation

Emissions Trading Scheme

Four of TDC's certified forests have trees that are registered under New Zealand's Emissions trading Scheme. This means that those areas are subject to the accrual of emissions credits whilst growing, and subsequent liabilities at time of harvest.

Forest	Post-1989 area (ha)
Borlase	177.0
Howard River	459.0
Sherry River	274.6
Grand Total	**833.6**

6. Managing environmental risk

Assessment of environmental risks

Refer to the Standard FSC Forest Management Plan.

Infrastructure damage or service disruption

The following infrastructure is within/adjacent to TDC's forests. It is recognised that forestry operations may have an impact on the infrastructure. Any potential adverse effects are managed through operational plans.

Forest	Infrastructure/Services
Borlase	• Electricity lines along Old School Road, and through southern part of forest • Cell phone tower/s
Howard River	• Electricity lines running down through length of forest with some offshoots.
Kingsland	• Electricity lines along north-western and south-western forest boundaries
Moturoa / Rabbit Island	• Electricity lines (throughout forest) • Water pipelines (throughout forest) • Cell phone tower/s
Sherry River	• No infrastructure present
Tunnicliff	• No infrastructure present

Pests and diseases

The Tasman – Nelson Regional Pest Management Plan 2019 – 2029 includes several pest plant and animal species that are or may be present within the forests. These include:

- Broom, sustained control
- Douglas-fir (non-commercial), site led
- Gorse, sustained control

- Nassella tussock, progressive containment
- Nodding thistle, sustained control
- Old man's beard, sustained control
- Ragwort, sustained control
- Saffron thistle, eradication
- Taiwan cherry and cultivars, eradication
- Variegated thistle, progressive containment
- White-edged nightshade, progressive containment

A full list of species can be found in the pest management plan.

Fire

Tasman District Council's forests are within the Te Ihu Forest and Emergency NZ region for forest fire management. The Fire Plan for Nelson - Tasman, 2024 - 2027 contains additional key information regarding the protection of land and management of fires.

Fire ponds have also been installed within several of the forests as part of TDC's fire response plan. The forests with fire ponds are as follows:

- Borlase – 4 ponds
- Kingsland – 2 ponds
- Moturoa / Rabbit Island – 3 ponds
- Sherry River – 1 pond

7. Commercial Plantation Estate

Current crop

Tasman District Council's forests are predominantly radiata pine (89%), planted from 1995 onwards. Eight percent of the estate is planted in Douglas-fir, while redwoods, native species, and other exotic species make up the remaining 4% of the productive area. The graph on the next page shows the breakdown of species planted by year of establishment across the six forests.

Planting

A mechanical planting trial was conducted in 2024 on Moturoa / Rabbit Island. Hydrogel was also used on the trees as part of the trial to help retain soil moisture. The results of this trial are not yet known.

Tending

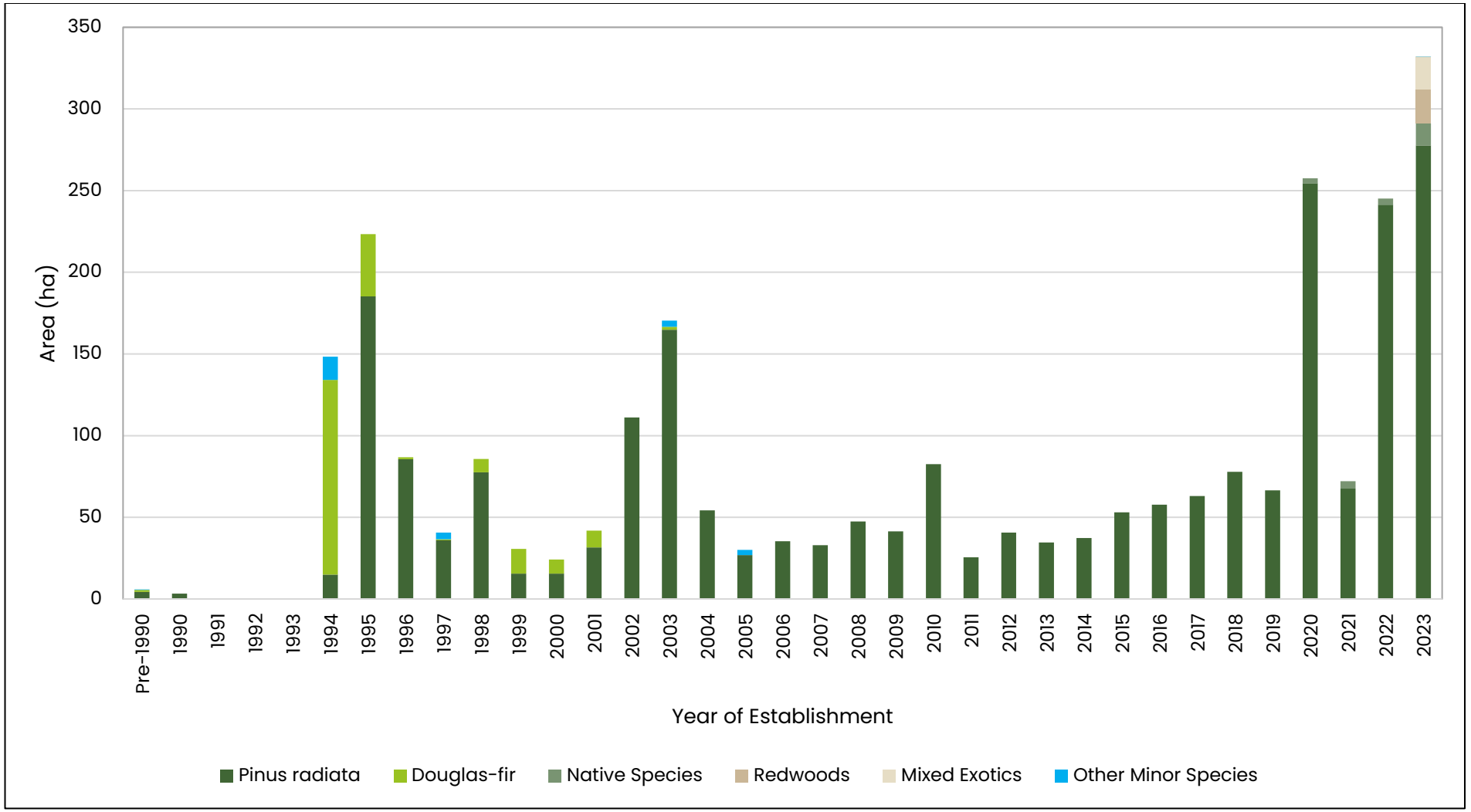
Originally a pruning regime was adopted for all TDC forests. This involved planting to 1,200 stems per hectare and pruning and thinning down to 350 stems/ha.

Since the early 2000's, pruning has been phased out due to lack of financial viability following declining pruned log price premiums over unpruned logs. The current standard regime is to plant high quality genetics radiata pine seedlings at 900 stems per hectare, and thin to 500-600 stems/ha at age 8.

Pruning is ongoing at Moturoa / Rabbit Island to reduce fire risk and facilitate Biosolids spraying. Pruning is not financially viable on its own and should the biosolids spraying methodology be changed such that pruning is not required, then pruning should be re-evaluated with regards to reduced fire risk against cost effectiveness.

Tree nutrition

The soils are generally not deficient in nutrients for healthy tree growth. Moturoa / Rabbit Island has a fertiliser trial that was established in 2020 as a joint project between PF Olsen, Tasman District Council and Daltons to look at the effects of fertiliser on tree growth on sandy soils. The trial involved fertilising the trees, at time of planting, with either five or ten milligrams of Osmocote, a slow-release fertiliser. The trial appears to have been a success with the treated trees now approximately two metres taller than their untreated counterparts.


350
300
250
200
150
100
50
0
Area (ha)
Pre-1990
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
Year of Establishment
Pinus radiata
Douglas-fir
Native Species
Redwoods
Mixed Exotics
Other Minor Species

8. Harvesting Strategy

Harvesting strategy

Radiata pine – typically harvested around age 27, but this depends on location. For example, on Moturoa / Rabbit Island, the harvest age is slightly above 27 years, as windthrow is a risk, so the stands carry a higher stocking, and thus a greater volume in the latter years.

Douglas-fir – the harvest age for Douglas-fir in the TDC estate is being brought back to 30-35. This is younger than typical for the species but is being done in order to remove the crop because of its lower net present value (NPV) and high wilding risk. Once harvested the areas are being replanted with radiata pine.

Macrocarpa – while 35 – 40 years of age is the aim for harvesting macrocarpa species in the TDC estate, in reality, the stands of Macrocarpa are poor often incur windthrow, forcing an earlier harvest.

The planned harvest for each forest beyond the end of 2025 is listed below:

Annual harvest (ha)	2025	2026	2027	2028	2029
Borlase	42	104	77	34	0
Howard River	72	73	0	0	0
Kingsland	0	0	0	0	0
Moturoa / Rabbit Island	0	31	25	25	34
Sherry River	0	0	26	22	0
Tunnicliff	38	0	0	0	0

As Kingsland forest is harvested it will be converted from a productive plantation forest into an indigenous forest for recreational purposes. This is part of TDC's adaptive forest management process the recognises the changing needs and social outcomes of the community. It is expected that this conversion into indigenous forest will be completed around 2038.

Infrastructure

Infrastructure is largely in place throughout the estate, as the current plantation forest are in their 2nd or 3rd rotations. Over the next five years approximately seven kilometres of road

will need upgrading in Borlase Forest prior to harvest. The rest of the forests require no major infrastructure construction or upgrades, as this work has already been carried out.

9. Indigenous Biodiversity

Protected ecosystems

Within the TDC estate 1,289.7 ha of protected natural and semi-natural ecosystems have been mapped and classified as per the PF Olsen Environmental Management System. The majority (89 %) of those areas fall within the Important protection category, as they:

- Meet Forest Accord criteria;
- Are home to rare species;
- Are wetlands >0.25 ha; and / or
- Are waahi tapu

Protected ecosystem & reserve areas by protection category

Forest	Limited	Important	Special	Total (ha)
Borlase	10.3	378.9		389.2
Howard River	30.2	385.8		416.0
Kingsland	0.0		23.4	23.4
Moturoa / Rabbit Island	5.8	104.5	11.5	121.8
Sherry River	21.4	268		289.4
Tunnicliff	3.2	15.2		18.4
Total Area (ha)	**70.9**	**1,152.4**	**34.9**	**1,258.2**

High Conservation Value (HCV) Forests

Ecological surveys of the Tasman District Council forests were carried out as part of the FSC certification process. The survey specifically identified any natural indigenous reserve areas that met the criteria for High Conservation Value (HCV) areas under FSC rules. Identified HCV met the criteria for HCV 1 (Species diversity: Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, which are significant at global, regional or national levels) and HCV 3 (Ecosystems and habitats: Rare, threatened, or endangered ecosystems, habitats or refugia).

The table below summarises the HCV areas by forest, while more detailed management plans can be found in Appendix 3.

High Conservation Value Forests areas

Forest	HCVF (ha)	Not HCVF (ha)	Total (ha)
Borlase	0.0	112.4	112.4
Howard River	0.0	119.0	119.0
Kingsland	23.4	0.0	23.4
Moturoa / Rabbit Island	11.5	95.2	106.7
Sherry River	0.0	66.0	66.0
Tunnicliff	0.0	18.1	18.1

Threatened species

Numerous threatened species have been sighted in the Council estate forests including Kea and Karearea. Sightings are recorded in iNaturalist[6] (Biodiversity in Plantations project), with these records being publicly available. A listing of key species of interest is held by all contractors and staff, along with the login details for iNaturalist.

Fauna

Species	Threat Classification	Forest					
		Borlase	Howard River	Kingsland	Moturoa / Rabbit Island	Sherry River	Tunnicliff
Kakaruai (South Island Robin)	Declining	■	■				
Kārearea (New Zealand Falcon)	Recovering	■		■	■	■	
Kāruhiruhi (Pied Shag)	Recovering				■		
Kawau Paka (Little Shag)	Relict				■		
Kawau Tūī (Little Black Shag)	Naturally Uncommon				■		
Kea	Nationally Endangered	■	■				

[6] https://www.inaturalist.org/projects/biodiversity-in-plantations

Species	Threat Classification	Forest					
		Borlase	Howard River	Kingsland	Moturoa / Rabbit Island	Sherry River	Tunnicliff
Kererū (New Zealand Pigeon)	Not Threatened	■					■
Kingfisher (Kōtare)	Not Threatened				■		
Korimako (Bellbird)	Not Threatened		■				
Kōtuku (White Heron)	Nationally Critical				■		
Kōtuku Ngutupapa (Royal Spoonbill)	Naturally Uncommon				■		
Kuaka (Bar-tailed Godwit)	Declining				■		
Piwakawaka (Fantail)	Not Threatened			■	■		
Poaka (Pied Stilt)	Not Threatened				■		
Pohowera (Banded Dotterel)	Declining				■		
Southern Black-backed Gull	Not Threatened				■		
Tarapirohe (Black-fronted Tern)	Nationally Endangered		■				
Tomtit (Miromiro)	Not Threatened		■				
Tui	Not Threatened		■				
Weka	Not Threatened		■	■	■		■
White-faced Heron (Matuku Moana)	Not Threatened				■		

Fauna

Species	Borlase	Howard River	Kingsland	Moturoa / Rabbit Island	Sherry River	Tunnicliff
Akeake			■			
Bracken / Rarauhe				■		
Broadleaf / Kapuka		■				

Species	Borlase	Howard River	Kingsland	Moturoa / Rabbit Island	Sherry River	Tunnicliff
Cabbage Tree / Ti Kouka						
Crown Fern / Petipeti						
Harakeke / New Zealand Flax						
Jointed Fern						
Kanuka						
Kawakawa / Pepper tree						
Kiekie						
Kohuhu / Black Matipo						
Lemonwood / Tarata						
Mamaku / Black Tree Fern						
Manuka						
Matai						
Mingimingi						
Mountain Astelia						
Pukatea Bracket						
Shining Spleenwort						
Shore Hebe / Kokomuka						
Silver Tussock						
Tawa						
Totara						
Wheki / Rough Tree Fern						
White Basket Fungi						

Fish

Fish species likely to be within the forests have been identified from the NES-PF Fish Spawning Indicator tool[7].

Fish species	Forest					
	Borlase	Howard River	Kingsland	Moturoa / Rabbit Island	Sherry River	Tunnicliff
Banded kokopu						
Brown trout						
Dwarf galaxias						
Koaro						
Redfin bully						

Key ecological management activities are outlined in Appendix 4.

[7] https://www.mpi.govt.nz/forestry/national-environmental-standards-plantation-forestry/fish-spawning-indicator/

10. Other Special Values: Everything but the timber

Recreation

The Council forests receive significant recreational demand from the wider public. Borlase, Moturoa / Rabbit Island and Kingsland are of particular importance for their recreational value, and they are the most utilised of the estate. Passive recreation in Kingsland and Moturoa / Rabbit Island (walking, cycling, swimming and horse riding at Moturoa / Rabbit Island) are uncontrolled and open to the public subject only to fire danger and hours of darkness. Other forms of recreation (e.g. pig hunting in Borlase) are controlled by the permit system to ensure strict controls on access to avoid conflicts between users, or to protect public safety.

At Moturoa / Rabbit Island, there is a large reserve on the north coast excluded from timber production solely for the purpose of public recreation (the 'domain'), plus a buffer on the west and east side of the island that is available for public entry. The domain and coastal reserves are controlled by council bylaws and the Reserves Act 1977. In response to the demands and to meet legislative requirements under the Reserves Act a Moturoa / Rabbit Island Reserves Management Plan has been produced and periodically updated since 1989.

In 1994 a local equestrian organisation was given approval to lease approximately 19 hectares of recreation reserve on Rough Island. This has been developed as an equestrian centre.

The Great Taste Cycle Trail, which opened in 2012, forms a big loop of the Nelson-Tasman region, taking in Nelson, Wakefield, Richmond, Motueka and Kaiteriteri. The Trail travels through Moturoa / Rabbit Island Forest on the Richmond to Mapua section and runs immediately adjacent to Tunnicliff Forest on the Belgrove to Wakefield section. The development of the Trail has resulted in a sharp increase in the number of recreational cyclists coming out to the forests.

Within Moturoa / Rabbit Island Forest this has led to the development of the Moturoa Forest Trail, an additional designated in-forest route that was developed in conjunction with the Council to provide a safe trail for riders and to confine riding to areas that could be safely managed in conjunction with forest operations such as harvesting and sewerage disposal.

The location of Moturoa / Rabbit Island and Kingsland forests close to significant suburban populations means the forests are highly valued for their recreational opportunities. Moturoa / Rabbit Island and Kingsland public recreation is administered by the Tasman District Council via a Council Recreation Policy. Tunnicliff forest is also used for similar recreational activities including cycling, horse riding and other passive uses. Hunting during the weekends is

allowed in Borlase, Howard River and Sherry River, provided hunters obtain permits from PF Olsen.

Any approved access to TDC's forests is managed through the PF Olsen forest access permit system (for areas outside legal public access areas). For information on how to apply for a permit, please contact the PF Olsen Nelson Office, 03 544 0066. Forest access information can also be found on the Tasman District Council's website and Facebook page.

Visitors to the forest are expected to follow the intent of the Outdoor Access Code, published by Herenga ā Nuku - Outdoor Access Commission, and any signage / barriers in place within the forest. Forest closures will also apply during times of high fire risk, any *force majeure* state and during forestry operations.

Public access instruments

There are many formed or unformed public roads, easements or esplanade reserves (marginal strips) within or adjacent to the TDC forests, as per the table below. Refer to the Herenga ā Nuku - Outdoor Access Commission website for more information.

Forest	Public Access
Borlase	• Public road/s

Howard River	• DOC Public Conservation Land
	  - Glenhope Scenic Reserve
	  - Howard Conservation Area
	  - Scientific Reserve – Howard River Valley
	• Public road/s
	• Scenic Reserve

Kingsland	• Various Mountain Bike Tracks • Various Walking Tracks
Moturoa / Rabbit Island	• Plantation Reserve • Public road/s • Recreation Reserve (Rabbit Island Domain) • Tasman's Great Taste Trail – Coastal Route • Various Mountain Bike Tracks

Forest	Public Access
Sherry River	• Public road/s
Tunnicliff	• Esplanade Strip • Public road/s • Recreation Reserve (Wai-iti Recreation Reserve) • Tasman's Great Taste Trail

These routes remain open to the public, subject to any temporary closures as required for safety, as described above. Temporary closures can only be undertaken in conjunction, and with the authority, of the local Territorial Authority. Any users are expected to abide by the intent of the Outdoor Access Code published by the Herenga ā Nuku - Outdoor Access Commission, or signage / barriers in place at track or public access points.

Other special values

The following special values have also been identified in Council estate forests:

- Sewerage irrigation is carried out over plantation areas within Moturoa / Rabbit Island. These areas are well away from publicly used recreational areas, with restrictions put in place on public access where required. Irrigation is strictly controlled by resource consents that are held by Council for effluent disposal and provide comprehensive management and monitoring conditions.
- Possum trapping for fur in Borlase, Howard River, Moturoa / Rabbit Island and Sherry River forests. These are likely to continue and potentially increase subject to appropriate agreements and management of conflicts.
- Firewood, utilising ~400m^3 binwood from Moturoa / Rabbit Island, will be available to the public as part of a public firewood day.
- Wood from TDC's forests supplies local domestic mills (including the LVL and MDF products made by Nelson Pine). These products not only capture and store carbon at a local level as the products are used in local building projects, but also provide employment for locals who work in harvesting, cartage, management, service suppliers and processing.

Non-Timber Forest Products

There are no FSC certified non-timber forest products [8] from any of TDC's Forests.

[8] In FSC standards, the reference to non-timber forest products is a reference to such products that are able to carry the FSC label. It is not a reference to the presence or absence of other co-products from the forest areas that do not seek to carry the FSC label.

11. Future Planning

Plan changes & reviews

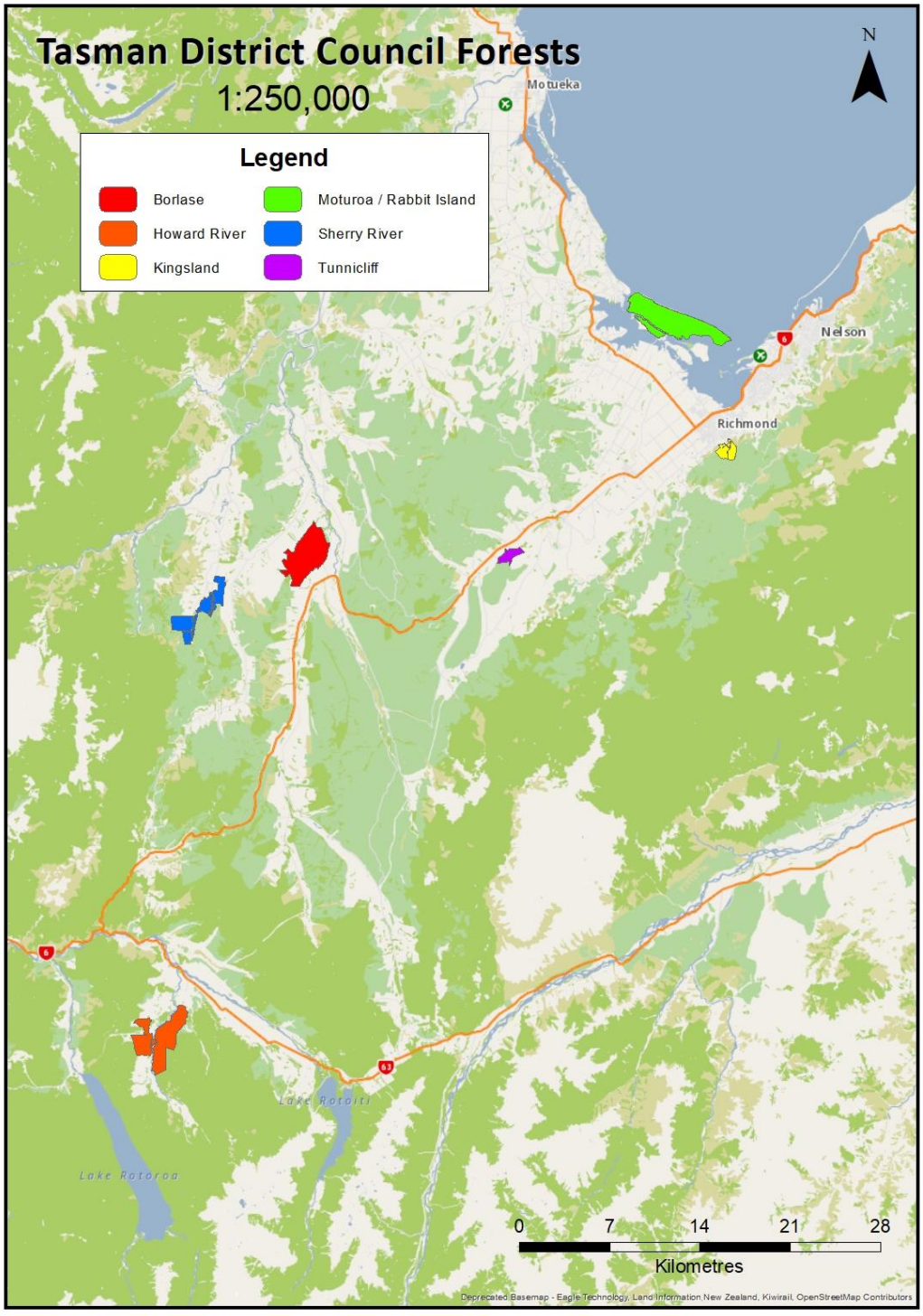
The next major review date for this plan is in 5 years (March 2030)

Minor revisions may be made at any time. Any material changes made will be documented below.

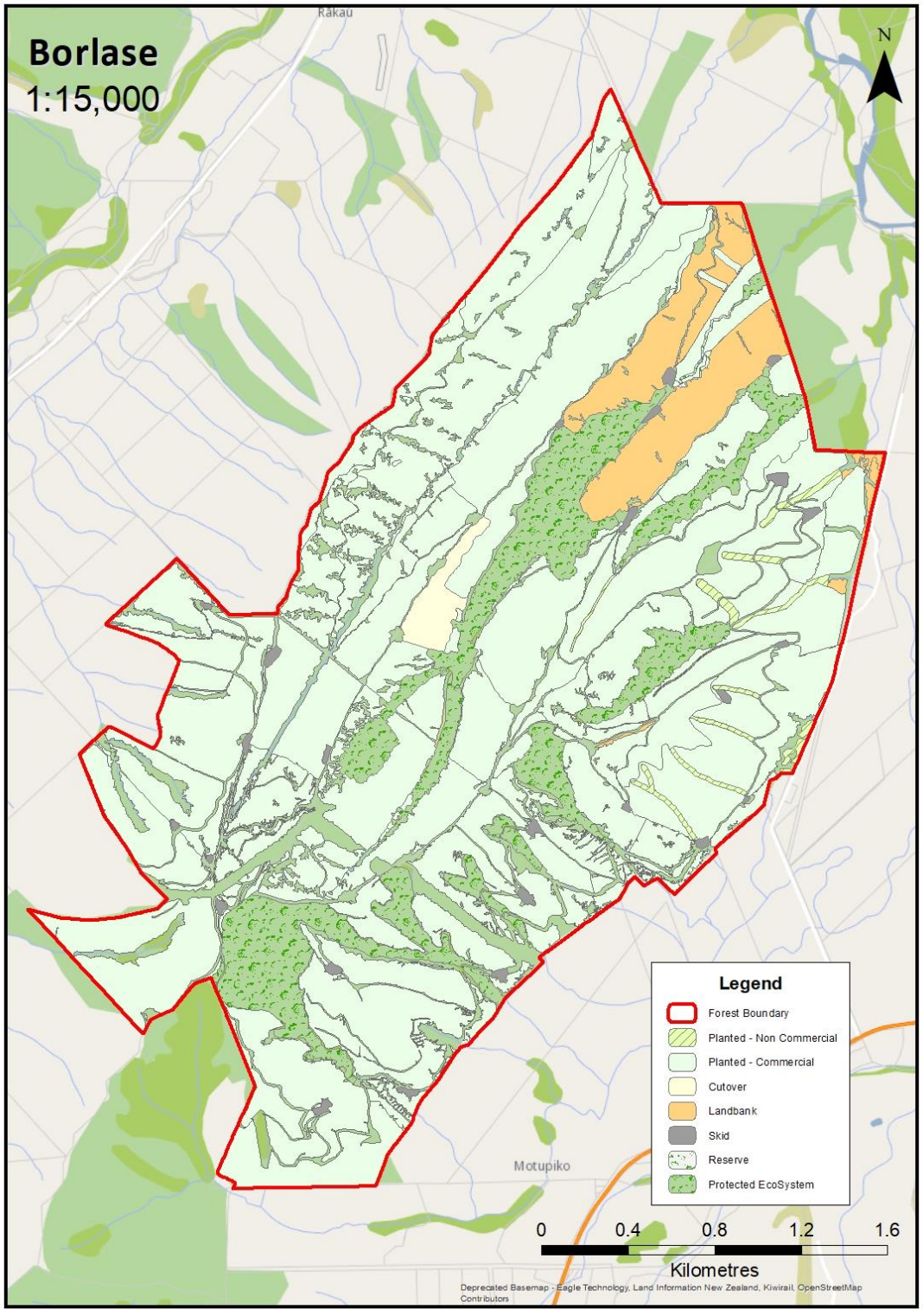
Change	Date	Section / Page
Updated entire FMP as part of 5-yearly review cycle	Apr-25	Whole document

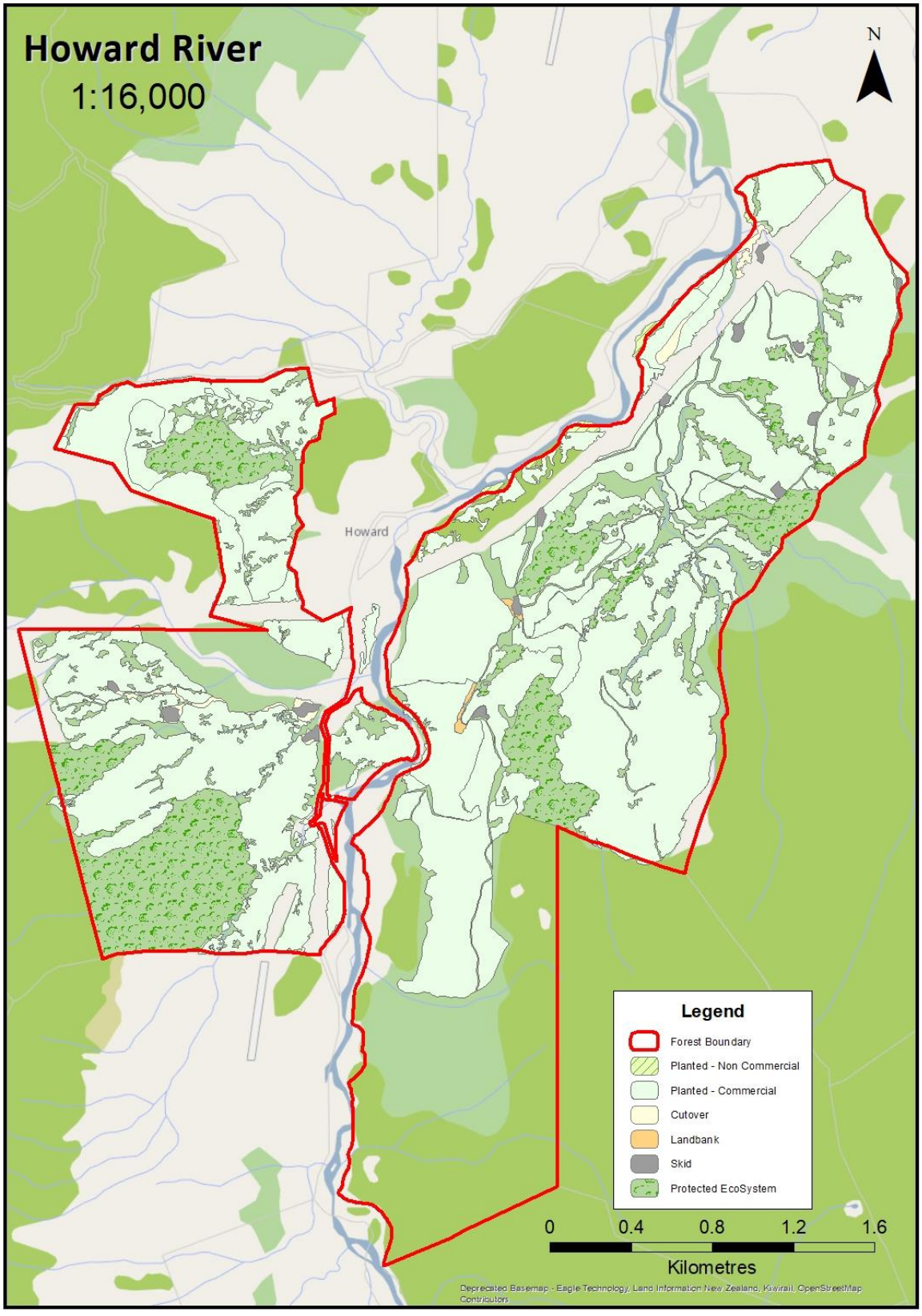
Appendix 1: Forest Maps

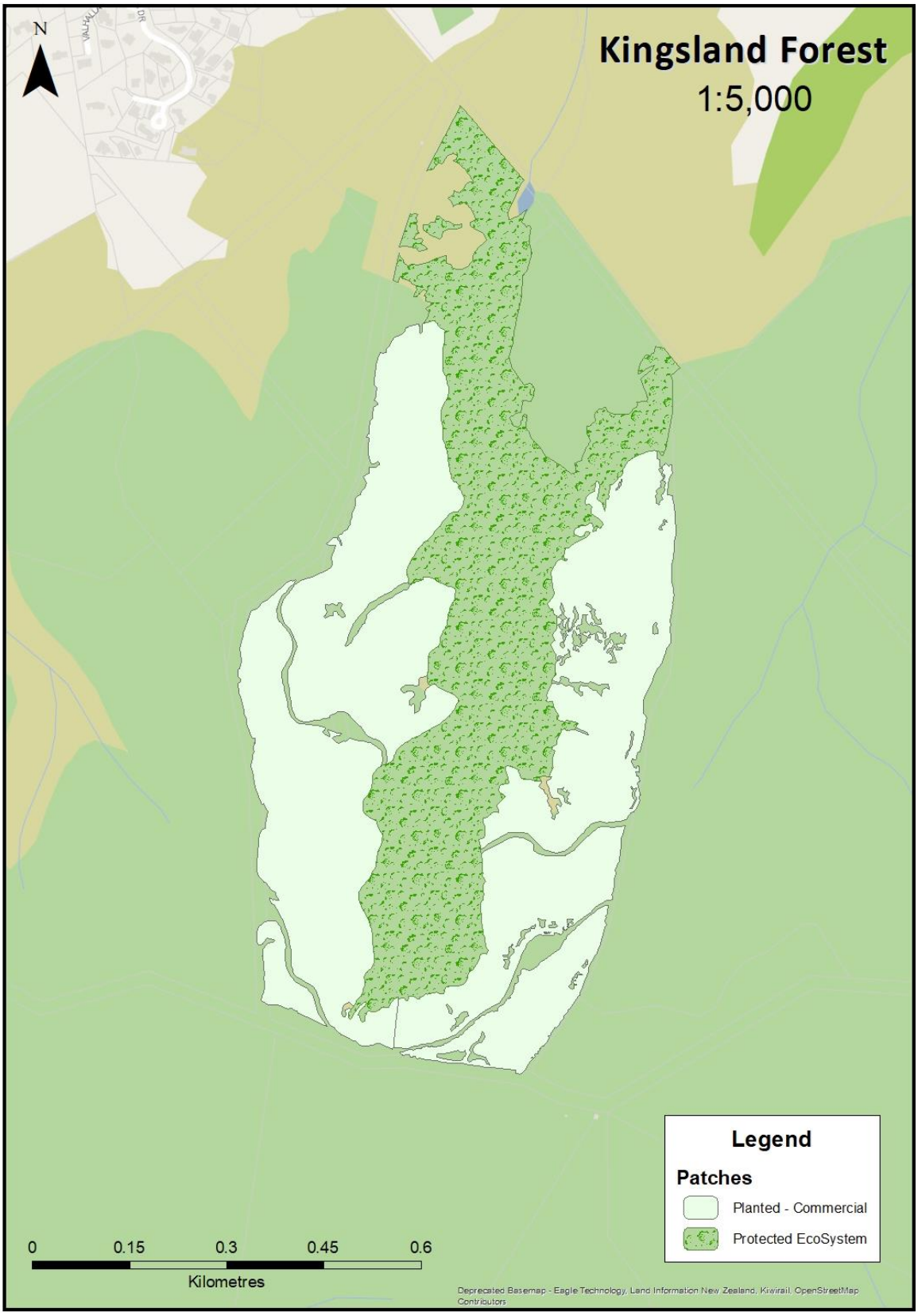
1.1 Forest Location Map

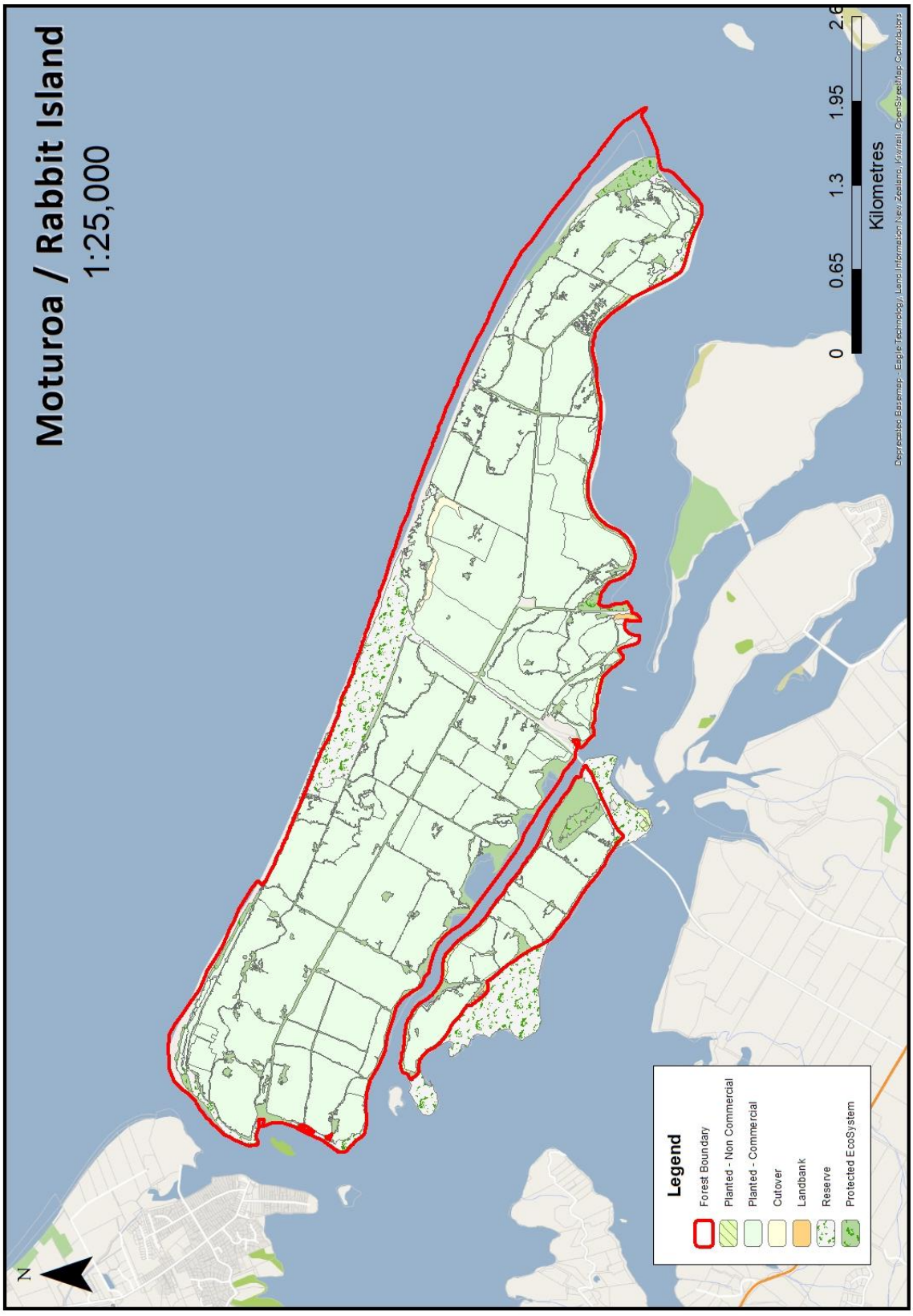


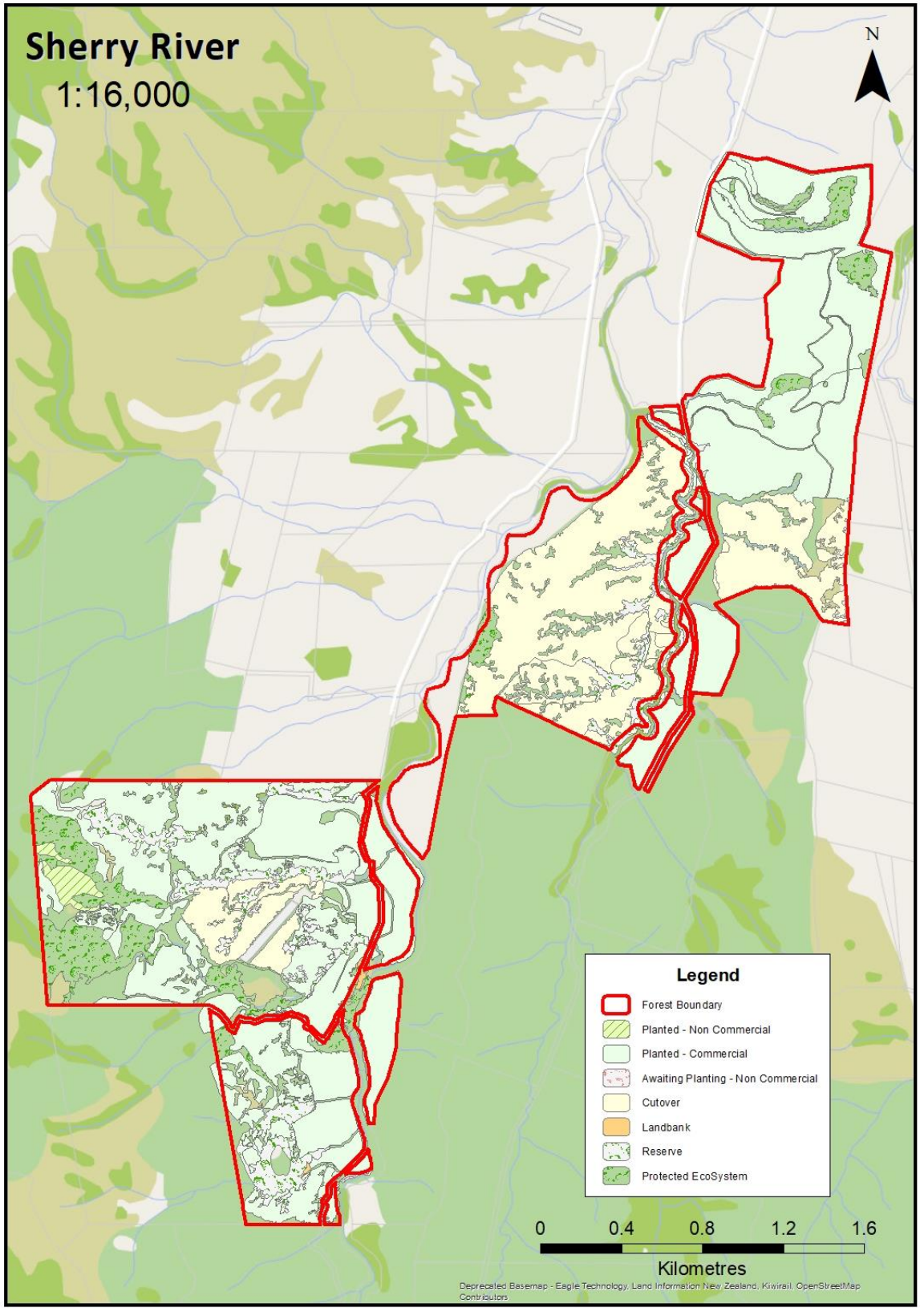
1.2 Forest Stand Maps

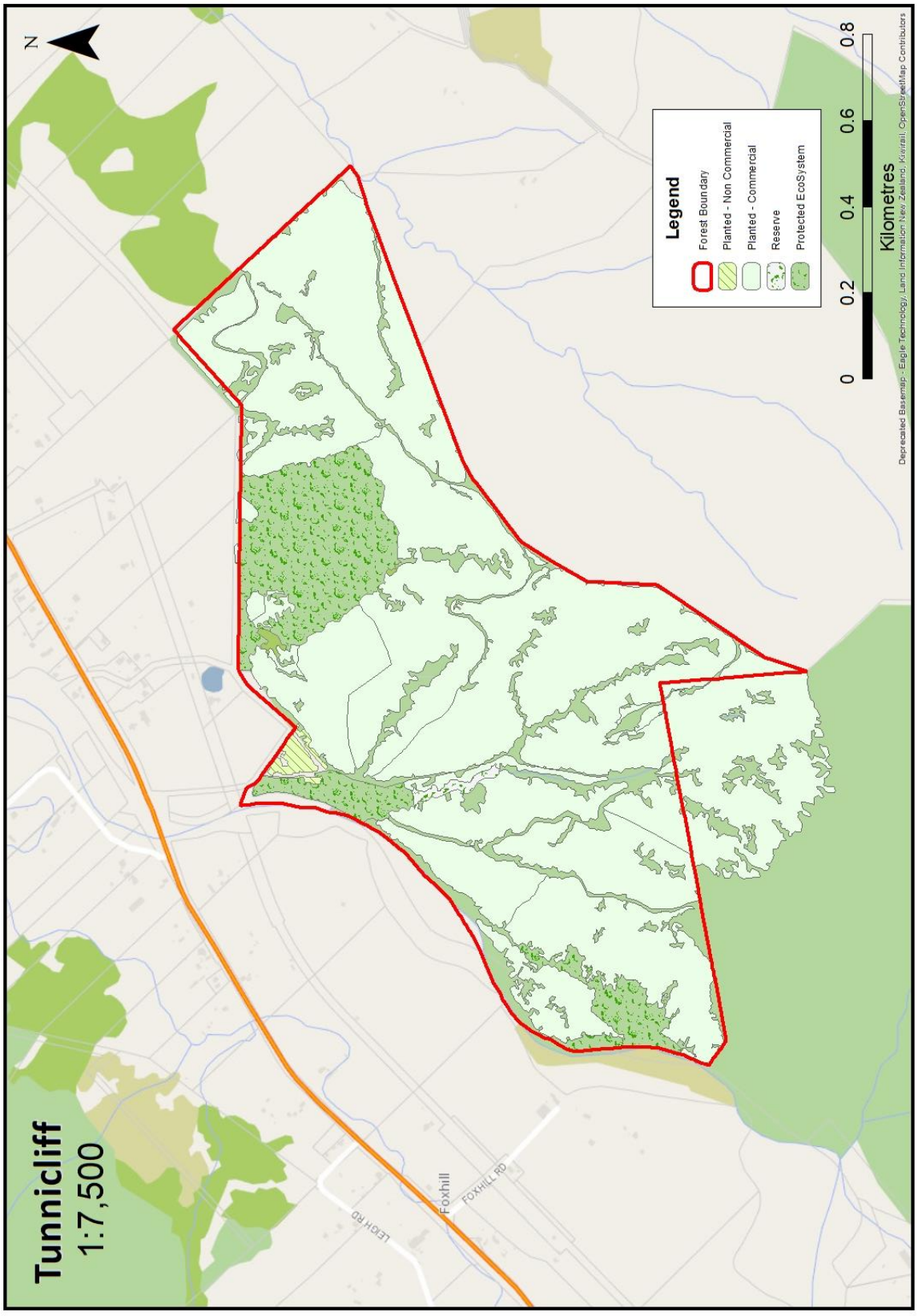



Howard River
1:16,000
N
Howard
Legend
Forest Boundary
Planted - Non Commercial
Planted - Commercial
Cutover
Landbank
Skid
Protected EcoSystem
0
0.4
0.8
1.2
1.6
Kilometres
Deprecated Basemap - Eagle Technology, Land Information New Zealand, Kiwirail, OpenStreetMap Contributors


N
Kingsland Forest
1:5,000
Legend
Patches
Planted - Commercial
Protected EcoSystem
0
0.15
0.3
0.45
0.6
Kilometres
Deprecated Basemap - Eagle Technology, Land Information New Zealand, Kiwirail, OpenStreetMap Contributors


Moturoa / Rabbit Island
1:25,000
0
0.65
1.3
1.95
Kilometres
Legend
Forest Boundary
Planted - Non Commercial
Planted - Commercial
Cutover
Landbank
Reserve
Protected EcoSystem
N


Sherry River
1:16,000
N
Legend
Forest Boundary
Planted - Non Commercial
Planted - Commercial
Awaiting Planting - Non Commercial
Cutover
Landbank
Reserve
Protected EcoSystem
0
0.4
0.8
1.2
1.6
Kilometres
Deprecated Basemap - Eagle Technology, Land Information New Zealand, Kiwirail, OpenStreetMap Contributors


N
Legend
Forest Boundary
Planted - Non Commercial
Planted - Commercial
Reserve
Protected EcoSystem
0
0.2
0.4
0.6
0.8
Kilometres
Tunnicliff
1:7,500
Foxhill
FOXHILL RD
LEIGH RD

Appendix 2: Forest Neighbours

Not Publicly Available

Appendix 3: HCVF Management Plans

Kingsland Forest

Stand	Area (ha)	Species Composition
KING-SECF-01	23.4	Titoki/mahoe/tawa, pigeonwood, beech (red and hard), broadleaf. Large specimens of totara, matai, kahikatea. Significant tawa component uncommon this far south. Weka are present.
Total area (ha)	23.4	

HCVF class

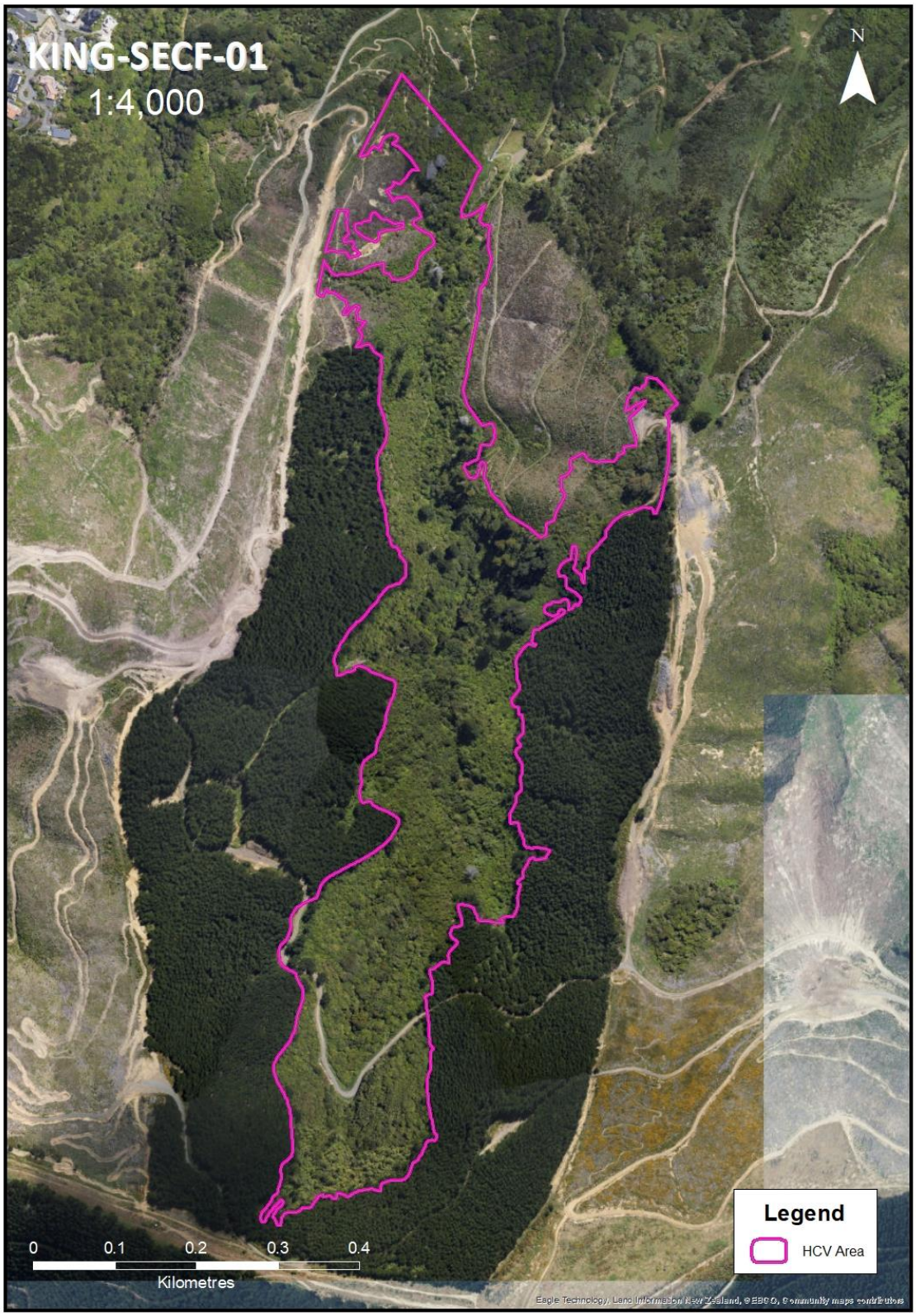
HCV 3 Ecosystems and habitats: Rare, threatened, or endangered ecosystems, habitats or refugia

HCVF assessment

- Significant site due to its large size and diversity of species, including the presence of numerous tawa (uncommon this far south).
- Provides important habitat for indigenous fauna (e.g. weka).

Work Program

Refer to Appendix 4 – Schedule of Ecological Management


KING-SECF-01
1:4,000
N
0
0.1
0.2
0.3
0.4
Kilometres
Legend
HCV Area
Eagle Technology, Land Information New Zealand, © EBC O, Community maps contributors

Moturoa / Rabbit Island

Stand	Area (ha)	HCV Class	Species Composition
RABB-DEPG-01	6.1	HCV 1	Tussocklands modified by introduced grass species, in unimproved or semi-improved condition. Adjacent to godwit nesting area
RABB-LEPT-01	2.7	HCV 3	"Ramp Rd Estuary" intact coastal margin vegetation ecotone from saltmarsh herbfield to tall scrub- extremely rare in the ED. Possibly last remaining coastal margin manuka in ED. Tall manuka scrub, saltmarsh ribbonwood, sedge, sea rush, tall fescue, knobby club rush.
RABB-WETL-01	2.7	HCV 3	Two vegetation types present; cabbage tree/manuka low and tall, and mixed exotic sedge/grass/herbfield. Rare *Carex fascicularis* and *Baumea articulata* present. Largest wetland and possibly last fen remaining in Motueka Ecological District.
Total area (ha)	11.5		

HCVF classes

- HCV 1 Species diversity: Concentrations of biological diversity including endemic species, and rare, threatened or endangered species, that are significant at global, regional or national levels) and
- HCV 3 Ecosystems and habitats: Rare, threatened, or endangered ecosystems, habitats or refugia)

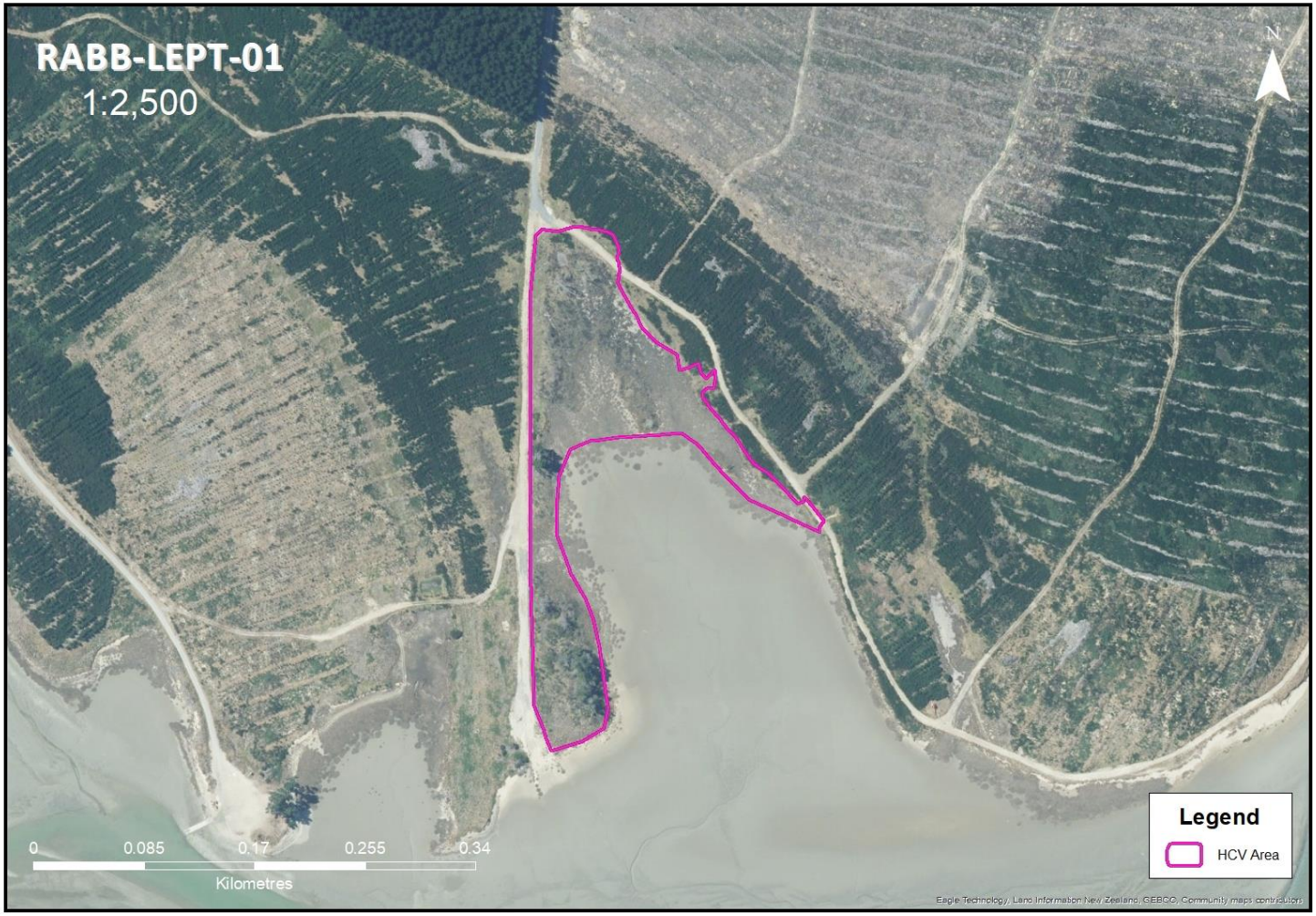
HCVF assessment

- LEPT-01: an intact coastal margin ecotone, from saltmarsh herbfield to tall scrub which is extremely rare for the Ecological District. Also home to possibly the last remaining coastal margin manuka in the ED.
- WETL-01: Largest wetland and possibly fen remaining in the Motueka Ecological District. Wetlands are poorly represented and greatly reduced nationally.
- All areas provide important habitat for indigenous fauna.

Work Program

Refer to Appendix 4 – Schedule of Ecological Management


RABB-DEPG-01
1:2,500
N
0
0.085
0.17
0.255
0.34
Kilometres
Legend
HCV Area
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors


RABB-LEPT-01
1:2,500
N
0
0.085
0.17
0.255
0.34
Kilometres
Legend
HCV Area
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors


RABB-WETL-01
1:2,000
N
0
0.07
0.14
0.21
0.28
Kilometres
Legend
HCV Area
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors

Appendix 4: Schedule of Ecological Management

Review Date: October 2029

High Conservation Value Forest: Kingsland

Activity Type	Required actions	Area/s	Due date
Photopoint monitoring	• Establish photopoint vegetation monitoring of all HCV sites. • Record location of monitoring points and photos in an electronic file/document • Repeat photos annually.	HCV Area	31-Mar (annually)
Annual walk-through check / drone survey	• Forest manager to do annual onsite check to note any issues including weeds, wilding conifers, animal browse. • This can be done via a combination of a walk-through check on the ground and/or use of a drone to carry out an aerial assessment of the block.	HCV Area	31-Dec (annually)
Pest control - Animals	• Formalise a pest control plan targeting possums, rats and mustelids – (an external contractor could be engaged). • May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density).	HCV Area	31-Dec (annually)
Pest Control - Plants	• Carry out any pest plant control based on annual walk-through check / drone survey information and the Regional Pest Management Plan.	HCV Area	31-Dec (annually)

High Conservation Value Forest: Moturoa / Rabbit Island

Activity Type	Required actions	Area/s	Due date
Photopoint monitoring	• Establish photopoint vegetation monitoring of all HCV sites. • Record location of monitoring points and photos in an electronic file/document • Repeat photos annually.	All HCV Areas	31-Mar (annually)
Annual walk-through check / drone survey	• Forest manager to do annual onsite check to note any issues including weeds, wilding conifers, animal browse. • This can be done via a combination of a walk-through check on the ground and/or use of a drone to carry out an aerial assessment of the block.	All HCV Areas	31-Dec (annually)
Pest control - Animals	• Formalise a pest control plan targeting possums, hedgehogs, mustelids, rats, mice and feral cats – work with local community conservation group (CCG). • May include shooting, trapping and/or poisoning – ask for results from CCG	All HCV Areas	31-Dec (annually)
Pest Control - Plants	• Carry out any pest plant control based on annual walk-through check / drone survey information and the Regional Pest Management Plan.	All HCV Areas	31-Dec (annually)
Fencing	• Look at ways to fence off HCV areas to protect them from other forest users	All HCV Areas	31-Dec-25
Signage	• Consider creating signs for HCV areas to inform people why the area is under protection - Bird nesting: what to look out for, times of year, keep dogs on a lead etc - Waahi tapu sites - Threatened species present in the areas	All HCV Areas	31-Dec-25

Other Actions – all Tasman District Council Forests

Activity	Action detail	Area/s	Due date
iNaturalist entries	• Species and status frequencies (especially new finds) entered by the public, forestry crews, operational supervisors.	Forest wide	As required
Archaeologist consultation	• Consultation with an archaeologist prior to harvesting is recommended	Forest wide	As required
Train crews in threatened species observation & management	• Include photos of species in rare species ID posters and train (during inductions) crews to be alert for presence of threatened species and to avoid damage within operational areas. • Record any sightings in iNaturalist database. • Apply relevant forest management protocols (e.g. NZ Falcon Management Guide – Plantation Forestry)	All contractors	As required
Ecological Survey - eDNA	• eDNA monitoring is not recommended for Pāmu Southland Forests because the catchments are all mixed land use, and the results would not be a true reflection of any one land use.	N/A	N/A
Annual surveillance check / drone survey	• Forest manager to do annual onsite check to note any issues including weeds, wilding pines, animal browse. • This can be done via a combination of a drive/walk-through check on the ground and use of a drone to carry out an aerial assessment of the block.	Forest wide	31-Dec (annually)
Pest control - Animals	• Formalise a pest control plan targeting feral goats, feral deer and possums - possibly using an external contractor. • May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density).	Forest wide	31-Dec (annually)

Activity	Action detail	Area/s	Due date
Pest Control - Plants	• Carry out any pest plant control based on annual drive/walk-through surveillance check / drone survey information and in accordance with the Regional Pest Management Plan.	Forest wide	31-Dec (annually)
Bat surveys	• Carry out targeted pre-harvest surveys for long-tailed bats • Ideally, carried out in warmer months to avoid hibernation • Record any sightings in the iNaturalist database and the National Bat database (DOC)	To be determined prior to harvest	Summer prior to clearfell harvest
Wilding Conifer Control	• Remove all wilding conifers from wetlands and SNA's	Forest wide	Prior to replanting & then every 5 years