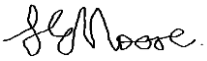
FSC® FOREST MANAGEMENT PLAN

Titirangi Forest

Totara Forestry Services Ltd

February 2024 – February 2029

Author Signature	
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Date	27 February 2024

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Role	Environmental Manager
Date	27 February 2024

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1. What is this Plan?

About this Plan

This specific forest management plan provides details about Titirangi Forest, owned by Totara Forestry Services Ltd.

This plan is to be used in conjunction with the PF Olsen Standard FSC forest management plan[1], which outlines the typical management applied to PF Olsen FSC Group Scheme forests.

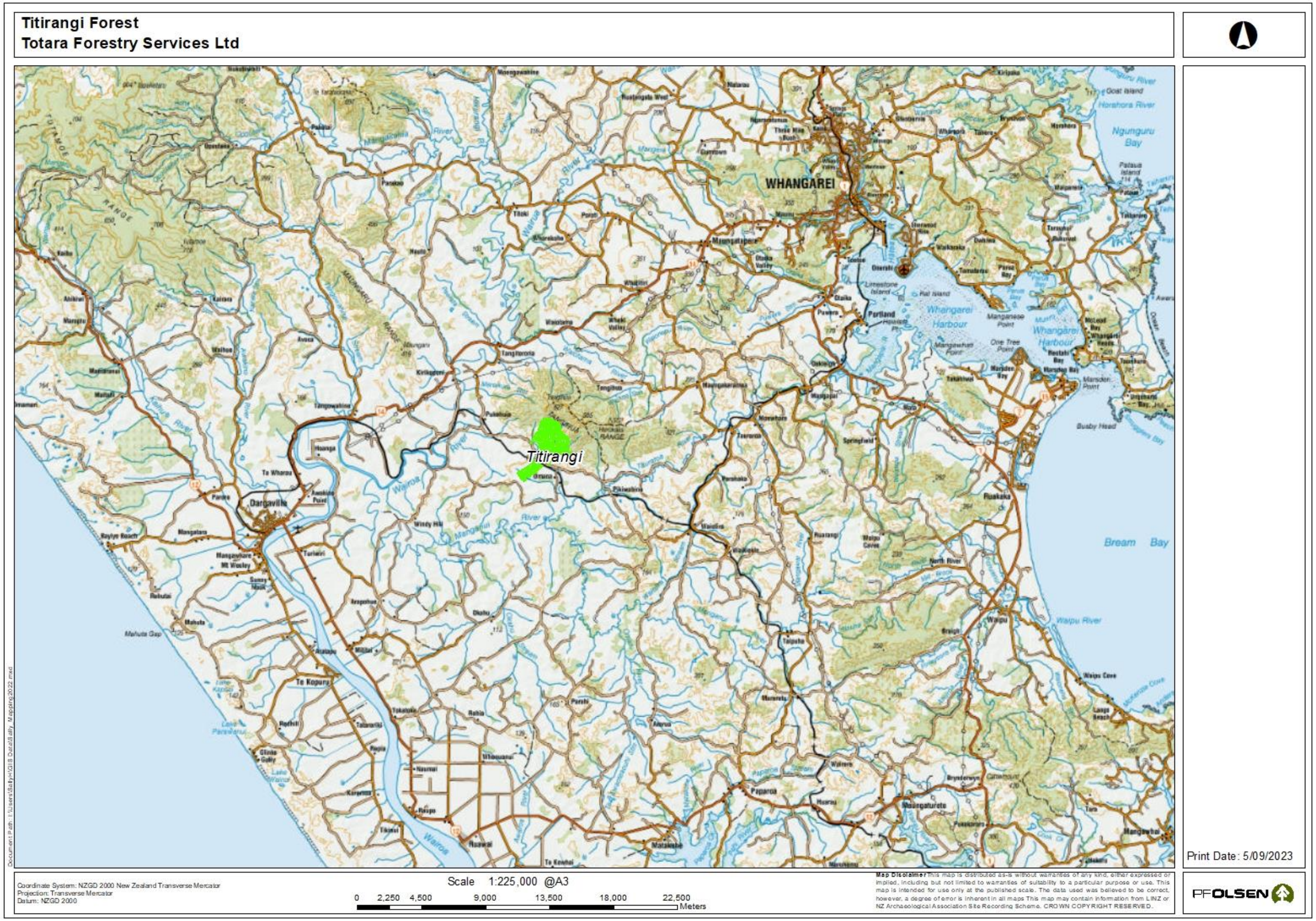
Where the forests are managed in a different way than described in the standard forest management plan, this is detailed within this plan, which takes precedence.

Foundation Principle

Craigmore Sustainables NZ Ltd (Craigmore) is the investment manager for Totara Forestry Services Ltd. Totara Forestry Services Ltd and Craigmore are committed to adopting the Forest Stewardship Council (FSC) Principles and meeting the FSC Criteria relevant to forest management. Both parties are committed to the PF Olsen FSC Group Scheme SCS-FM/COC-400064 processes and associated documents.

Craigmore Sustainables NZ Ltd seeks FSC certification on behalf of Totara Forestry Services Ltd, 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


Titirangi Forest
Totara Forestry Services Ltd
Titirangi
WHANGAREI
Whangarei Harbour
Bream Bay
Dargaville
Ngunguru Bay
Busby Head
Waipu River
Waipu
Ruakaka
Marsden Point
Te Kopuru
Paparoa
Maungaturoto
Mangawhai
Print Date: 5/09/2023
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
Scale 1:225,000 @A3
0 2,250 4,500 9,000 13,500 18,000 22,500
Meters
Map Disclaimer This map is distributed as-is without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. This map is intended for use only at the published scale. The data used was believed to be correct, however, a degree of error is inherent in all maps This map may contain information from LINZ or NZ Archaeological Association Site Recording Scheme. CROWN COPYRIGHT RESERVED.

1. The Forest Land

Forest area and location

Titirangi Forest is located on Omana Road, approximately 20 km east of Dargaville in the Kaipara District of Northland. A location map is shown on the previous page. the forest map is shown in Appendix 1.

Forest	Productive area (ha)	Indigenous reserve area (ha)	Total Forest Area (ha)
Titirangi*	510.5	142.5	653.0

**Area as at February 2024*

Legal ownership

Ownership	Legal description
Freehold	Section 1-2 Block VII Tangihua Survey District
	Part Lot 55 Deposited Plan 8528
	Lot 8-10 Deposited Plan 572641
	Lot 6-7 Deposited Plan 572641 and Part Lot 22A, 23 Deposited Plan 8529
	part of Lot fifty-one (51) of a subdivision of a block of land situated in Blocks VII of the Tangihue and XII of the Maungaru Survey Districts known as Walton's Grant No.1A
	Lot 11 Deposited Plan 572641

Markets

Market/Export Port	Distance from forest	Product
Dargaville Whangarei Kaihu Kauri Whareora	30 to 60 km	Domestic
Northport (Marsden Point)	50 km	Export

Topography & harvest system

Topography	Dominant harvest systems
Rolling hill / steep	Mechanised felling /Cable hauler /Ground based

Altitude is low, ranging from 30 m to around 340 m asl.

Most of the forest is landuse classification LUC 6 – suitable for forestry.

Soil

Soils are predominantly Acid Brown, originating from weathering of volcanic parent material. More recent soils are in valley floors and lower valley sides. Generally, the soils are good for tree growth being not too wet nor droughty in summer.

Climate

- The Northland region has an orographic influenced climate.
- The area receives median rainfall of 1200-1500mm per year with distinct winter maximums.
- The mean annual daytime temperature is around 15° Celsius with the least seasonal variation in New Zealand.
- The forest areas have mean daily temperatures in summer of approx. 21° C and 14° C in winter.
- Strong winds can occur, mainly in winter and spring and sometimes associated with degraded weather systems from the tropics which can bring heavy prolonged rainfall.

2. Ecological Information

Ecological Districts

Titirangi Forest falls within the two Ecological Districts (EDs). Refer to following information about the EDs: https://www.doc.govt.nz/documents/science-and-technical/ecoregions1.pdf

Forest	Ecological District 1	%	Ecological District 2	%
Titirangi	Tangihua	94	Tokatoka	6

FSC requirement: Reserve Area %

The forest meet the FSC requirement of having at least 10% of their total forest area as indigenous reserves, so there is no reserve shortfall.

Forest	Productive Area (ha)	Indigenous Area (ha)	Total Forest Area (ha)	Reserve %
Titirangi	510.5	142.5	653.0	21.8

Threatened Environments Classification

Most of the indigenous reserves fall in the > 30% remaining & > 20% protected category, the most represented of the 6 Threatened Environments Classification classes. There is 13.8 ha in the 2 most threatened categories, including the wetland area in the south of the forest and riparian areas in the centre and west. Of the original pre-human extent of these natural indigenous vegetation areas, little exists today, and little is protected by public ownership (most lies on private land).

Threatened Environments Classification / Forest	< 10% remaining	10 – 20 % remaining	20 – 30 % remaining	> 30 % remaining & < 10 % protected	> 30 % remaining & 10 – 20 % protected	> 30 % remaining & > 20 % protected	Total Area* (ha)
Titirangi	5.9	7.9		27.8		100.9	**142.5**

** area as at February 2024*

3. Cultural and Social Aspects

Forest history

Titirangi Forest was mostly drystock farmland, with smaller areas of natural forest and scrubland.

As a matter of policy, Craigmore Sustainables Ltd acquires farming properties for afforestation that are less suited to economic drystock pastoral agriculture due to topography, erodibility and climatic factors. These are predominantly classed as 'landuse capability class' (LUC) 6 &7[2]. Where there are better classes of land embedded within the properties, efforts are made, within practical constraints, to sub-divide, lease or otherwise use such areas for ongoing pastoral agriculture more suited for the land class.

Current social profile

The predominant land use surrounding Titirangi Forest is pastoral farming and plantation forestry, with small villages servicing rural communities. There is a contribution to the local economy by way of added incremental employment from the forests throughout the forest rotation, including:

- Tree nurseries
- Planting and silviculture contractors
- Pest control operators
- Forest managers
- Quality control providers
- Forest inventory contractors
- Water quality monitoring service providers
- Roading contractors
- Harvesting and cartage contractors

[2] NZ Land Use Classification System

Historic and archaeological sites

Records from the 'Archsite' web resource show there are no known historic sites within Titirangi Forest or within 1 km of the forest boundary. The nearest recorded site is 2 km from the forest boundary. Accidental discovery protocols will apply should any physical evidence of an historic site be discovered during operations.

Tangata Whenua

The table below lists the Iwi Authority associated with the forest area.

Forest	District	Iwi	Iwi Management Plan	Statutory Acknowledgements
Titirangi	Kaipara	Ngāti Whātua	Yes[3]	N

Tenure & resource rights

There are no known direct Iwi interests in Titirangi Forest. Access for customary use is managed through the PF Olsen permit system.

Neighbours

Appendix 2 lists the forest neighbours adjacent to the forest boundary. Most adjacent productive land parcels are being used for pastoral agriculture, horticulture or small-scale lifestyle/agriculture along with areas of conservation land or private non-productive reserves. Some of these parties will be consulted when operations are proposed in forest areas adjacent to their boundaries.

[3] Iwi management plan for Ngāti Whātua Ōrākei

4. Regulations

National Environmental Standards for Commercial Forestry (NES-CF)

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

The table below shows the productive plantation area of Titirangi Forest by the respective NES-CF ESC zone.

Productive plantation area (ha) within each ESC Class

Forest	Low	Moderate	High	Very High	Very High (8e)	Total
Titirangi	84.8	264.6	161.1			510.5

Permitted Activities

Earthworks in the green, yellow ESC zone and orange ESC zone up to 25° are permitted under regulation 24 if regulations 25 to 33 are met.

Harvesting in the green, yellow and orange ESC Zone are a permitted activity under regulation 63 if regulations 64 to 69 are complied with.

Afforestation in green, yellow and orange ESC zones is a permitted activity under Regulation 9 if regulations 10 to 14 are complied with and there are no more stringent locational controls in council plans.

River crossings in all ESC zones are permitted activities under regulation 37 if regulations 38-45 are met as well as the additional regulations depending on crossing type (regulation 46).

Controlled and restricted discretionary activities

Afforestation of greater than 2 ha in the red ESC zone is a controlled activity under regulation 15 or a restricted discretionary activity under regulation 16.

Earthworks in the orange ESC zone on land > 25° will not comply with regulations 24(2) (c) and (d). Consent will be required for a restricted activity under regulations 35 (2) (a) and (b) of the NES-CF.

Harvesting in the orange ESC zone may not comply with 69 (5) (residual slash) therefore consent will be required for a controlled activity under Regulation 70 (3) (a) and (b) of the NES-CF.

Council RMA Plans

Titirangi Forest falls under the jurisdictions of the Northland Regional Council and Kaipara District Council.

Northland Regional Plan

- Forestry activities are generally controlled by the rules under the NES-CF which for most of the forests in the lower erosion risk (green and yellow ESC) means they are permitted activities subject to the NES-CF permitted activity regulations.
- Resource consents will need to be obtained for some activities in the ESC orange zones, e.g., earthworks on slopes > 25° and harvesting.
- Although activities will be generally permitted, Regional Plan maps should be reviewed to ensure activities close to sensitive areas can be checked for any more stringent rules under the regional plan.
- Any burning or agrichemical operations will be subject to air and discharge rules in the Regional Plan.

District Plan

Kaipara District Plan

- Operative plan November 2013 – undergoing review
- Refer to the District Plan maps – Operative
- Outstanding Natural Landscape overlay provides more stringent rules for:
    - Indigenous vegetation clearance (12.10.2b)
    - Excavation and fill (12.10.1b)

District Council Plan Zones and Overlays

Forest	District Council	Relevant zoning and overlays
Titirangi	Kaipara	Productive area- 'Rural' Part of northern block falls within Outstanding Natural Landscape 'ONL 9 Tangihua Range'

Consents & authorities held

There are no current resource consents for Titirangi Forest.

Emissions Trading Scheme

Titirangi Forest will be managed in the Emissions Trading Scheme (ETS). All the productive forest area will be registered under the 'averaging' accounting system. Under this system, carbon units can be claimed once, up to the average sequestration level for the Carbon Accounting Area (CAA), after which no more units are issued but no liabilities exist at harvest provided the area is replanted.
Eligible indigenous forest areas will be registered under permanent forestry (stock-change accounting)

5. 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 Titirangi Forest. It is recognised that forestry operations may impact on these values. Any potential adverse effects are managed through operational plans.

Forest	Powerlines	Public road	Other
Titirangi	Powerlines run along Omana Road.	Omana Road runs between northern and southern blocks.	House/farm buildings < 1 km. Railway line runs along north boundary of southern block.

Pests and diseases

The Northland Regional Pest Management Plan 2017-2027 includes plant and animal pest species that may be present in the forest[4] or within the pasture areas to be afforested.

Pasture-based plant pest species may be suppressed under a forest canopy. Machine hygiene practices should be used to prevent spread from properties where identified pests are present.

[4] https://consult-nrc.objective.com/portal/biosecurity/rpmp/rpmp?pointId=2010825

Pest animal species are common throughout the region. These are likely to need periodic control both for commercial reasons and ecological reasons in the natural indigenous reserve areas.

A full list of species and a description of the control programmes can be found online at: Regional Pest Management Plan | Northland Regional Council

Plant pests

Plant pest species noted within Titirangi Forest includes the following.:

- Coral tree
- Pampas
- Blackberry
- Japanese honeysuckle (NPPA[5])
- Swamp lily
- Tradescantia (NPPA)

Animal pests

Evidence of the following animal pests have been sighted, or they are highly likely to be present. Those that fall under the RPMP have the specific programme noted in brackets:

- Feral goat (Sustained control)
- Possum (Sustained control)
- Feral pig (Sustained control)
- Feral cat (Sustained control)
- Rat (Sustained control)
- Mouse
- Rabbit and hare (Sustained control)
- Rainbow skink
- Mustelids (Sustained control)
- Goldfish
- Gambusia

Diseases

- Kauri dieback (Sustained control)

[5] NPPA - National Plant Pest Accord

- Apply national protocols[6] for management of kauri dieback disease (*Phytophthora agathidicida*) if there is a possibility of activity or soil disturbance nearby (e.g., at plantation and reserve boundary interfaces).
- Consideration should also be applied to new planting boundaries adjacent to kauri trees given the eventual intent to harvest and consequential roading.

Fire

Titirangi Forest falls within the Fire and Emergency NZ (FENZ) Northland Zone[7]. The plan references the thresholds for fire restriction levels and the coordination of forestry risk management responses between forest owners/managers and FENZ.

6. Commercial Plantation Estate

Current crop

Of the total Titirangi Forest productive area of 510.5 ha:

- 1.4 ha was planted in 1989.
- The remaining 509.1 ha is younger plantings established in 2022 and 2023.

The plantations are radiata pine. This species exhibits excellent growth and structural quality in the region, has a proven record (including in relation to disease risk), has large local domestic processing demand, and as well, has proximity to an export port.

Tending

The tending regime for all recent and future planted stands will be reviewed in relation to the most appropriate silvicultural regime as the forest reaches the applicable age. At this point

[6] https://www.kauriprotection.co.nz/assets/Documents-PDFs/Best-Practice-Guides/Guide-Land-disturbance-activities-around-kauri.pdf
[7] https://www.fireandemergency.nz/assets/Documents/fire-plan/Northland-Fire-Plan-2021-2024-approved.pdf

the expectation is that most or all stands will be tended according to a structural (thin only) regime, with roadside pruning.

Tree nutrition

The soils are not generally seen to be deficient in nutrients for healthy tree growth, especially for this forest which is ex-farmland. The soil will have residual fertility from past farming fertiliser applications that will be in excess of normal requirements for tree growth.

7. Harvesting Strategy

Harvesting strategy

The optimum harvest age for *Pinus radiata is* around 27 years old. The actual age of harvest will be subject to many variables.

No harvesting is planned during the life of this management plan.

Infrastructure

Basic infrastructure is mostly in place throughout the estate, with the utilisation of the existing farm track network. Some upgrades to roads, culverts and fords are required in the near future to secure access for the growing phase of the rotation. Prior to harvesting, further infrastructure maintenance and upgrades will be required.

8. Indigenous Biodiversity

Indigenous reserves

Natural indigenous vegetation reserves are the areas of naturally occurring indigenous vegetation within each forest that have been identified as part of the ecological survey. These areas are not all legally protected but are managed to meet the FSC Principles and Criteria.

Appendix 3 shows the ecological management plan for Titirangi Forest.

Natural indigenous vegetation reserve areas by protection category

Forest	Special	Limited	Passive	Total* (ha)
Titirangi	43.4	96.3	2.8	142.5

Protection granted to the indigenous reserves

Forest	PNA[8]	NZ Forest Accord	Management plan	Total* (ha)
Titirangi	43.4	74.9	24.2	**142.5**

** areas as at February 2024*

High Conservation Value (HCV) Forests

Natural areas within Titirangi Forest were independently assessed against the HCV criteria. None of the areas met the criteria for HCV status (2023 Wildland Consultants report[9]).

[8] Protected Natural Area- indigenous areas worthy of protection as identified in the Protected Natural Areas Programme surveying from 1981, under the Reserves Act 1977.

[9] Wildlands. (2023). Natural area survey and Assessment of High Conservation Value Areas of Craigmore Forests, Northland. Contract Report No. 6691.

Biodiversity values

Forest	Flora	Fauna present or highly likely
Titirangi	**Overview** Mostly comprising regenerating secondary indigenous forest types such as kahikatea-(tōtara) /taraire- (tītoki)/nīkau forest, kahikatea/[tōtara] forest, kahikatea-(kauri)-[rimu]-[northern rātā]/taraire-(tōwai) forest, tōtara-pūriri forest, and tōtara-kahikatea-taraire forest and treeland. These vegetation and habitat types are representative of conifer-broadleaved species forest which has been greatly reduced in extent within Tangihua and Tokatoka Ecological Districts. **Threatened flora** • Kānuka* (Threatened-Nationally Vulnerable) • Akatea* (*Metrosideros perforata*; Threatened-Nationally Vulnerable) • Northern rātā* (*Metrosideros robusta;* Threatened-Nationally Vulnerable) • White rātā* (*Metrosideros diffusa*; Threatened-Nationally Vulnerable) • Climbing rātā* (*Metrosideros fulgens*; Threatened-Nationally Vulnerable) • Kauri˜ (*Agathis australis*; Threatened-Nationally Vulnerable) **Legally protected areas** • Two SNAs within forest- Tangihua Forest (KW018) and Girls High School Road Bush (K083). • Adjacent to DOC Scenic Reserve.	**Bats** • Long-tailed bat (Threatened- Nationally Critical) **Birds** • Grey duck/pārera (Threatened- Nationally Vulnerable) • NZ dabchick (Threatened-Nationally Increasing) **Fish** • Longfin eel (At Risk-Declining) • Shortjaw kokopu (Threatened- Nationally Vulnerable) **Herpetofauna** • Forest gecko (At Risk-Declining) • Elegant gecko (At Risk-Declining) **Invertebrates** • Kauri snail (At Risk-Declining) • Land snail (At Risk-Declining)

* Threat classification elevated as precautionary measure due to myrtle rust susceptibility

˜ Threat classification listed as Threatened- Nationally Vulnerable due to the impacts of kauri dieback *Phytophthora agathidicida*

Rare and threatened Species Management

The general management of these species is shown below. Specific ecological management activities are outlined in Appendix 3. iNaturalist[10] (Biodiversity in Plantations) will be used to record sightings of important indigenous fauna or flora discovered in the forest.

Biodiversity group	Management response
Flora	The rare flora species (excluding kauri) are in the Myrtaceae family. The Myrtle family are at risk of myrtle rust, hence their threat class has been elevated. Kauri has similarly had an increase in the threat class due to the impact of kauri dieback (PA) in the North Island. Implementation of forest hygiene measures in line with national guidelines will help safeguard these species from the effects of these pathogens. Indigenous vegetation will benefit from the exclusion of domestic stock within the natural areas, possum, feral pig and goat control, and careful harvesting along the boundary of indigenous vegetation.
Birds	Birds identified as present or highly likely within Titirangi Forest will benefit from reserve/riparian protection and wider pest control implemented across the forest. PF Olsen will follow the relevant management guidelines set out in the New Zealand Forest Owner's Association (NZFOA) 'industry best practice' guidelines for rare, threatened, and endangered species management in plantation forests
Bats	Long-tailed bats are likely to be present in the forest as suitable bat habitat is present, and populations are known nearby. Targeted pre-harvest surveys are recommended. Populations will benefit from wider pest control implemented across the forest. These species will also benefit from riparian and reserve protection. PF Olsen will follow bat management guidelines set out in the New Zealand Forest Owner's Association (NZFOA) 'industry best practice' guidelines for rare, threatened, and endangered species management in plantation forests
Lizards	Herpetofauna identified as present or highly likely within Titirangi Forest will benefit from wider pest control implemented across the forests. These species will also benefit from riparian and reserve protection.
Fish	These species will benefit from riparian protection.

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

Invertebrates	Invertebrates identified as present or highly likely within Titirangi Forest will benefit from wider pest control implemented across the forests. These species will also benefit from riparian and reserve protection.

9. Other Special Values: Everything but the timber

Recreation

Titirangi Forest is open for recreation subject to safety requirements. Any approved access 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 phone the PF Olsen Northland Office 09 407 7012.

Following the intent of the Outdoor Access Code[11] (published by Herenga ā Nuku - Outdoor Access Commission) and any signage / barriers in place within the forest, is expected behaviour of forest visitors. Closures of the forest will also apply during times of high fire risk, any *force majeure* state or damage and during forestry operations.

Public access roads

According to the information available on the Herenga ā Nuku - Outdoor Access Commission website[12], there are no formed or unformed legal roads within Titirangi Forest. Part of the forest is adjacent to public DOC conservation land (Tangihua Forest). A map is included in Appendix 4.

Refer also to the Herenga ā Nuku - Outdoor Access Commission website[13].

[11] https://www.walkingaccess.govt.nz/assets/Publication/Files/Outdoor-Access-Code/0fcf4d2e5b/Outdoor-Access-Code.pdf
[12] https://www.herengaanuku.govt.nz/
[13] https://maps.walkingaccess.govt.nz/Viewer/?map=b1d1e76a6c754d11b3f3fd9dfce1eb12

Non-Timber Forest Products

There are no FSC certified non-timber forest products [14] from Titirangi Forest.

[14] 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.

10. Future Planning

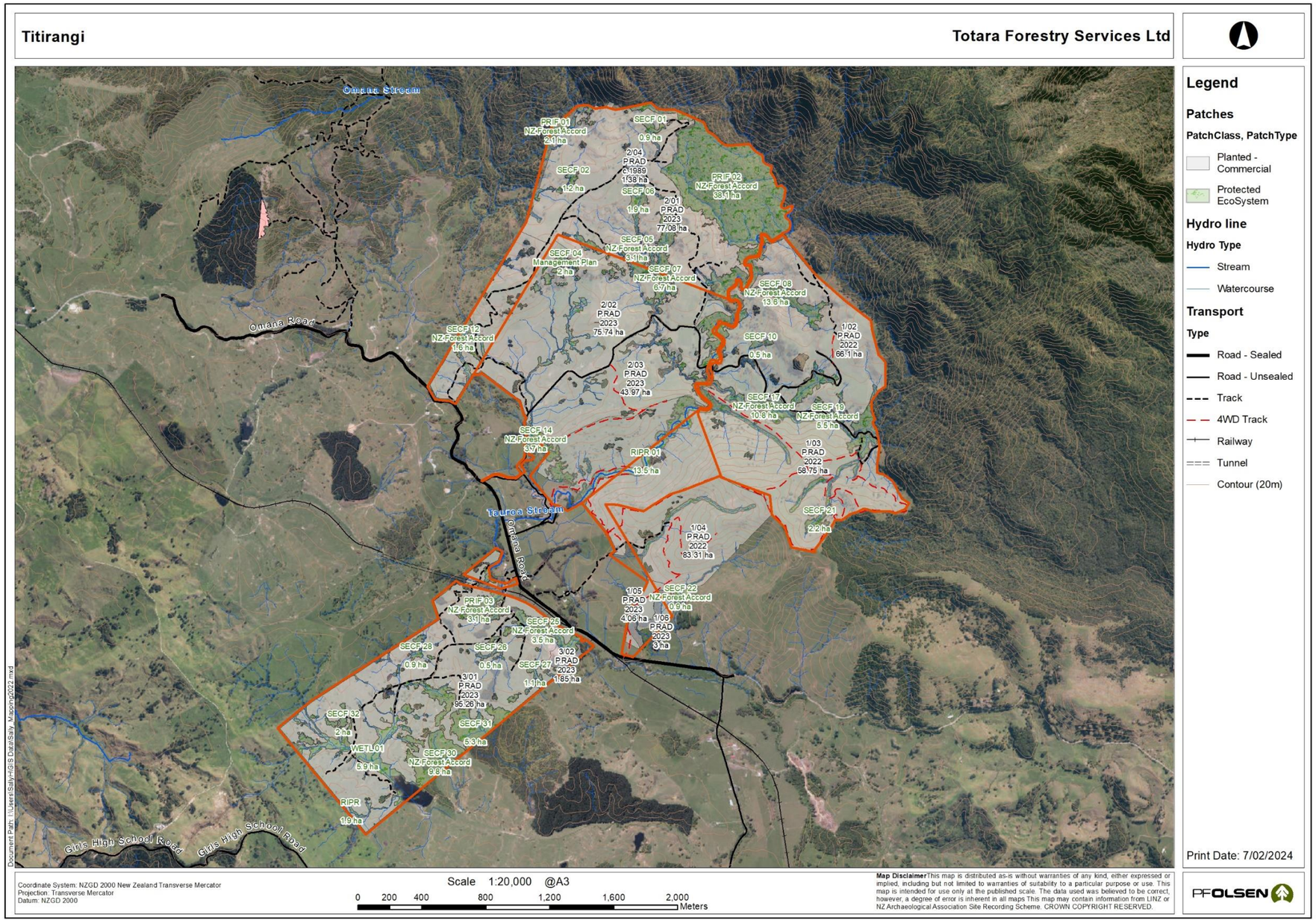
Plan changes & reviews

The next major review date for this plan is January 2029 (5 years).

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

Change	Date	Section/Page
Updated FSC certificate	2025 06 04	1/4

Appendix 1: Forest Map



Appendix 2: Forest Neighbours

Landowner	Activity

Appendix 3: Schedule of Ecological Management

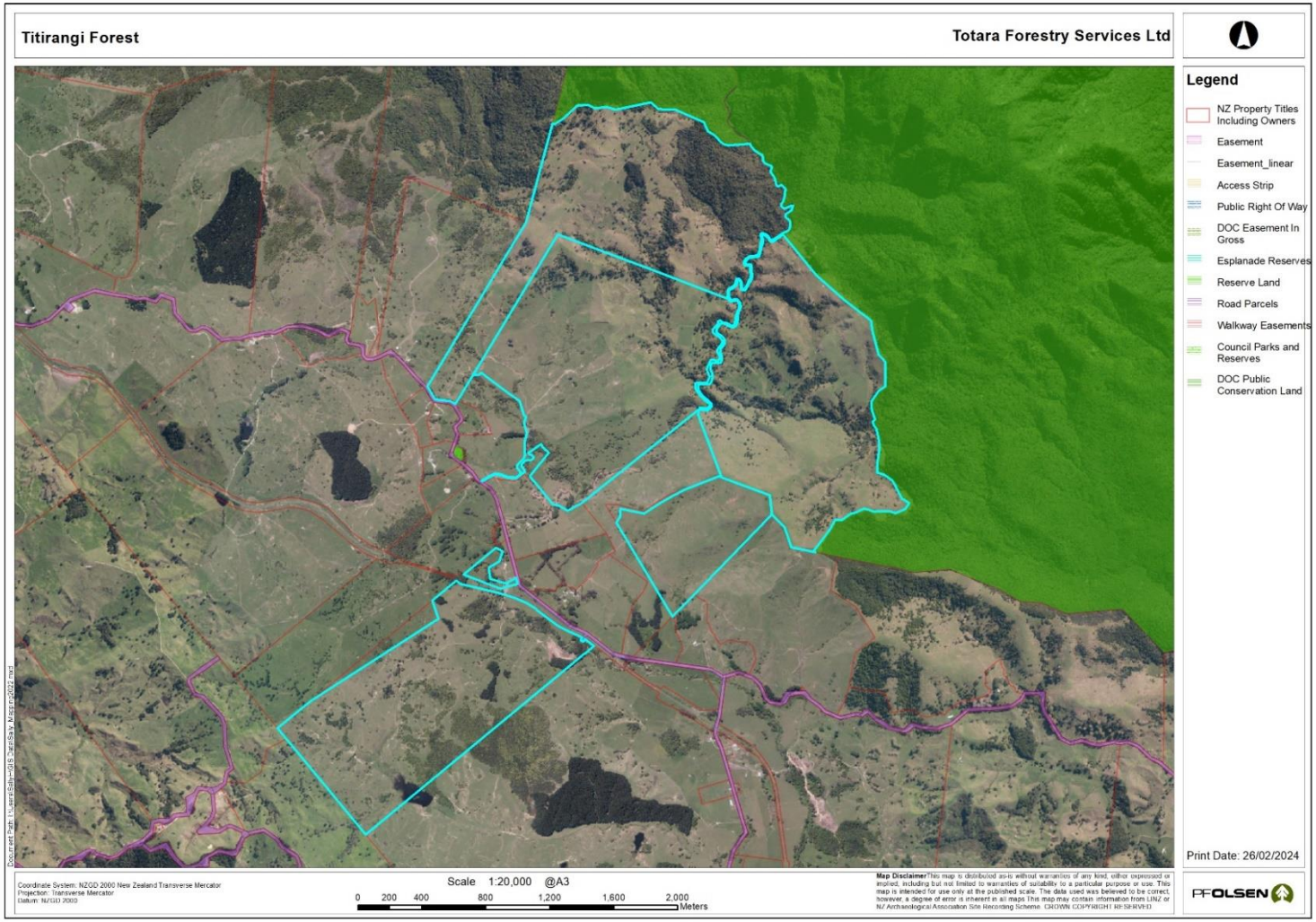
Review Date:

Activity Type	Actions	Area/s	Due Date
Walk-through check / drone survey	Forest manager to do annual on-site check of issues including weeds, wilding pines, 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.	Focus on high-ranking indigenous areas within the forest	31-Dec (annually)
Domestic livestock exclusion	Exclude livestock from indigenous reserve areas. Ensure boundary fencing is adequate to exclude stock from neighbouring farmland.	Whole forest	End 2024 (grazing removed as planned planting is completed)
Pest control - Animals	Formalise a pest control plan (an external contractor could be engaged). May include shooting, trapping and/or poisoning. - Feral goats - Possums	Focus on high-ranking indigenous areas within forest	Pest plan by 07/2024
Biosecurity- machine hygiene	Ensure machine cleaning before entering/leaving the forest to reduce the risk of kauri dieback and rainbow skink transmission.	Whole forest	Ongoing
Pest Control - Plants	Carry out pest plant control within **indigenous reserves** based on annual walk-through check / drone survey information in accordance with the Regional Pest Management Plan (RPMP).	Indigenous reserves within forest.	31-Dec (annually)
	Carry out **forest-wide** pest plant control in accordance with the Regional Pest Management Plan (RPMP). Focus on boundaries.	Focus on boundary control (unless otherwise directed by the RPMP.	31-Dec (annually)

Activity Type	Actions	Area/s	Due Date
Pest Control - Plants	Check, plan and implement wilding conifer control in SNAs and wetlands.	All SNAs and wetlands within the forest.	Survey and budget and plan by 07/2024 Commence implementation by 01/2025 then 5 yearly wilding control.
	Control tradescantia- one patch (approximately NZTM E1696749, N6026907).	Titirangi SECF-28	Summer 2024/25
Bat surveys	Carry out targeted pre and post-harvest surveys for long-tailed bats	Whole forest- harvesting near riparians and indigenous reserves	Pre-harvest, summer prior Post harvest if bats detected pre-harvest
Threatened species sightings	Sightings to be recorded in iNaturalist. NZFOA Rare Species Guidelines to be followed if species are found within the forest boundaries.	Whole forest	Ongoing
Fish passage survey	Undertake a check of existing culverts for fish passage. Install solution if fish passage is not provided.	Whole forest	Summer 2024/25

Activity Type	Actions	Area/s	Due Date
Water monitoring	Measure water quality parameters, and undertake 6-replicate comprehensive eDNA water testing to: - establish aquatic / amphibious / riparian terrestrial rare species presence. - provide water quality indicator (TICI). If threatened species are identified: - Findings will be reported in iNaturalist - Review forestry and harvesting operations to ensure that any potential impacts are recognised and managed appropriately to not adversely affect the threatened species (in line with the National Policy Statement for Indigenous Biodiversity). If an unexpected result is produced, a repeat test will be implemented.	E1697605, N6027845. Tauroa Stream where it exits Titirangi Forest.	Baseline was established in Spring 2022. Immediately and annually - Budget and implement annually for 5 years to monitor effects of landuse change. Switch to 5-yearly during mid-rotation (age 5, 10, 15, 20, 25 years), and increase frequency to annual just prior and during next harvest.

Appendix 4: Public Access Map


Titirangi Forest
Totara Forestry Services Ltd
Legend
NZ Property Titles Including Owners
Easement
Easement_linear
Access Strip
Public Right Of Way
DOC Easement In Gross
Esplanade Reserves
Reserve Land
Road Parcels
Walkway Easements
Council Parks and Reserves
DOC Public Conservation Land
Print Date: 26/02/2024
Scale 1:20,000 @A3
0 200 400 800 1,200 1,600 2,000
Meters
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
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