

FSC® FOREST MANAGEMENT PLAN

Tempello Forest R J Grigg Reporting Period: September 2023 – August 2028



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1. What is this Plan?

About this Plan

This **specific** forest management plan provides details about Tempello Forest.

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

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

Foundation Principle

R J Grigg is committed to adopting the Forest Stewardship Council (FSC®) Principles and meeting the FSC® Criteria relevant to forest management.

R J Grigg is committed to the PF Olsen FSC Group Scheme **NC-FM/COC-000190** processes and associated documents.

R J Grigg seeks 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.



2. The Forest Land

Location and access

Tempello Forest is a 66.5 hectare forest in the Marlborough region. The location of the forest is shown in Appendix 1.

Forest Area

Forest	Net Stocked area (ha)	Indigenous area (ha)	Awaiting planting (ha)	Total forest area (ha)
Tempello	66.5	0.0	0.0	66.5

Legal ownership

The forest is freehold.

Markets

The location of the forest in relation to potential markets is listed in the table below.

Distances from forest to log markets

Potential Market or Export Port	Distance from Forest (km)	Log market
Kaituna Sawmill	34	Domestic
Picton Port	50	Export

Topography

- The topography of the forest is steep, south facing slopes.
- Terrain of the forest is predominantly short steep slopes that should be easily harvested using winch-assist ground-based harvest systems.
- Altitude is range is 160m above sea level to 500m above sea level.



Soil

- Soils are clay/schist.
- They are weak in structure and fragment easily.
- Radiata grows well on this low fertility site
- Roading and harvesting infrastructure is already in place. Due to the soil structure this will require regular maintenance to prevent it deteriating.
- Erosion is uncommon and does not show in the forest partly due to low rainfall which is around 830mm per year.

Climate

- The average rainfall at nearby Beneagle is about 844mm and is relatively evenly distributed during the year.
- July is the highest rainfall month with an average of 90mm while February is dry with 43mm (from 30 years long run average).
- The mean annual temperature is around 13.2 degrees Celsius in nearby Blenheim.



3. Ecological Information

Ecological District

Tempello Forest is located within the Wither Hills Ecological District (ED), in the Wairau Ecological Region. Refer to following the information about the ED:

Department of Conservation (1987). <u>Ecological Regions and Districts of New Zealand – Part</u> <u>3</u>. New Zealand Biological Resources Centre, 3rd Edition.

FSC requirement: Ecological District

As the area is less than 10% by forest, and less than 10% within the Wither Hills ED within the PF Olsen Group Scheme, there is a reserve shortfall. This will be addressed by providing an annual donation to the Para Wetland Restoration Project.

Reserve areas in Tempello Forest by Ecological District

Foological District	Total Forest	Reserve	Reserve	Meets	Reserve
Ecological District	Area (ha)	Area (ha)	%	FSC?	Shortfall (ha)
Wither Hills	66.5	0.0	0%	NO	6.7

Threatened Environments Classification

There are no reserve areas in Tempello Forest.

Threatened Environment Classification	Area (ha)
<10% remaining	-
10 – 20% remaining	-
20 – 30% remaining	-
>30% remaining & <10% protected	-
>30% remaining & 10 - 20% protected	-
>30% remaining & >20% protected	-
Total Area (ha)	0.0



4. Cultural and Social Aspects

Forest history

Tempello Forest is planted on reverting farmland. Following the loss of subsidies to control weed pest scrub weeds such as, gorse, broom and bracken, the land quickly regenerated to low value pasture. Mr. Grigg Snr wanted to see the land transformed into a more productive use than sheep farming and in 1983 encouraged the Partnership to plant radiata.

Following the harvest of the forest in 2019, Mr Grigg's son brought the land and replanted with radiata.

Current social profile

The predominant land uses surrounding the forests are pastoral farms and plantation forest, with small rural towns servicing the predominantly rural communities. The forests contribute to the social profile of the area. They are privately owned. There is a modest contribution to the local economy by way of added incremental employment.

Historic and archaeological sites

Records from the 'Archsite' web resource has revealed there are no known historic sites in Tempello Forest, or within 1km of the forest boundary.

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

Tangata Whenua

The following iwi whakapapa to the Blenheim area of the South Island:

- Ngāi Tahu is the main iwi in the South Island. Eighteen regional Papatipu Rūnanga (marae communities) exist to uphold the mana of their people over the land, the sea, and the natural resources. These 18 Papatipu Rūnanga have separate iwi management plans for their different areas of interest. Te Rūnanga o Kaikōura is the nearest Papatipu Rūnanga, to Tempello Forest.
- Ngāti Toa Rangatira have an Iwi Management Plan that needs to be upheld
- Te Ātiawa o Te Waka-a-Māui have an <u>Iwi Management Plan</u> that needs to be upheld



- Rangitāne o Wairau have no published iwi management plan
- Ngāti Kuia have no published iwi management plan
- Ngāti Rārua have an <u>Iwi Management Plan</u> that needs to be upheld
- Ngāti Kōata have an Iwi Management Plan that needs to be upheld

Tenure & resource rights

There are no known iwi interests in Tempello Forest and, being a small forest, none anticipated.

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 Plantation Forestry (NES-PF) Erosion Susceptibility Classification

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

The stands are located on generally low erosion risk land. The majority of the forest activities will be permitted subject to meeting the NES-PF regulations. None of the stands are zones as ESC orange or red.

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

Productive plantation area (ha) within each ESC Class

Forest	Low	Moderate	High	Very High	Very High (8e)	Total
Tempello	66.5					66.5

Council RMA Plans

Tempello Forest is within the Marlborough District and Region. Under the <u>Proposed</u> <u>Marlborough Environment Plan</u> the Marlborough District Council have their own planning documents and associated rules, developed through public process.



Forestry Activity	Rule/s	Status	Rule description
Afforestation Replanting Harvesting Mech land prep	3.3.6.1 3.3.7.1 3.3.8.1 3.3.14.4	Permitted	Rural environment zone activity must not be in or within: 3.3.6.1 (a) 10 metres of Significant Wetland for planting 3.3.6.1 (b) an Afforestation Flow Sensitive Site for planting and replanting 3.3.7.1(a), 3.3.8.1, 3.3.14.4 - 8m of Significant Wetland for replanting, harvesting or cultivation
Harvesting	3.4.3	Controlled	Harvesting of plantation forestry that was established prior to 9 June 2016, in, or within 8m of a Significant Wetland Matters over which the Council has reserved control: 3.4.3.1 The measures proposed to be taken to minimise damage to the wetland during harvesting. 3.4.3.2 The measures proposed to be taken to minimise the risk of slash or debris entering the wetland.
Afforestation Replanting Harvesting	3.3.6.2 3.3.7.2 3.3.8.2 4.3.6.2	Permitted	Rural environment zone Coastal environment zone activity not be within such proximity to any abstraction point for a drinking water supply registered under section 69J of the Health Act 1956 as to cause contamination of that water supply



Forestry Activity	Rule/s	Status	Rule description
	4.3.13.4 4.3.15.9		
Indigenous Vegetation Clearance	3.3.12.3	Permitted	3.3.12.3. Clearance of indigenous vegetation must not occur: (b) on land above mean high water springs that is within 20m of an Ecologically Significant Marine Site
Indigenous Vegetation Clearance	3.3.12.7 3.3.12.8	Permitted	Clearance of indigenous forest within the coastal environment must not exceed 500m2 per Record of Title in any 5 year period. Clearance of indigenous vegetation within the coastal environment , per Record of Title, must not exceed: (a) 1,000m ² in any 5 year period where the average canopy height is between 3m and 6m; (b) 5,000m ² in any 5 year period where the average canopy height is below 3m, except for the following species where clearance in any 5 year period must not exceed: (i) 250m ² of indigenous sub-alpine vegetation; (ii) 50m ² of tall tussock of the genus Chionochloa
Earthworks	3.3.15	Permitted	 3.3.15.3. Excavation must not be in, or within: (b) 8m of a Significant Wetland or 30m of a river within a Water Resource Unit with a Natural State classification; (c) 8m of the landward toe of a stopbank and the depth of any excavation beyond that must not exceed 15% of the distance between the landward toe of the stopbank and the excavation.

Regulations

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Forestry Activity	Rule/s	Status	Rule description
			 3.3.15.6. Excavation must not be within such proximity to any abstraction point for a drinking water supply registered under section 69J of the Health Act 1956 as to cause contamination of that water supply. 3.3.15.7. There must be no excavation in excess of 100m3 within any 12-month period within a Level 2 or 3 Flood Hazard Area, or in the Level R Flood Hazard Area in the vicinity of Conders Overflow. 3.3.15.8. There must be no excavation in excess of 500m3 per Record of Title located within the following Outstanding Natural Features and Landscapes within any 12-month period: (a) Chalk Range; (b) Inland Kaikoura Range; (c) Molesworth Station and Upper Clarence; (d) Limestone Coastline; (e) The Main Divide and Leatham Conservation Area. This does not apply to excavation for the purposes of maintaining existing tracks, fences, [] where their location and physical extent does not change; []. 3.3.15.9. Wheeled or tracked machinery must not be operated in, or within 8m of, a river (except an ephemeral river or intermittently flowing river, when not flowing), lake, Significant Wetland or the coastal marine area. 3.3.15.13. Excavation must not cause water to enter onto any adjacent land under different ownership
Afforestation	3.3.9	Permitted	Woodlots, the following species must not be planted: a) Douglas fir (Pseudotsuga menziesii); (b) Lodgepole pine (Pinus contorta);



Forestry Activity	Rule/s	Status	Rule description
			 (c) Muricata pine (Pinus muricata); (d) European Iarch (Larix decidua); (e) Scots pine (Pinus sylvestris); (f) Mountain or dwarf pine (Pinus mugo); (g) Corsican pine (Pinus nigra).
Afforestation	3.7.1	PROHIBITED	Plantation forestry afforestation or woodlot forestry planting within the coastal environment on land identified as Steep Erosion-Prone Land, that has not previously been planted in lawfully established plantation or woodlot forestry.
Replanting	4.3.6.1	Permitted	coastal environment zone (a) within 8 metres of significant wetland (b) within 30 m of the coastal marine area – coastal environment zone
Mech land prep Earthworks Harvesting	4.3.10.3 4.3.10.4	Permitted	Coastal environment zone 4.3.10.3 Clearance of indigenous vegetation within the coastal environment must not occur: []; (b) on land above mean high water springs that is within 20m of an Ecologically Significant Marine Site. 4.3.10.4 Clearance of indigenous vegetation within the coastal environment must not include the following habitats/species: (a) duneland vegetation;



Forestry Activity	Rule/s	Status	Rule description
			 (b) coastal grassland; (c) coastal vegetation dominated by (making up >50% of the canopy cover) Phormium sp; (d) coastal broadleaved shrubland; (e) coastal small-leaved shrubland; (f) coastal salt turf; (g) coastal speargrass herbfield.
Earthworks	4.3.13.3 4.3.15.9(b)	Permitted	Coastal environment zone 4.3.13.3(b) Excavation or filling within 8 metres of a significant wetland < 0.25 ha
Earthworks	4.3.13.3-7 4.3.13.11-13	Permitted	 Coastal environment zone 4.3.13.5 Excavation must not be within a Level 2 or 3 Flood Hazard Area. 4.3.13.6 There must be no excavation in excess of 500m³ per Record of Title located within the Marlborough Sounds Outstanding Natural Feature and Landscape within any 12-month period. This does not apply to excavation for the purposes of maintaining existing tracks, fences, races, and drains where their location and physical extent does not change. 4.3.13.7 Wheeled or tracked machinery must not be operated in, or within 8m of, a river (except an ephemeral river or intermittently flowing river, when not flowing), lake, Significant Wetland or the coastal marine area. 4.3.13.11 Where the excavation results in areas of exposed soil, those areas must be revegetated within 12 months of the completion of the excavation. 4.3.13.12. Excavation must not cause water to enter onto any adjacent land under different



Forestry Activity	Rule/s	Status	Rule description	
			ownership. 4.3.13.13 Excavation must not be associated with the construction or maintenance of forestry roads, forestry tracks, or skid sites.	
Replanting	4.4.3	Controlled	coastal environment zone replanting between 30m and 200m of the coastal marine area Matters over which the council has reserved control: 4.4.3.1 the location of planting, including areas of permanent planting 4.4.3.2 effects of sedimentation, including those likely to arise from harvesting, and measures proposed to avoid or mitigate those effects	
Replanting	4.5.3	Restricted Discretionary	 Coastal environment zone - replanting Matters over which the Council has restricted its discretion: 4.5.3.1 Effects on Significant Wetlands. 4.5.3.2 Effects of sedimentation. 4.5.3.3 The effects on the values of the Marlborough Sounds High Amenity Landscape and the Marlborough Sounds Outstanding Natural Feature and Landscape. 4.5.3.4 Effects on any drinking water supply registered under Section 69J of the Health Act 1956. 	
Harvesting	4.5.4	Restricted Discretionary	Coastal environment zone - harvesting Matters over which the Council has restricted its discretion: 4.5.4.1 Effects on Significant Wetlands.	



Forestry Activity	Rule/s	Status	Rule description
			 4.5.4.2 Effects of sedimentation. 4.5.4.3 The effects on the values of the Marlborough Sounds High Amenity Landscape and the Marlborough Sounds Outstanding Natural Feature and Landscape. 4.5.4.4 Effects on any drinking water supply registered under Section 69J of the Health Act 1956.
Earthworks	4.5.5	Restricted Discretionary	 Coastal environment zone Excavation and filling to construct or maintain forestry roads, forestry tracks or skid sites. Matters over which the Council has restricted its discretion: 4.5.5.1 Effects of sedimentation. 4.5.5.2 Reduction of sediment loadings in run-off. 4.5.5.3 Effects on the values of Outstanding Natural Features and Landscapes. 4.5.5.4 Effects on Significant Wetlands. 4.5.5.5 Effects on any drinking water supply registered under Section 69J of the Health Act 1956.
Afforestation	4.7.1	PROHIBITED	Coastal environment zone - Afforestation on Steep Erosion-Prone land Plantation forestry afforestation, carbon sequestration forestry planting or woodlot forestry planting on land identified as Steep Erosion-Prone Land, that has not previously been planted in lawfully established commercial, carbon sequestration or woodlot forestry.

If consents are required at any stage, consideration should be given to the iwi management plans listed in the <u>Tangata Whenua</u> section of this plan.



Consents & authorities held

There are no resource consents or Archaeological Authorities relevant to Tempello Forest.

Emissions Trading Scheme

Tempello Forest is classified as a post-1989 forest under the Emissions Trading Scheme. Prior to the Tempello planting the property was reverting farmland. This forest has not been registered to participate in the NZ Emissions Trading Scheme and is not subject to the accrual of emissions credits and liabilities under that scheme



6. Managing environmental risk

Assessment of environmental risks

Refer to the Standard FSC Forest Management Plan.

Infrastructure damage or service disruption

Tempello Forest has no utilities infrastructure (e.g. powerlines, water or gas piplines etc) within the boundaries of the forest. Should any go in at a later date the risks will be 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

The <u>Regional Pest Management Plan 2018</u> for Marlborough includes several pest plant and animal species that are or may be present within the forests. These include:

- Broom, sustained control
- Cotton thistle, sustained control
- Feral rabbits, sustained control
- Gorse, sustained control
- Nassella tussock, sustained control
- Possum, exclusion
- Rook, exclusion
- Saffron thistle, sustained control
- Wallaby species, exclusion
- White-edged nightshade, sustained control
- Wild ginger, sustained control
- Wilding conifers
- Willow-leaved hakea, eradication



• Woolly nightshade, sustained control

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

Fire

Tempello Forest is within the Te Ihu Forest and Emergency New Zealand (FENZ) region for forest fire management. The <u>Fire Plan for Marlborough, Te Ihu 2021 - 2024</u> contains additional key information regarding the protection of land and management of fires.

Crop insurance

Not Publicly Available.

Public liability insurance

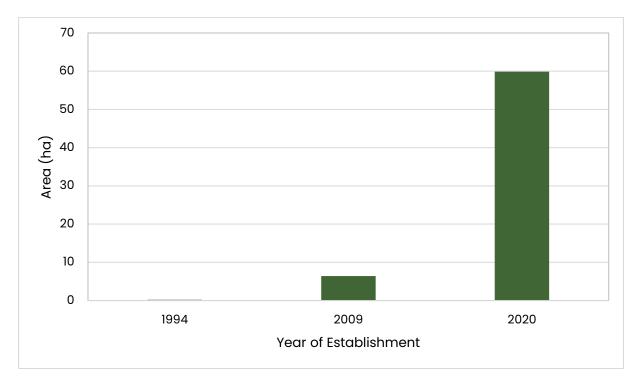
Not Publicly Available.



7. Commercial Plantation Estate

Current crop

Tempello Forest is planted completely with radiata pine, planted predominantly in 2020. Radiata pine has been selected as it is the most commercially viable species.



Tending

The tending regime executed to date in Tempello Forest is a framing regime. The forest will be thinned to 550 stems per hectare at age 8.

The trees will be released in the Spring 2023 (gorse and broom control).

Tree nutrition

The soils are generally not deficient in nutrients for healthy tree growth.



8. Harvesting Strategy

Harvesting strategy

The potential range of harvest age is 25 to 32 years, depending on growth rates, likely markets and contractor availability.

In the next 5 years, no harvesting is planned in Tempello Forest. Harvesting of the older trees (Stand 1/09) may commence in 2032 when the stand reaches the age of 27.

Infrastructure

Infrastructure is largely in place throughout the estate, as the current plantation forest is in its 2nd rotation. Prior to harvesting, infrastructure maintenance and minor upgrades may be required.



9. Indigenous Biodiversity

Protected ecosystems

There are no reserves or protected ecosystems within Tempello forest as the forest does not encompass any areas of indigenous ecosystems or vegetation.

High Conservation Value (HCV) Forests

A previous ecological survey specifically assessed if any reserve areas within Tempello Forest met the criteria for High Conservation Value (HCV) areas under FSC rules. None of the reserve areas meet the criteria.

Threatened species

There are no known rare or threatened species in Tempello Forest and no wetland areas. Visitors to the forest are encouraged to report sightings of any rare and threatened species using <u>iNaturalist</u> (Biodiversity in Plantations). To date there have been no sightings.

Fish

Brown Trout and long finned eel are the only fish species likely to be present within the Taylor River. The NES-PF Fish Spawning Indicator tool¹ and Freshwater Environments New Zealand were used to help identify which species might be present.

Key ecological management activities are outlined in Appendix 3.

¹ https://www.mpi.govt.nz/forestry/national-environmental-standards-plantation-forestry/fish-spawningindicator/



10. Other Special Values: Everything but the timber

Recreation

All forest users are expected to follow the intent of the <u>Outdoor Access Code</u>, published by Herenga ā Nuku - Outdoor Access Commission, and any signage / barriers in place within the forest.

Closures will also apply during times of high fire risk, any *force majeure* state and during forestry operations.

Any approved access is managed through the PF Olsen forest access permit system.

Public access roads

There are no formed or unformed public roads, easements or esplanade reserves (Marginal strips) within the forest as the forest is located on privately owned land. There is a public primary road / cycle trail that runs along the eastern boundary of the forest.

These public road locations are publicly viewable in the <u>Herenga ā Nuku - Outdoor Access</u> <u>Commission website</u>. Any forest users are expected to obey all signage within the forest, apply for a permit, and abide by the <u>Outdoor Access Code</u>.

Other special values

There aren't any special forest values (e.g. apiary sites, mountain biking, walking, hunting) from Tempello Forest.

Non-Timber Forest Products

There are no FSC certified non-timber forest products² from Tempello Forest

² 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 July 2028.

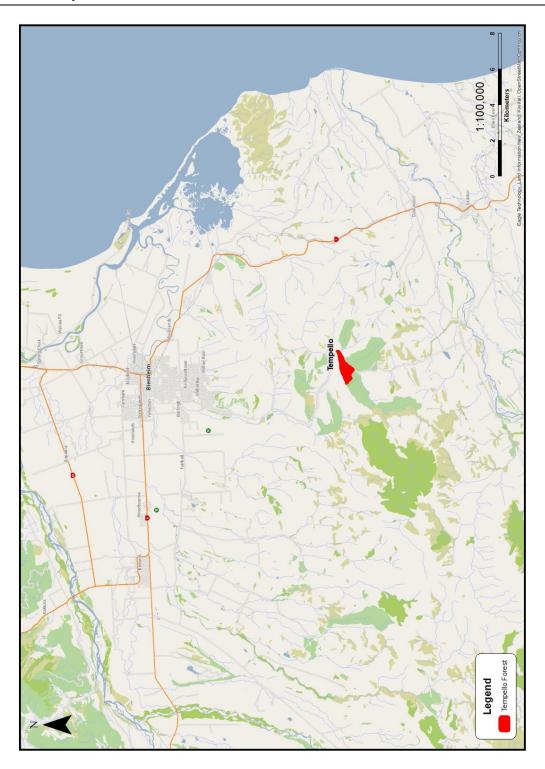
Minor revisions may be made at any time. Any material changes made will be documented below.

Change	Date	Section/Page



Appendix 1: Forest Maps

Location Map



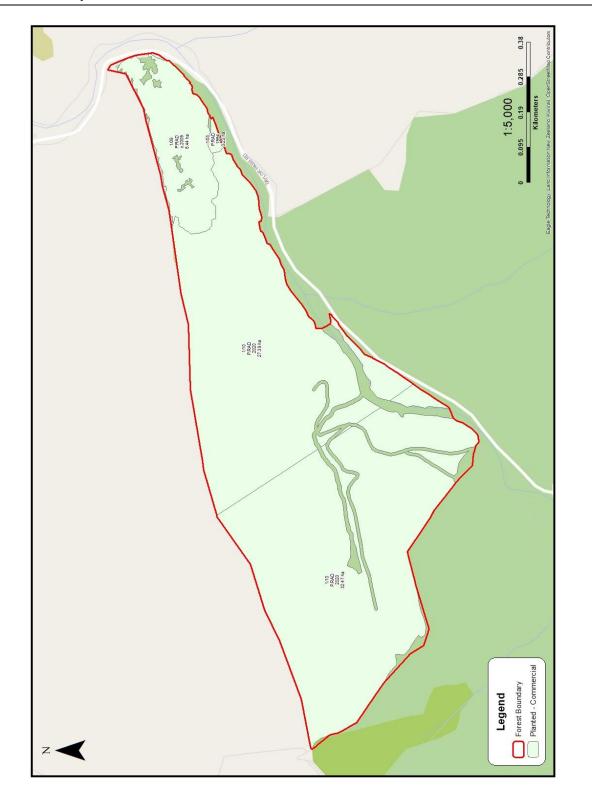
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Appendix 1: Forest Maps





Stands Map



Appendix 1: Forest Maps



Appendix 2: Forest Neighbours

Not Publicly Available.



Appendix 3: Schedule of Ecological Management

Activity Type	Actions	Area/s	Due Date
Walk-through 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 walk-through check on the ground and use of a drone to carry out an aerial assessment of the block. 	Whole forest	31-Dec (annually)
Pest Control - Animals	 Formalise a pest control plan - possibly using an external contractor. May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density). 	Whole forest	31-Dec (annually)
Pest Control - Animals	 Carry out pest control according to pest control plan for forest Annual RTC monitoring of possum density 	Whole forest	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.	Whole forest	31-Dec (annually)
Flora and Fauna Monitoring	Entry of species observations into iNaturalist app	Whole forest	Ongoing

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Appendix 3: Schedule of Ecological Management



Activity Type	Actions	Area/s	Due Date
Bat Survey	 Carry out a survey for bats using AR4 devices at least 6 months prior to harvest in the warmer summer months. If bats are detected, then: Update DOC's national bat database Develop a plan for identifying roost trees / protecting the bats during harvest 	Whole forest	Summer prior to harvest