

# OJI FORESTS

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**Oji Fibre Solutions Ltd**

**Forest Stewardship Council®  
Forest Management Plan**

**For the period January 2023 – January 2028**



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## 1. What is this Plan?

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### About this Plan

This **specific** forest management plan provides details about the following 25 forests, referred to as the Oji forests:

1. Ātiamuri
2. Bookers
3. Davies
4. Duncan
5. Granite
6. Kinleith
7. Maraeroa C
8. Maraetai
9. Murphy
10. Ngaruawahia
11. Pickford
12. Pinedale
13. Price
14. Rust
15. Seal
16. Seven Oaks
17. Stoneleigh
18. Tar Hill
19. Taranui Baboon
20. Tatua
21. Te Ranga
22. Tokoroa East North
23. Waihora
24. Waipapa 9
25. Whakamaru

This plan is to be used in conjunction with the PF Olsen Standard FSC® forest management plan, 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.

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**Foundation  
Principle**

Oji Fibre Solutions (Oji) is committed to adopting the Forest Stewardship Council (FSC) Principles and meeting the FSC Criteria relevant to forest management.

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

Oji 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.

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## 2. The Forest Land

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### Forest area

Maps of each forest are in Appendix 1.

Forest	Net-stocked Area (ha)	Indigenous Area (ha)	Non-productive Area (ha)	Total Forest Area (ha)
Ātiamuri	679.0	1.4		680.40
Bookers	144.8	20.4		165.2
Davies	120.2			120.2
Duncan	220.8			220.8
Granite	20.5			20.5
Kinleith	1,284.5	32.6	20.3	1,337.4
Maraeroa C	56.0	21.2		77.2
Maraetai	314.0	8.1	13.6	335.6
Murphy	74.5	4.4	1.0	79.9
Ngāruawahia	774.9	206.0		980.9
Pickford	50.4	8.2	13.0	71.5
Pinedale	241.4	1.7		243.1
Price	34.5	1.9	3.0	39.4
Rust	134.2	91.1	43.9	269.2
Seal	35.4	0.8		36.2
Seven Oaks	479.2	57.5	41.0	577.7
Stoneleigh	137.5	31.1		168.6
Tar Hill	279.3	20.7		300.0
Taranui Baboon	18.8	2.2		21.0
Tatua	126.2	8.8		135.0
Te Ranga	408.9	6.2		415.1
Tokoroa East North	324.9			324.9
Waihora	275.0	4.3		279.3
Waipapa 9	293.4	6.8		300.2
Whakamaru	350.3	12.0	4.6	366.8
<b>Total certified area</b>	<b>6,878.3</b>	<b>547.2</b>	<b>140.5</b>	<b>7,565.9</b>

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**Location**

The location of the forests is shown on the next page.

<b>Forest</b>	<b>Location</b>
<b>Ātiamuri</b>	Tirohanga Road, off SH 1, just south of Ātiamuri township
<b>Bookers</b>	SH 30 (Mangaone Road), east of Te Teko and north of Kawerau
<b>Davies</b>	SH 30 (Mangaone Road), east of Te Teko and north of Kawerau
<b>Duncan</b>	Duncan Road, from Jack Henry Road, east of Tokoroa
<b>Granite</b>	Alongside SH 30, just off SH 1, and bordering the northern side of the Waikato River, southwest of Ātiamuri township
<b>Kinleith</b>	Area immediately surrounding Kinleith Pulp and Paper Mill, Tokoroa
<b>Maraeroa C</b>	Maraeroa Road, off SH 30, within Pureora Forest
<b>Maraetai</b>	Southwest of Tokoroa in amongst Kinleith Forest
<b>Murphy</b>	Te Weta Road, off Waikite Valley Road, south of Rotorua
<b>Ngāruawahia</b>	Waingarō Road and Te Puroa Road, southwest of Ngāruawahia
<b>Pickford</b>	Manawahe Road, northeast of Manawahe township, and on the south-eastern edge of Rotoehu Forest
<b>Pinedale</b>	Pinedale Road, from SH 1, southeast of Putāruru
<b>Price</b>	Campbell Road, northern edge of Rotoehu Forest, Bay of Plenty
<b>Rust</b>	Stanley Road, from SH2, east of Tāneatua
<b>Seal</b>	Boundary Road from SH 1, southeast of Tokoroa
<b>Seven Oaks</b>	Holtoakes Road, from Whangamata Road, north of Kinloch, Lake Taupo
<b>Stoneleigh</b>	SH 30, south of Kopaki
<b>Tar Hill</b>	Alongside SH 1, south of Tokoroa
<b>Taranui Baboon</b>	Pukerimu Road, from SH 30, northeast of Upper Atiamuri
<b>Tatua</b>	Tram Road, from Tirohanga Road, southwest of Ātiamuri
<b>Te Ranga</b>	Puriri Road, from SH 1, north of Tokoroa
<b>Tokoroa East North</b>	Puriri Road and Galaxy Road, north of Tokoroa
<b>Waihora</b>	Hingare Road, from SH 32 (Western Bay Road), on the north-western edge of Lake Taupo (Waihora Bay)
<b>Waipapa 9</b>	Access from Poihipi Road, north of Kinloch, Lake Taupo
<b>Whakamaru</b>	Alongside SH 32 (Whakamaru Road), on the eastern side of Lake Maraetai, and north of Whakamaru township / Lake Whakamaru



**Markets** All of the harvested eucalyptus goes to Oji’s mills. However, only the pulp wood from radiata goes to the mills. The rest of the radiata grades will go wherever the market determines at the time.

**Topography** Topography allows for ground-based harvesting. It’s described in the table below for each forest.

Forest	Topography and Geology
<b>Ātiamuri</b>	Undulating to gently rolling slopes with a deep mantle of coarse-textured Taupo airfall tephra overlying more weathered tephra below 600 m asl
<b>Bookers</b>	Moderately steep to steep hills with a deep mantle of Tarawera Ash and Lapilli below 900m asl
<b>Davies</b>	Rolling to strongly rolling hills with poorly structured soils formed on a deep mantle of Tarawera Ash and Lapilli, below 900m asl
<b>Duncan</b>	Moderately steep hills with soils formed from a thin mantle of Taupo airfall tephra over more weathered tephra below 900 m asl
<b>Granite</b>	Flat to gently undulating terraces of water-sorted tephra below 900 m asl
<b>Kinleith</b>	Undulating to gently rolling slopes with a thin mantle of Taupo airfall tephra over more weathered tephra below 400 m asl
<b>Maraeroa C</b>	Rolling slopes mantled with Taupo airfall tephra and undulating valleys infilled with fine-textured Taupo flow tephra below 1000 m asl
<b>Maraetai</b>	Moderately steep hills with soils formed from a thin mantle of Taupo airfall tephra over more weathered tephra below 900 m asl
<b>Murphy</b>	Steep hills, scarps and gorges with a deep mantle of Taupo airfall tephra over more weathered tephra over stable rock types below 800m asl
<b>Ngāruawahia</b>	Steep to moderately steep greywacke slopes with a remnant cover of early Holocene and late Pleistocene tephra below 450m asl
<b>Pickford</b>	Steep hills with a thin mantle of Kaharoa Ash over more weathered tephra interbedded with lapilli below 200m asl
<b>Pinedale</b>	Moderately steep hills with soils formed from a thin mantle of Taupo airfall tephra over more weathered tephra below 900 m asl
<b>Price</b>	Strongly rolling to moderately steep hills below 850 m asl
<b>Rust</b>	Steep hills with a thin mantle of Kaharoa Ash over more weathered tephra interbedded with lapilli below 200m asl
<b>Seal</b>	Strongly rolling to moderately steep stable hills on greywacke, ignimbrite and massive mudstone with a thin mantle of Taupo airfall tephra over older tephra below 900m asl
<b>Seven Oaks</b>	Steep hills with a deep mantle of Taupo airfall tephra over more weathered tephra over unconsolidated rock types below 700m asl



Forest	Topography and Geology
<b>Stoneleigh</b>	Rolling to strongly rolling slopes below 350 m asl
<b>Tar Hill</b>	Moderately steep hills with soils formed from a thin mantle of Taupo airfall tephra over more weathered tephra below 900 m asl
<b>Taranui Baboon</b>	Moderately steep hills with soils formed from a thin mantle of Taupo airfall tephra over more weathered tephra below 900 m asl
<b>Tatua</b>	Strongly rolling to moderately steep hills below 800 m asl
<b>Te Ranga</b>	Rolling to strongly rolling slopes below 350 m asl
<b>Tokoroa East North</b>	Rolling to strongly rolling slopes below 350 m asl
<b>Waihora</b>	Flat to rolling dissected slopes on Taupo flow tephra, occurring frequently as wide infilled valleys between 150-450m asl
<b>Waipapa 9</b>	Moderately steep to steep hills below 800 m asl
<b>Whakamaru</b>	Strongly rolling hills with a deep mantle of Taupo airfall tephra over more weathered tephra over stable ignimbrite below 800m asl

## Soils

Forest	Soils
<b>Ātiamuri</b>	Immature Pumice (yellow-brown pumice) soils
<b>Bookers</b>	Recent and Pumice, (recent and recent yellow-brown pumice intergrade) soils
<b>Davies</b>	Recent and Pumice (yellow-brown pumice and recent) soils
<b>Duncan</b>	Allophanic, Pumice and Podzol (yellow-brown loam and yellow-brown pumice) soils
<b>Granite</b>	Coarse-textured, low fertility Pumice (yellow-brown pumice) soils
<b>Kinleith</b>	Allophanic and Pumice (composite yellow-brown pumice soils on yellow-brown loam) soils
<b>Maraeroa C</b>	Pumice (yellow-brown pumice) soils
<b>Maraetai</b>	Allophanic, Pumice and Podzol (yellow-brown loam and yellow-brown pumice) soils
<b>Murphy</b>	Pumice, Allophanic and Podzol (yellow-brown pumice and yellow-brown loam) soils
<b>Ngāruawahia</b>	Ultic, Brown and Allophanic (yellow-brown earths and yellow-brown loam) soils
<b>Pickford</b>	Pumice and Allophanic (yellow-brown pumice and yellow-brown loam) soils
<b>Pinedale</b>	Allophanic, Pumice and Podzol (yellow-brown loam and yellow-brown pumice) soils

Forest	Soils
<b>Price</b>	Pumice and Allophanic (yellow-brown pumice and yellow-brown loam) soils
<b>Rust</b>	Pumice and Allophanic (yellow-brown pumice and yellow-brown loam) soils
<b>Seal</b>	Medium fertility Pumice and Podzol (yellow-brown pumice / yellow-brown loam) soils
<b>Seven Oaks</b>	Pumice and Allophanic (yellow-brown pumice and yellow-brown loam) soils
<b>Stoneleigh</b>	Pumice and Allophanic (composite yellow-brown pumice soils on yellow-brown loam) soils
<b>Tar Hill</b>	Allophanic, Pumice and Podzol (yellow-brown loam and yellow-brown pumice) soils
<b>Taranui Baboon</b>	Allophanic, Pumice and Podzol (yellow-brown loam and yellow-brown pumice) soils
<b>Tatua</b>	Pumice, Podzol and Allophanic (yellow-brown pumice and yellow-brown loam) soils
<b>Te Ranga</b>	Pumice and Allophanic (composite yellow-brown pumice soils on yellow-brown loam) soils
<b>Tokoroa East North</b>	Pumice and Allophanic (composite yellow-brown pumice soils on yellow-brown loam) soils
<b>Waihora</b>	Low fertility, coarse-textured Pumice and Podzol (yellow-brown pumice and podzolised yellow-brown pumice) soils
<b>Waipapa 9</b>	Pumice, Podzol and Allophanic (yellow-brown pumice and yellow-brown loam) soils
<b>Whakamaru</b>	Medium to low fertility Pumice, Podzol and Allophanic (yellow-brown pumice and yellow-brown loam) soils

## Climate

Oji's forests fall into either the Bay of Plenty, Manawatu-Wanganui or Waikato regions of New Zealand.

### Bay of Plenty Region<sup>1</sup>

- Rainfall - Annual rainfall distribution closely follows the variations in topography, rising from 1,300 mm or less near the coast to around 2,000 mm in the Kaimai and Mamaku Ranges, and over 2,200 mm in the Raukumara Ranges. Rainfall steadily decreases as elevation decreases, with the area around Murupara receiving less than 1,300 mm per year.
- Wind - Because of the sheltering provided by the high country to the west, south, and east, the Bay of Plenty lowlands experience considerably less wind than many other parts of the country.
- Temperature - the Bay of Plenty region experiences average temperatures of 10 - 15° C in winter months and 18 - 23° C in the summer.

### Manawatu-Wanganui<sup>2</sup>

- The Manawatu-Wanganui region borders the west coast of the North Island between Wanganui and Levin and covers a 50 km stretch of the east coast south of Cape Turnagain.
- Rainfall: The coastal and lowland area of western Manawatu-Wanganui is one of the driest areas in the North Island, receiving < 900 mm of rainfall per year. In contrast, higher elevation areas around the Central Plateau, the Ruahine and Tararua Ranges, and to the west of Taumarunui, receive more than 2,000 mm per year. The eastern Manawatu-Wanganui region generally receives less than 1,200 mm per year.
- Wind: The Ruahine and Tararua Ranges, and the Manawatu Gorge, have a strong influence on wind in the southern part of the region. In the hill country, winds tend to flow along the line of valleys. Throughout the region, the occurrence of light winds is more likely in the low-elevation inland areas than near the coast or at higher elevations.
- Temperature: Low-lying areas around the coast have a median annual temperature of around 13.5°C, whereas the inland hill country experiences median annual temperatures of about 11-13°C. Median annual air temperatures are significantly cooler on the Central Plateau and the mountain ranges in the region (< 9°C). In elevated areas, the cooler conditions mean that temperatures will often fall below freezing, especially during the winter.

*Continued on next page...*

<sup>1</sup> Chappell, P. R. (2013). *The Climate and Weather of Bay of Plenty*. 3<sup>rd</sup> Edition. NIWA Science and Technology Series 62. <https://niwa.co.nz/static/BOP%20ClimateWEB.pdf>

<sup>2</sup> Chappell, P. R. (2015). *The climate and weather of Manawatu-Wanganui*. NIWA Science and Technology Series 66. [https://niwa.co.nz/sites/niwa.co.nz/files/NIWA\\_ManawatuWanganui\\_Climate\\_WEB.PDF](https://niwa.co.nz/sites/niwa.co.nz/files/NIWA_ManawatuWanganui_Climate_WEB.PDF)

...continued

**Waikato Region<sup>3</sup>**

- The Waikato region extends from Coromandel Peninsula in the north/east to Mount Ruapehu in the south and covers a large portion of the North Island’s West Coast.
  - Northerly or westerly winds are prevailing, but wind speed and direction is determined by local topography. Coastal areas and areas of higher elevation tend to be windier than inland or lower lying areas.
  - Spring is typically the windiest season for the Waikato region.
  - Rainfall patterns are closely linked to elevation and exposure to predominant air flows. Areas of higher elevation (Coromandel Ranges or the Central Plateau south of Lake Taupo) tend to have higher annual rainfall (> 2,000 mm per year on average) than lower lying areas (1,000 – 1,200 mm per year on average).
  - Frosting occurs in valleys or flat areas across the region.
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**Legal ownership**

Appendix 2 gives the legal description of the land on which each forest is situated, along with its tenure status.

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<sup>3</sup> Chappell, P. R. (2013). *The Climate and Weather of Waikato*. 2<sup>nd</sup> Edition. NIWA Science and Technology Series 61.  
<https://niwa.co.nz/sites/niwa.co.nz/files/Waikato%20Climate%20book%20WEB%202021.pdf>

### 3. The Ecological Landscape

**FSC requirement: Ecological District**

Oji’s forests fall within the ten Ecological Districts (ED) listed in the table below. Seven of Oji’s forests (Bookers, Maraeroa C, Ngāruawahia, Pickford, Rust, Stoneleigh and Taranui Baboon) meet the FSC requirement of having at least 10% of their total forest area, by ED, as indigenous reserves.

Ecological District	Forest	Net Stocked Area (ha)	Indigenous Area (ha)	Total Forest Area (ha)	Reserve %	Reserve Shortfall (ha)
<b>Ātiamuri</b>	Ātiamuri	679.0	1.4	680.4	<b>0.2%</b>	<b>66.6</b>
	Granite	20.5	0.0	20.5	<b>0.0%</b>	<b>2.0</b>
	Kinleith	299.2	2.1	301.3	<b>0.7%</b>	<b>28.1</b>
	Murphy	74.5	4.4	79.9	<b>5.5%</b>	<b>3.6</b>
	Tar Hill	279.3	20.7	300.0	<b>6.9%</b>	<b>9.3</b>
	Taranui Baboon	18.8	2.2	21.0	10.4%	N/A
	Tatua	126.2	8.8	135.0	<b>6.5%</b>	<b>4.7</b>
	Whakamaru	344.1	12.0	360.7	<b>3.3%</b>	<b>24.1</b>
<b>Hamilton</b>	Ngāruawahia	84.3	14.0	98.3	14.2%	N/A
<b>Otanewainuku</b>	Pickford	50.4	7.8	71.5	10.9%	N/A
	Price	34.5	1.9	39.4	<b>4.8%</b>	<b>2.0</b>
<b>Pureora</b>	Maraeroa C	56.0	21.2	77.2	27.4%	N/A
<b>Raglan</b>	Ngāruawahia	690.6	192.0	882.6	21.8%	N/A
<b>Rotorua</b>	Bookers	144.8	20.4	165.2	12.3%	N/A
	Davies	120.2		120.2	<b>0.0%</b>	<b>12.0</b>
<b>Tāneatua</b>	Rust	134.2	86.8	269.2	32.2%	N/A
<b>Taumarunui</b>	Stoneleigh	137.5	31.1	168.6	18.4%	N/A
<b>Taupo</b>	Seven Oaks	479.2	48.0	577.7	<b>8.3%</b>	<b>9.8</b>
	Waihora	275.0	4.3	279.3	<b>1.5%</b>	<b>23.6</b>
	Waipapa 9	293.4	6.8	300.2	<b>2.3%</b>	<b>23.2</b>
<b>Tokoroa</b>	Duncan	220.8		220.8	<b>0.0%</b>	<b>22.1</b>
	Kinleith	985.3	30.5	1,036.1	<b>2.9%</b>	<b>73.1</b>
	Maraetai	314.0	8.1	335.6	<b>2.4%</b>	<b>25.5</b>
	Pinedale - Oji	241.4	1.7	243.1	<b>0.7%</b>	<b>22.6</b>
	Seal	35.4	0.8	36.2	<b>2.1%</b>	<b>2.8</b>
	Te Ranga	408.9	6.2	415.1	<b>1.5%</b>	<b>35.3</b>
	Tokoroa East North	324.9		324.9	<b>0.0%</b>	<b>32.5</b>
	Whakamaru	6.2		6.2	<b>0.0%</b>	<b>0.6</b>

The remaining 18 forests do not meet the 10% threshold. To offset the shortage in reserve areas, Oji will either need to:

- ‘borrow’ from other forests within the PF Olsen FSC Group Scheme that are in the same ED, and/or
- offset the shortfall by donating to an ecosystem restoration project/s within each of the affected ED’s.

As there are insufficient other reserve areas available for Oji to ‘borrow’, the following shortfalls will need to be offset<sup>4</sup> each year.

Ecological District	Remaining Shortfall (ha)	Offset (\$)
Ātiamuri	116.3	\$1,660.26
Rotorua	8.4	\$629.89
Taupo	47.1	\$3,531.17
Tokoroa	212.1	\$15,911.13
<b>Total</b>	<b>289.8</b>	<b>\$21,732.44</b>

**Threatened Environments Classification**

Across the Oji forests:

- 16.4% of the total reserves fall into the < 10% remaining category (most threatened)
- 1.1% fall into the 10 – 20 % remaining category
- 22.8% fall into the 20 – 30 % remaining category
- 17.7% fall into the > 30% remaining and 10 – 20% protected category
- 43.7% fall into the > 30% remaining and > 20% protected category (least threatened).

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)
Ātiamuri			1.4				1.4
Bookers	18.7				1.7		20.4
Davies							-
Duncan							-
Granite							-
Kinleith	14.3		5.0			13.3	32.6

<sup>4</sup> The offset is calculated at \$75.00 per hectare

Maraeroa C						21.2	<b>21.2</b>
Maraetai	0.3		7.8				<b>8.1</b>
Murphy	1.8		2.3		0.4		<b>4.4</b>
Ngāruawahia	15.5	3.0				187.5	<b>206.0</b>
Pickford		2.9			4.9	0.4	<b>8.2</b>
Pinedale	1.7						<b>1.7</b>
Price	0.2				1.7		<b>1.9</b>
Rust					88.5	2.5	<b>91.1</b>
Seal			0.4			0.3	<b>0.8</b>
Seven Oaks			57.5				<b>57.5</b>
Stoneleigh			28.2			2.9	<b>31.1</b>
Tar Hill	2.9		13.9		1.1	2.8	<b>20.7</b>
Taranui Baboon	1.0		1.2				<b>2.2</b>
Tatua	8.8		0.0				<b>8.8</b>
Te Ranga	4.7		0.7		0.7		<b>6.2</b>
Tokoroa East North							-
Waihora		0.0	2.8			1.5	<b>4.3</b>
Waipapa 9			6.8				<b>6.8</b>
Whakamaru	8.9		3.0			0.0	<b>12.0</b>
<b>Total Area (ha)</b>	<b>78.9</b>	<b>5.9</b>	<b>131.0</b>		<b>99.1</b>	<b>232.3</b>	<b>547.2</b>

## 4. Cultural and Social Aspects

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### Forest history

Oji purchased the Carter Holt Harvey Kinleith and Tasman Pulp and Paper Mills, along with some of Kinleith Forest in 2014. Since then, Oji has acquired other freehold and forestry right land, with the most recent freehold being Tar Hill Forest in 2022 and Ngāruawahia Forest in 2020.

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### Current social profile

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

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### Historic and archaeological sites

Records from the 'Archsite' web resource indicate that five of the Oji forests (Bookers, Davies, Seven Oaks, Tokoroa East North and Whakamaru) have 78 archaeological sites within the forest boundaries (Appendix 3). The remaining forests have no recorded archaeological sites.

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### Neighbours

Appendix 4 lists the forest neighbours for each of Oji's forests. Some or all of these parties should be consulted when operations are proposed in forest areas adjacent to their boundaries.

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### Associations with Tangata Whenua

Oji has a long association with Raukawa, primarily because of Kinleith Mill. They are currently working together on a restoration project along the Waipuna and Kopakorahi stream in Kinleith Forest.

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### Tenure & resource rights

Oji has two forestry rights in place with iwi:

- Waipapa 9 Trust for Waipapa 9 Forest
- Maraeroa C Incorporation for Maraeroa Forest

The following iwi have Treaty Settlements over Oji's forests. There are no iwi settlements for Bookers, Davies and Pickford. Affect must also be given to iwi management plans, where such plans exist.



Iwi	Forest/s	Legislation	Iwi Management Plans
<b>Maniapoto</b>	<ul style="list-style-type: none"> <li>• Maraeroa C</li> <li>• Stoneleigh</li> </ul>	<ul style="list-style-type: none"> <li>• Seeking mandate</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Maniapoto Environmental Management Plan</a></li> </ul>
<b>Ngāti Tūwharetoa</b>	<ul style="list-style-type: none"> <li>• Ātiamuri</li> <li>• Granite</li> <li>• Kinleith</li> <li>• Maraeroa C</li> <li>• Maraetai</li> <li>• Seven Oaks</li> <li>• Tar Hill</li> <li>• Taranui Baboon</li> <li>• Tatua</li> <li>• Waihora</li> <li>• Waipapa 9</li> <li>• Whakamaru</li> </ul>	<ul style="list-style-type: none"> <li>• Under negotiation</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Ngāti Tūwharetoa Environmental Iwi Management Plan</a></li> </ul>
<b>Raukawa</b>	<ul style="list-style-type: none"> <li>• Ātiamuri</li> <li>• Duncan</li> <li>• Granite</li> <li>• Kinleith</li> <li>• Maraetai</li> <li>• Pinedale - Oji</li> <li>• Seal</li> <li>• Seven Oaks</li> <li>• Tar Hill</li> <li>• Taranui Baboon</li> <li>• Tatua</li> <li>• Te Ranga</li> <li>• Tokoroa East North</li> <li>• Waihora</li> <li>• Waipapa 9</li> </ul>	<ul style="list-style-type: none"> <li>• Raukawa Claims Settlement Act 2014</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Te Raukawa Taiao a Raukawa – Raukawa Environmental Management Plan</a></li> </ul>

	<ul style="list-style-type: none"> <li>Whakamaru</li> </ul>		
<b>Te Arawa (Affiliates)</b>	<ul style="list-style-type: none"> <li>Ātiamuri</li> <li>Murphy</li> <li>Price</li> <li>Seal</li> <li>Taranui Baboon</li> <li>Tokoroa East North</li> </ul>	<ul style="list-style-type: none"> <li>Affiliate Te Arawa Iwi and Hapu Claims Settlement Act 2008</li> <li>Te Arawa Lakes Settlement Act 2006</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Te Arawa River Iwi Trust Environmental Plan</a></li> </ul>
<b>Tūhoe</b>	<ul style="list-style-type: none"> <li>Rust</li> </ul>	<ul style="list-style-type: none"> <li>Deed of Settlement</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<b>Waikato-Tainui</b>	<ul style="list-style-type: none"> <li>Ngāruawahia</li> </ul>	<ul style="list-style-type: none"> <li>Waikato Raupatu Claims Settlement Act 1995</li> </ul>	<ul style="list-style-type: none"> <li><a href="#">Waikato-Tainui Environmental Plan</a></li> </ul>

## 5. Regulations

### National Environmental Standards for Plantation Forestry (NES-PF)

The table below shows the productive plantation area of each forest by the respective National Environmental Standards for Plantation Forestry (NES-PF) Erosion Susceptibility Classification (ESC). Four of the forests have part of their area within the ESC orange zone, but none have area in the ESC red zone.

The forests are located on generally low erosion risk areas. The majority of the forest activities will be permitted activities under the NES-PF, if the permitted activity standards are met.

Forest	Low	Moderate	High	Other <sup>5</sup>	Total Area (ha)
Ātiamuri	600.2	78.8			679.0
Bookers	16.6	11.6	115.7	0.9	144.8
Davies	6.5	76.7	37.0		120.2
Duncan		220.8			220.8
Granite	20.5				20.5
Kinleith	756.6	527.9			1,284.5
Maraeroa C	56.0				56.0
Maraetai	144.7	169.4			314.0
Murphy		74.5			74.5
Ngāruawahia	633.5	141.4			774.9
Pickford		23.3	27.1		50.4
Pinedale - Oji	129.1	112.3			241.4
Price	2.4	32.1			34.5
Rust		42.0	92.2		134.2
Seal	35.4	0.0			35.4
Seven Oaks	96.7	382.5			479.2
Stoneleigh	65.3	72.1			137.5
Tar Hill	43.7	235.6			279.3
Taranui Baboon	10.7	8.1			18.8
Tatua		126.2			126.2
Te Ranga	317.7	91.2			408.9
Tokoroa East North	309.6	15.3			324.9

<sup>5</sup> Other refers to areas of water, shingle etc

Waihora	99.2	175.8			275.0
Waipapa 9		293.4			293.4
Whakamaru Forest	323.4	26.9			350.3
<b>Total Area (ha)</b>	<b>3,667.7</b>	<b>2,937.6</b>	<b>272.0</b>	<b>0.9</b>	<b>6,878.3</b>

**Council RMA  
Plans**

The table below lists the District and Regional Councils associated with each Oji forest.

Forest	District Council	Regional Council
<b>Ātiamuri</b>	Taupo	Waikato
<b>Bookers</b>	Whakatane	Bay of Plenty
<b>Davies</b>	Whakatane	Bay of Plenty
<b>Duncan</b>	South Waikato	Waikato
<b>Granite</b>	South Waikato	Waikato
<b>Kinleith</b>	South Waikato	Waikato
<b>Maraeroa C</b>	Waitomo	Manawatū–Wanganui
<b>Maraetai</b>	South Waikato	Waikato
<b>Murphy</b>	Rotorua	Waikato
<b>Ngāruawahia</b>	Waikato	Waikato
<b>Pickford</b>	Whakatane	Bay of Plenty
<b>Pinedale</b>	South Waikato	Waikato
<b>Price</b>	Western Bay of Plenty Whakatane	Bay of Plenty
<b>Rust</b>	Whakatane	Bay of Plenty
<b>Seal</b>	South Waikato	Waikato
<b>Seven Oaks</b>	Taupo	Waikato
<b>Stoneleigh</b>	Waitomo	Waikato
<b>Tar Hill</b>	South Waikato	Waikato
<b>Taranui Baboon</b>	South Waikato	Waikato
<b>Tatua</b>	Taupo	Waikato
<b>Te Ranga</b>	South Waikato	Waikato
<b>Tokoroa East North</b>	South Waikato	Waikato
<b>Waihora</b>	Taupo	Waikato
<b>Waipapa 9</b>	Taupo	Waikato
<b>Whakamaru</b>	South Waikato	Waikato

The following table lists the rules in each District or Regional Plan that may be more stringent than the NES-PF rules.

Council	Rule/s
<b>South Waikato</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Taupo District Council</b>	<ul style="list-style-type: none"> <li>• 4b.1.7i Planted Tree Vegetation Planting Setback</li> </ul>
<b>Waikato District Council</b>	<ul style="list-style-type: none"> <li>• 25.25 Earthworks</li> <li>• 25.41 Production Forestry</li> <li>• 25G.2 General Rule</li> <li>• 25G.4 Production Forestry</li> <li>• 25G.5 Forestry Mineral Extraction</li> <li>• 26.40 Production Forestry</li> <li>• 26A.60 Production Forestry – Indigenous and Exotic</li> <li>• 27.38 Production Forestry</li> <li>• Schedule 25G</li> <li>• Oa Forestry Harvesting Notice</li> </ul>
<b>Waitomo District Council</b>	<ul style="list-style-type: none"> <li>• Plantation forestry on significant archaeological sites</li> <li>• Plantation forestry on Sites and Areas of Significance to Māori</li> <li>• Plantation forestry afforestation and harvesting in SNAs</li> <li>• Earthworks within 5 metres of a waterbody</li> <li>• Earthworks in Outstanding Natural Features and Landscapes</li> <li>• Forestry quarrying in Outstanding Natural Features and Landscapes</li> <li>• Plantation forest harvesting in Outstanding Natural Features and Landscapes</li> <li>• Any earthworks or vegetation clearance within 20 metres of a karst cave or sinkhole</li> <li>• Harvesting of plantation forest within 1 km of a drinking water supply for 25 people or more</li> <li>• Forestry quarrying over a shallow water table above an aquifer used for human drinking water</li> </ul>
<b>Western Bay of Plenty District Council</b>	<ul style="list-style-type: none"> <li>• Section 6 Landscape – rules around natural features and landscapes, management areas and viewshafts</li> </ul>
<b>Whakatāne District Council</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Bay of Plenty Regional Council</b>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>
<b>Horizons Regional Council</b>	<ul style="list-style-type: none"> <li>• Outstanding freshwater bodies: One Plan Schedule B Surface Water Management Values</li> <li>• Significant natural areas: One Plan Schedule F Indigenous Biological Diversity – Whole schedule (Pages F1-F16)</li> <li>• Outstanding natural features or landscapes: One Plan Schedule G Regionally Outstanding Natural Features and Landscapes – Whole schedule (Pages G1-G4). ONFL described in Schedule G will generally be mapped in the relevant District Plan.</li> <li>• Water Conservation Orders <ul style="list-style-type: none"> <li>- National Water Conservation (Rangitikei River) Order 1993</li> <li>- National Water Conservation (Manganuioteao River) Order 1989</li> </ul> </li> </ul>

<b>Waikato Regional Council</b>	<ul style="list-style-type: none"> <li>• 3.10.5.2 Nitrogen Leaching Non-Farming Activities</li> <li>• 3.10.5.5 Development of Non-Ngati Tuwharetoa Forestry and Undeveloped Land</li> <li>• 7.6.6.3 Activities in the Vicinity of Significant Geothermal Features</li> </ul>
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If resource consents are required at any stage, consideration may also need to be given to iwi management plans.

- [Waikato region iwi and hapū management plans](#)
- [Bay of Plenty region iwi and hapū management plans](#)
- [Manawatū-Wanganui region iwi and hapū management plans](#)

**Consents & authorities held**

There are no current resource consents or Archaeological Authorities relevant to any of the Oji forests. Any consents or authorities that are required will be obtained prior to harvest starting.

**Emissions Trading Scheme**

The following Oji forests have areas registered under the New Zealand Emissions Trading Scheme (ETS).

Forest	Area (ha)
<b>Bookers</b>	144.1
<b>Murphy</b>	79.2
<b>Pickford</b>	58.8
<b>Price</b>	34.7
<b>Rust</b>	176.9
<b>Stoneleigh</b>	41.5
<b>Total</b>	<b>535.1</b>

## 6. How we manage environmental risk

### Infrastructure damage or service disruption

Forestry operations may pose a risk to the following infrastructure:

Forest	Electricity Line	Fibre Optic Cable	Gas Pipeline	Telephone Line	Water Pipeline
Ātiamuri	X				
Bookers	X				
Davies	X				
Kinleith	X		X	X	X
Ngāruawahia	X			X	
Pickford	X				
Rust	X				
Seven Oaks	X				
Stoneleigh	X	X			
Tar Hill	X				X
Waihora	X				
Waipapa 9	X				
Whakamaru Forest	X				

### Pests and diseases

The Waikato, Horizons and Bay of Plenty Pest Management Plans include plant and animal pest species that are or may be present within the forests. The table below lists those key species. A full list of species can be found in the respective pest management plans:

- [Waikato Regional Pest Management Plan 2022 – 2032 Tūtohu Mahere Whakahaere Ā-Roheo Waikato Mō Ngā Kīrearea](#)
- [Horizons Regional Council Regional Pest Management Plan 2017 – 2037](#)
- [Regional Pest Management Plan for the Bay of Plenty Region Te Mahere Patu Kīrearea ā-Rohe e Marohitia Ana mō Toi Moana 2020 – 2030](#)

Key Pest Species	Waikato Region	Manawatū–Wanganui Region	Bay of Plenty Region
<b>Blackberry</b>	Site-led (Wetlands)	Progressive Containment	Sustained Control
<b>Broom</b>	Sustained Control	Progressive Containment	N/A
<b>Darwin’s Barberry</b>	Progressive Containment	Progressive Containment	Exclusion / Progressive Containment
<b>Gorse</b>	Sustained Control	Progressive Containment	Sustained Control
<b>Nassella Tussock</b>	Eradication	Eradication	Eradication
<b>Nodding Thistle</b>	Sustained Control	Progressive Containment	Advisory Pest
<b>Old Man’s Beard</b>	Progressive Containment	Progressive Containment	Progressive Containment / Sustained Control
<b>Pampas</b>	Sustained Control	N/A	Advisory Pest
<b>Plumeless Thistle</b>	Sustained Control	N/A	Advisory Pest
<b>Ragwort</b>	Sustained Control		Sustained Control
<b>Variegated Thistle</b>	Eradication	Progressive Containment	Progressive Containment
<b>White Edged Nightshade</b>	N/A		Eradication
<b>Wild Ginger</b>	Sustained Control	N/A	Sustained Control
<b>Wild Kiwifruit</b>	Progressive Containment	N/A	Progressive Containment
<b>Wilding Conifers</b>	Progressive Containment	Progressive Containment	Progressive Containment / Sustained Control
<b>Woolly Nightshade</b>	Progressive Containment / Sustained Control	Eradication	Progressive Containment / Sustained Control
<b>Feral Goats</b>	N/A	N/A	Eradication / Progressive Containment
<b>Rooks</b>	Eradication	Eradication	Eradication
<b>Wallaby</b>	Exclusion / Progressive Containment	Exclusion	Eradication / Progressive Containment

**Fire**

Oji’s forests fall within the Ngā Tai ki te Puku and Te Ūpoko Forest and Emergency NZ regions for forest fire management. Fire plans contain additional key information regarding the protection of land and management of fires.

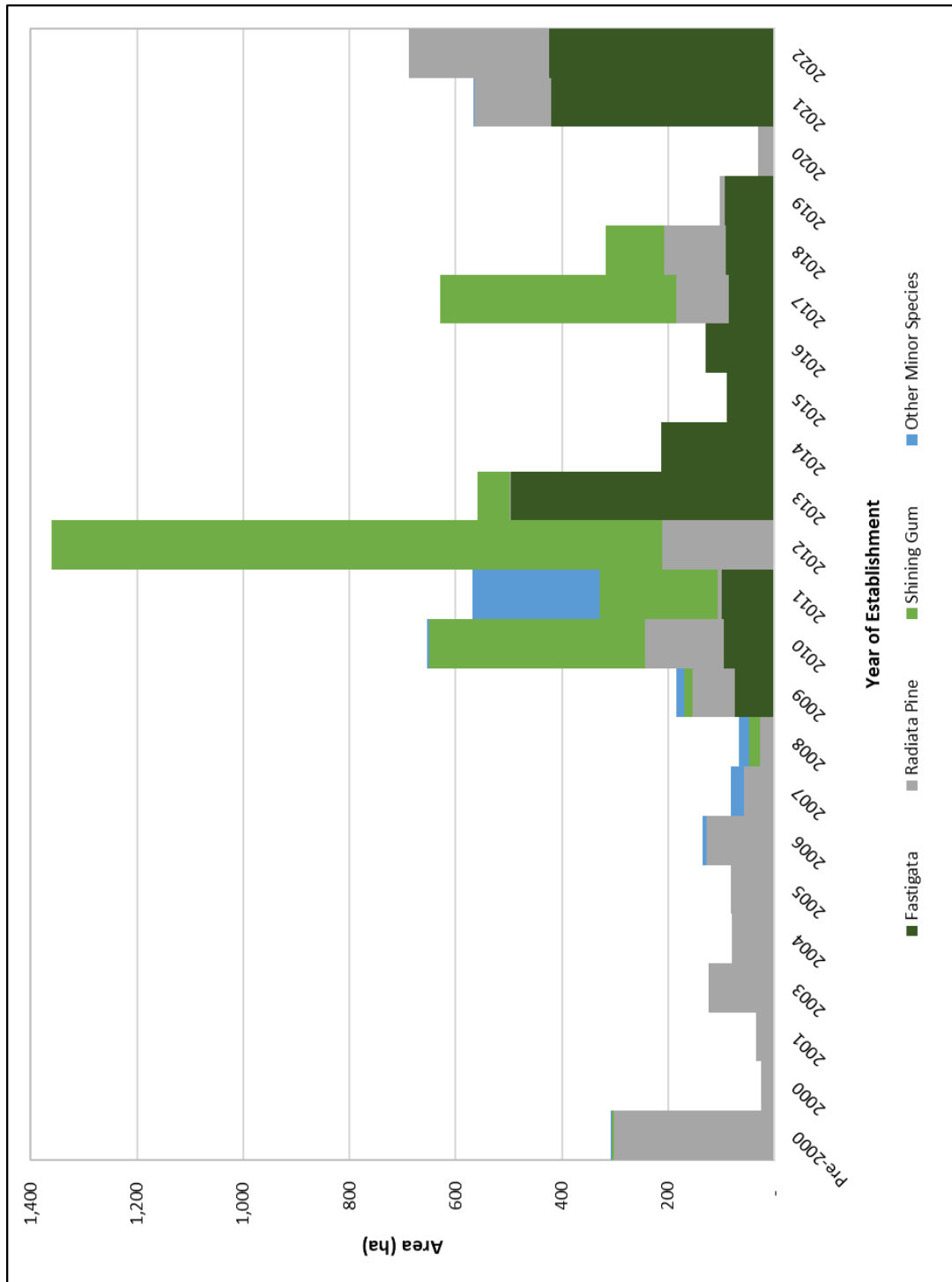
- [Fire Plan for Waikato, Ngā Tai ki te Puku, 2021 – 2024](#)
- [Fire Plan for Bay of Plenty, Ngā Tai ke te Puku, 2021 – 2024](#)
- [Fire Plan for Manawatū-Whanganui, Te Ūpoko, 2021 – 2024](#)



## 7. Commercial Plantation Estate

### Current crop

Oji's forests contain Shining Gum (35%), *Eucalyptus fastigata* (33%), *Pinus radiata* (28%), and other minor species (4%) (as shown below). The majority of the trees were planted from 2000 onwards, with 309 ha planted between 1970 and 2000.



**Tending**

The table below details the tending regime followed for each species.

Species	Initial Stocking (SPH)	Thinning	Pruning
<i>E. nitens</i>	1,100	N/A	N/A
<i>E. fastigata</i>	1,100	N/A	Form prune, 3.5 – 5.0 years
<i>E. regans</i>	1,100	N/A	N/A
<i>P. radiata</i>	833	550 – 650 SPH at ages 7 – 8	N/A

**Tree nutrition**

Depending on the forest, before planting any eucalyptus species, 60 g of Balance Nrich Urea is applied per hectare, and at age 1+ 60 g of Ballance Sustain 20k is applied per hectare to manage nitrogen deficiencies.

## 8. Harvesting Strategy

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### Harvesting strategy

The harvest age for *Pinus radiata* is 26 – 27 years old, while its 16 – 17 years for the eucalypt species. All of the harvested eucalyptus goes to Oji's Mills. However, only the pulp wood from radiata goes to the mills. The rest of the radiata grades will go wherever the market determines at the time.

In the next 5 years, some harvesting is planned in the following forests:

- Pinus radiata harvest:
  - Kinleith (20 ha)
  - Tar Hill (15 ha)
  - Waihora (150 ha)
- Eucalyptus species:
  - Ātiamuri (125 ha)
  - Duncan (8.4 ha)
  - Granite (20 ha)
  - Kinleith (20 ha)
  - Maraeroa C (56 ha)
  - Maraetai (220 ha)
  - Seven Oaks (360 ha)
  - Pickford (3 ha)
  - Pinedale (241 ha)
  - Tokoroa East North (46 ha)
  - Taranui Baboon (20 ha)
  - Te Ranga (400 ha)
  - Waipapa 9 (65 ha)
  - Whakamaru (62 ha)

### 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 the roads and entrance way to Waihora Forest will need to be upgraded. In the forests where eucalyptus species are present only road maintenance will need to be carried out. Infrastructure upgrades will be required in both Waipapa 9 and Seven Oaks.

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## 9. Indigenous Biodiversity

### Protected ecosystems

Protected ecosystems are the areas of indigenous vegetation within each forest that have been identified as part of the ecological survey. These areas are not legally protected but are protected instead under the FSC Principles and Criteria.

Many of Oji’s forests have identified Significant Natural Areas (SNAs) within the forest boundaries. Appendix 5 lists the areas of SNAs within each forest.

**NOTE:** some of the SNAs overlap with plantation area so the total protected ecosystem area for a forest may be larger than the total indigenous area’s given in other tables.

There are no QEII covenants with the Oji forests, but two open space QEII covenants are adjacent to Pickford Forest (Covenant ID 5-03-562 and 5-03-738).

Forest	Protected Ecosystems	SNAs	Total (ha)
Ātiamuri	1.4	9.0	10.4
Bookers	1.3	19.4	20.7
Davies	-	-	0.0
Duncan	-	14.3	14.3
Granite	-	8.3	8.3
Kinleith	17.4	69.7	87.1
Maraeroa C	21.2	-	21.2
Maraetai	8.1	7.1	15.2
Murphy	4.4	-	4.4
Ngāruawahia	206.0	-	206.0
Pickford	8.2	0.01	8.2
Pinedale - Oji	1.1	25.5	26.6
Price	1.9	-	1.9
Rust	75.3	15.8	91.1
Seal	0.8	-	0.8
Seven Oaks	11.6	45.9	57.5
Stoneleigh	19.8	15.2	35.0
Tar Hill	1.9	128.7	130.6
Taranui Baboon	1.3	7.7	9.0
Tatua	8.8	-	8.8
Te Ranga	6.2	12.2	18.4
Tokoroa East North	-	69.2	69.2

<b>Waihora</b>	4.3	1.5	5.8
<b>Waipapa 9</b>	6.8	-	6.8
<b>Whakamaru Forest</b>	3.4	39.6	43.0
<b>Total (ha)</b>	<b>411.2</b>	<b>489.11</b>	<b>900.3</b>

**High Conservation Value (HCV) Forests**

There are two wetlands identified as HCVF in the Oji forests, both in Bookers Forest. The first area is adjacent to a pond and consists of a 5.6 ha riparian zone (RIPR-02, Wīwī-soft rush-paspalum rushland<sup>6</sup>) and 8.6 ha of wetland (WETL-01, Grey willow/*Machaerina rubiginosa*-mānuka-raupō-blackberry-swamp millet sedge-shrubland).

The second area is another amalgamation of 1.1 ha of riparian vegetation, 3.7 ha of wetlands (WETL-02, WETL-03, WETL-04 and WETL-05) and one hectare of grass (LGRA-01).

The management plans for these HCVFs are in Appendix 6. Appendix 7 details the generic ecological management plans for each forest.

**Rare and threatened species**

Based upon the findings of the ecological survey and report by Wildlands<sup>7</sup> the following species are either present or very likely to be present within Oji’s forests. Only species listed as more than ‘Not Threatened’ under the [New Zealand Threat Classification System](#) are listed in the table below.

Where North Island Brown Kiwi, Karearea or bats are known to be present [forest industry management protocols](#) will be followed.

**Bats**

Long-tailed bats are likely to be present in Kinleith, Pickford, Pinedale – Oji, Ngāruawahia, Te Ranga, and Waihora forests as suitable bat habitat is present. Pre-harvest surveys are recommended.

**Lizards**

No lizard species were found during the survey period. However, several lizard species have been recorded near to some Oji forests during other surveys, and suitable lizard habitat is present in several of Oji’s forests. Separate lizard surveys are recommended for Kinleith, Maraeroa C, Ngāruawahia, Pickford, Rust, Seven Oaks, Stoneleigh, Waihora.

**Other Species**

Other species may be present within the forests. [iNaturalist](#) (Biodiversity in Plantations) will be used to record sightings.

<sup>6</sup> Wildlands. (2022). Natural area identification and assessment in 25 plantation forests managed by PF Olsen Ltd in the Central North Island. Contract Report No. 6389.

<sup>7</sup> Wildlands. (2022). Natural area identification and assessment in 25 plantation forests managed by PF Olsen Ltd in the Central North Island. Contract Report No. 6389.

Species	Forest Group	Ātiāmuri	Bay of Plenty	Ngāruawahia	Taupo	Tokoroa	Waitomo
Long-tailed bats							
Central lesser short-tailed bats							
Australasian Bittern / Matuku							
Black Shag / Māpunga							
Fernbird / Mātātā							
Grey Duck / Pārera							
Kākā							
Kākāriki							
Long-tailed Cuckoo / Koekoeā							
Little Black Shag / Kawau Tūi							
Marsh Crake							
New Zealand Dabchick / Weweia							
New Zealand Falcon / Karearea							
New Zealand Robin / Toutouwai							
New Zealand Pipit / Pīhoihoi							
North Island Kōkako							
North Island Weka							
Riflemen / Tītīpounamu							
Spotless Crake / Pūweto							

**Fish**

Fish species likely to be within the forests have been identified from the NES-PF Fish Spawning Indicator tool and Freshwater Environments New Zealand.

Forest	Banded Kokopu	Brown Trout	Giant Kokopu	Koaro	Longfinned Eel	Rainbow Trout	Redfin Bully
Ātiamuri							
Bookers							
Davies							
Duncan							
Granite							
Kinleith							
Maraeroa C							
Maraetai							
Murphy							
Ngāruawahia							
Pickford							
Pinedale - Oji							
Price							
Rust							
Seal							
Seven Oaks							
Stoneleigh							
Tar Hill							
Taranui Baboon							
Tatua							
Te Ranga							
Tokoroa East North							
Waihora							
Waipapa 9							
Whakamaru Forest							

## 10. Other Special Values: Everything but the timber

### Recreational usage

- Tokoroa Pig Hunting Club have winter access into Kinleith Forest and a lot of the surrounding forestry right land (Tokoroa East North, Te Ranga, Atiamuri, Maraetai, and Whakamaru forests).
- Both Herenga ā Nuku Outdoor Access Commission (OAC) and the Department of Conservation (DOC) have access into Ngāruawahia Forest. **Note:** Oji have also allowed access along one of the private forestry tracks to enable access the Te Puroa Reserve.
- A small motorbike group uses Kinleith Forest for dirt bike riding.

Oji's forests are open for recreation subject to safety requirements. Closures will generally apply during times of high fire risk, any force majeure or during forestry operations. Access is granted through the PF Olsen forest access permit system.

### Public access roads

According to the information available on the Herenga ā Nuku Outdoor Access Commission (OAC) website<sup>8</sup>, there are no unformed legal roads running through the Oji forests.

Five of the forests are adjacent to public conservation land, marginal strips / esplanade reserves or mountain biking tracks (see the table below). To learn about access these areas either visit the OAC website or contact the Council or local Department of Conservation office.

Anyone who accesses Oji's forests for recreation use is expected to abide by the intent of the Outdoor Access Code<sup>9</sup> published by the OAC, or signage or barriers places at track or public access points.

Forest	Access
<b>Granite</b>	<ul style="list-style-type: none"> <li>• Waikato River Trail (mountain bike) – no access via forest</li> </ul>
<b>Ngāruawahia</b>	<ul style="list-style-type: none"> <li>• DOC Public Conservation – Te Puroa Scenic Reserve</li> </ul>
<b>Pinedale – Oji</b>	<ul style="list-style-type: none"> <li>• DOC Public Conservation – Oraka Stream Marginal Strip</li> </ul>
<b>Stoneleigh</b>	<ul style="list-style-type: none"> <li>• Waitomo District Council Esplanade Reserve</li> </ul>
<b>Waihora</b>	<ul style="list-style-type: none"> <li>• Great Lake Trail (mountain bike) – no access via forest</li> <li>• Hingarae Scenic Reserve</li> </ul>

<sup>8</sup> <https://www.herengaanuku.govt.nz/>

<sup>9</sup> <https://www.herengaanuku.govt.nz/knowledge/responsible-behaviour/the-outdoor-access-code-2/>



**Other special values**

Currently, possums are being trapped for fur and pet food in both Ngāruawahia and Bookers forests. There are beehives are in Ngāruawahia, Bookers, Davies, Pickford, and Price forests.

These are likely to continue and potentially increase subject to appropriate agreements and management of conflicts.

**Non-Timber Forest Products**

There are no FSC certified non-timber forest products<sup>10</sup> arising from the PF Olsen FSC Group Scheme member estate.

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<sup>10</sup> 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

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### Plan changes & reviews

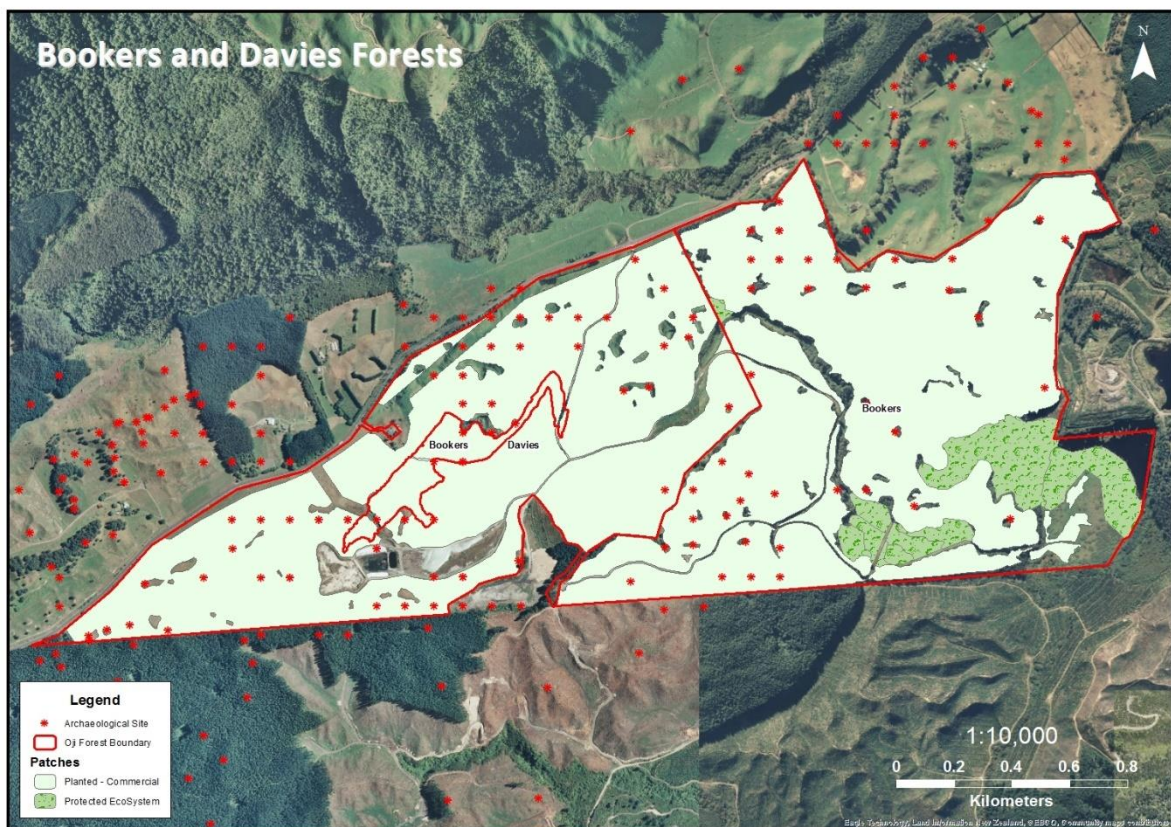
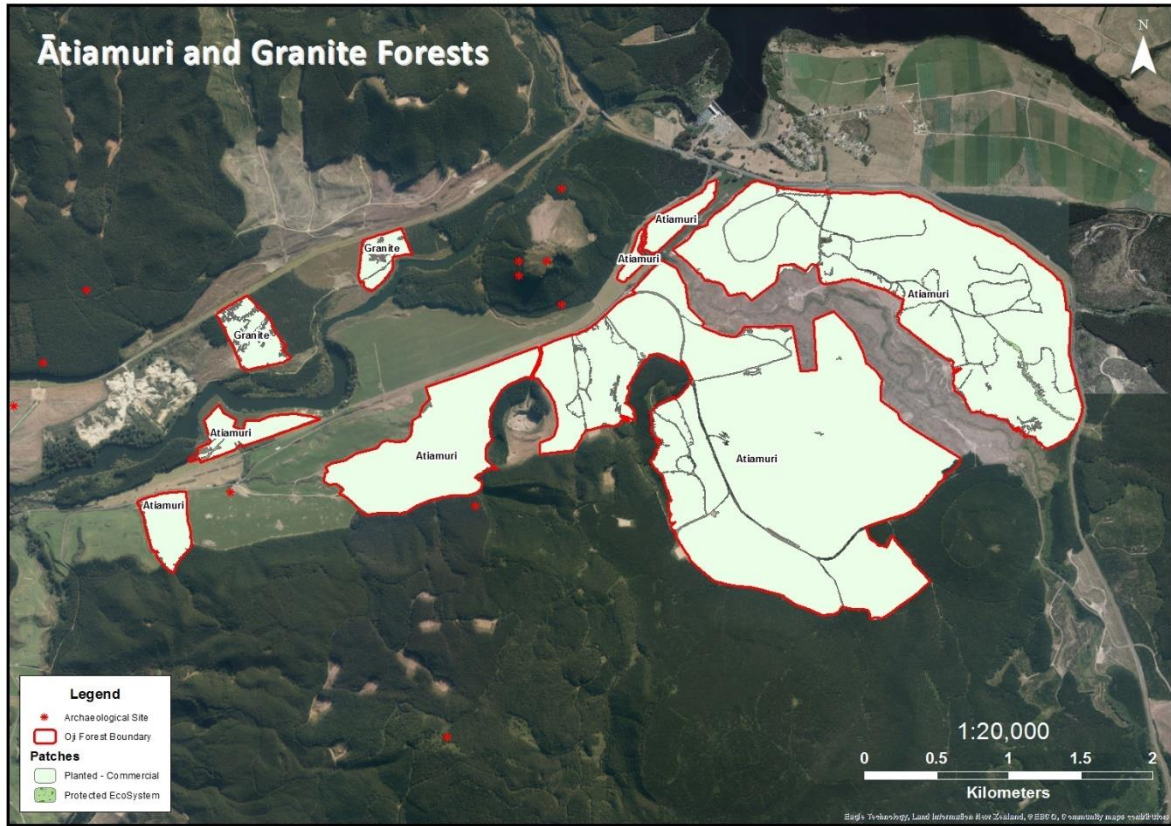
**The next major review date for this plan is 2028**

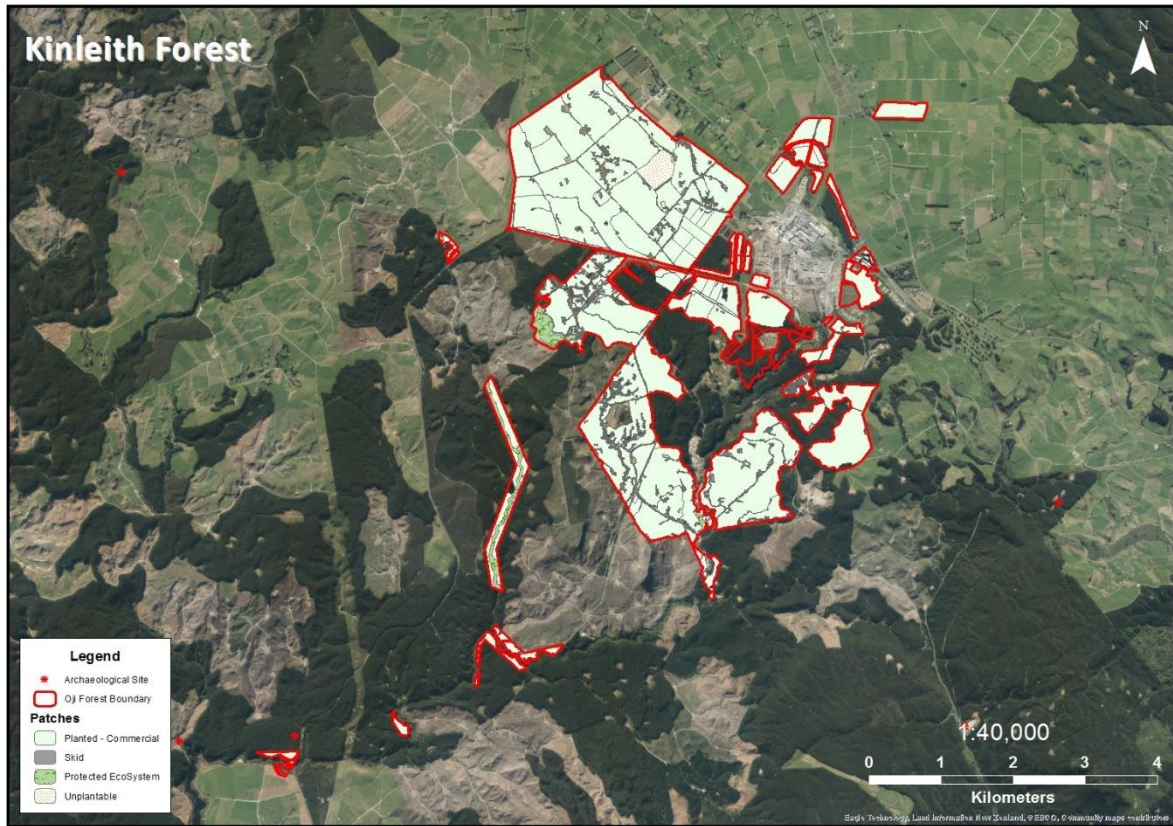
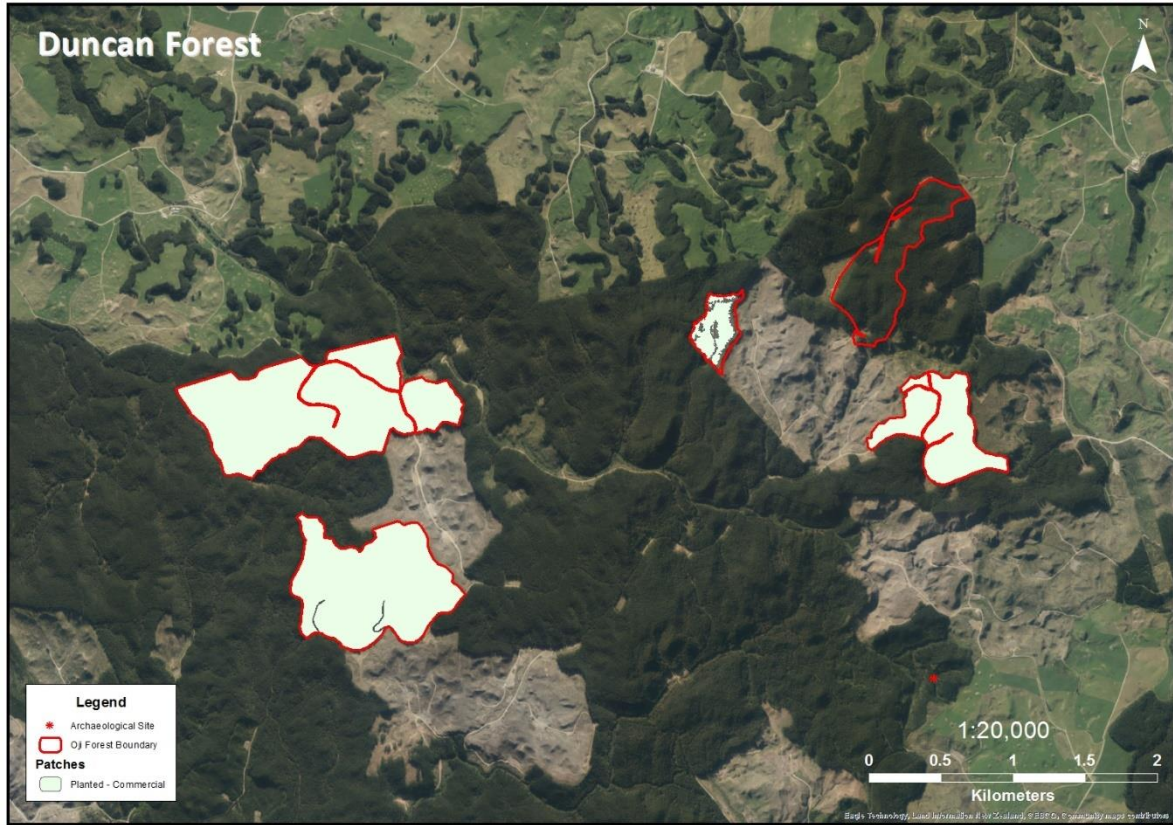
Minor revisions may be made at any time. Any material changes made will be documented below.

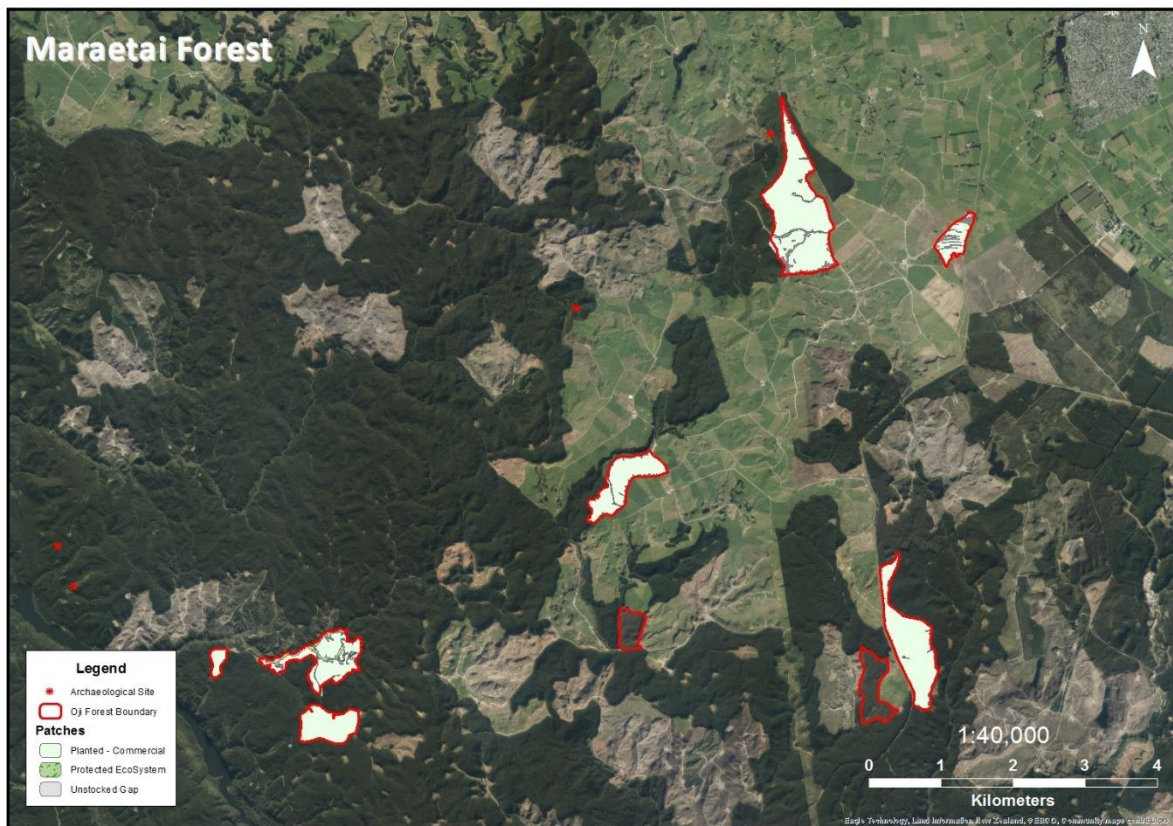
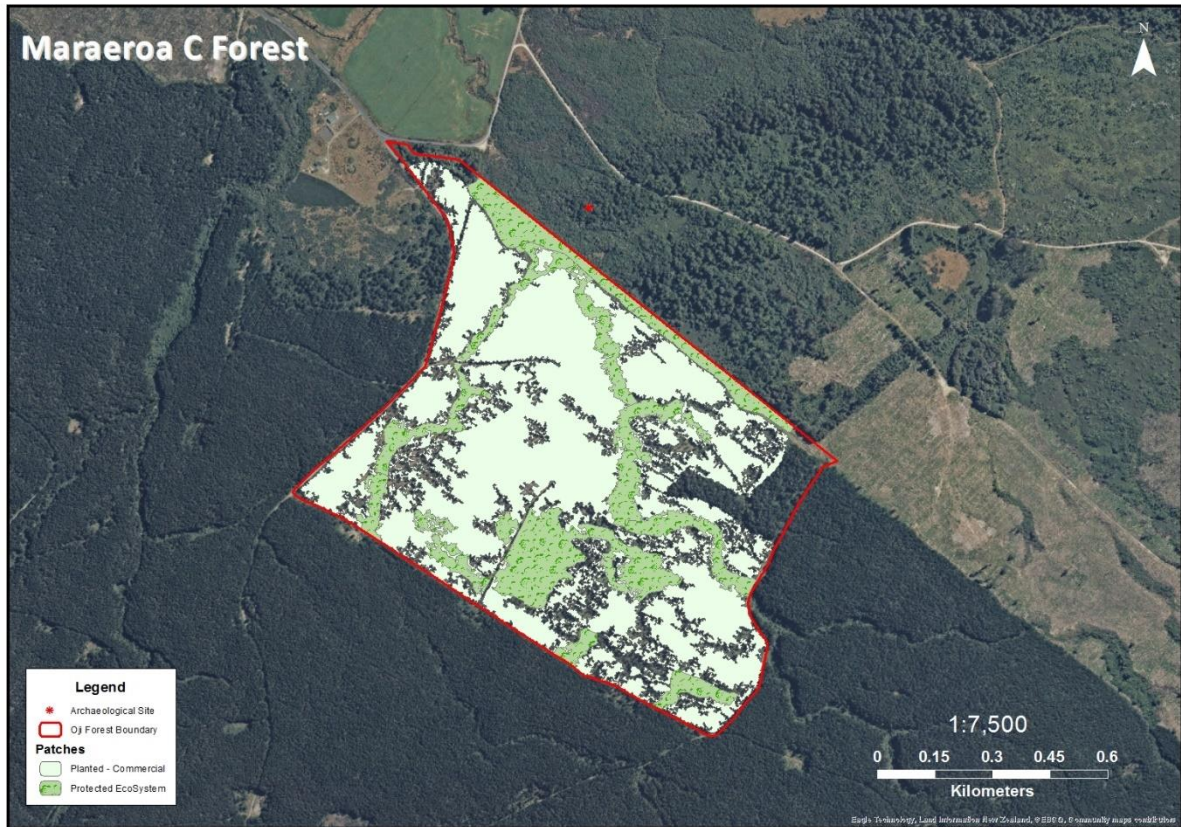
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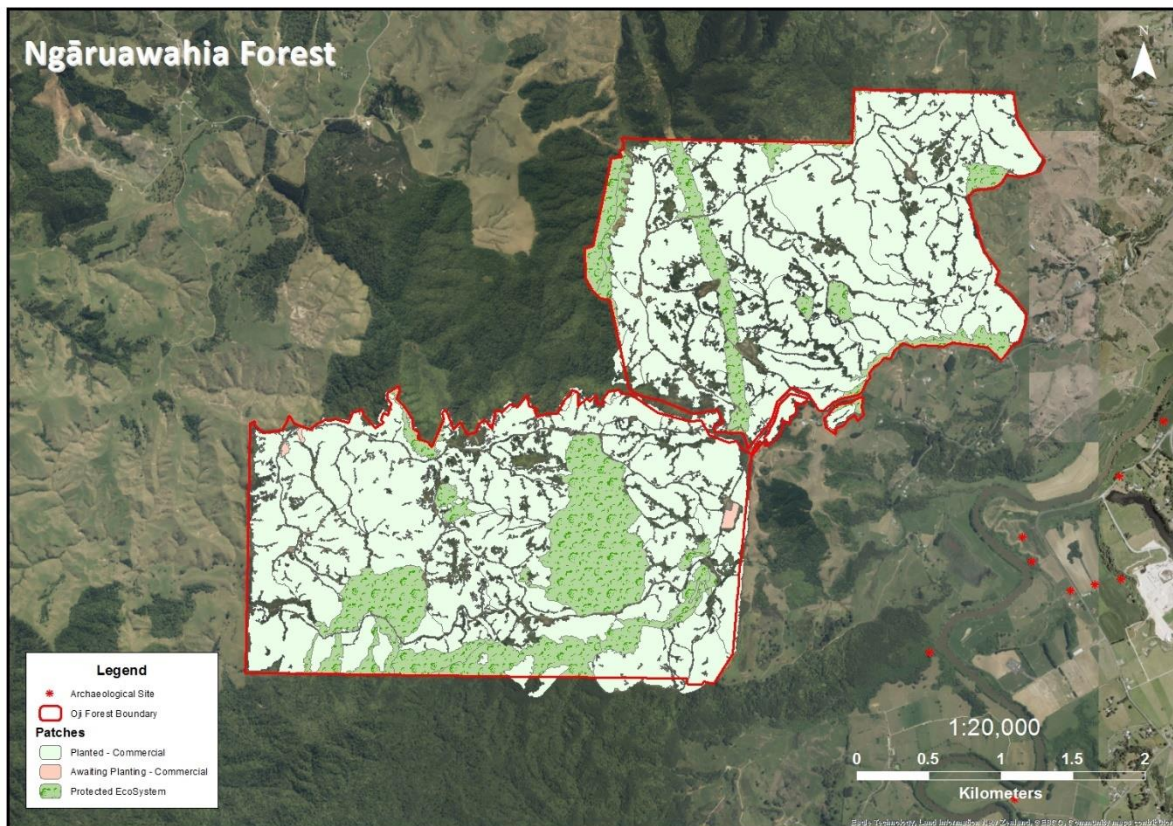
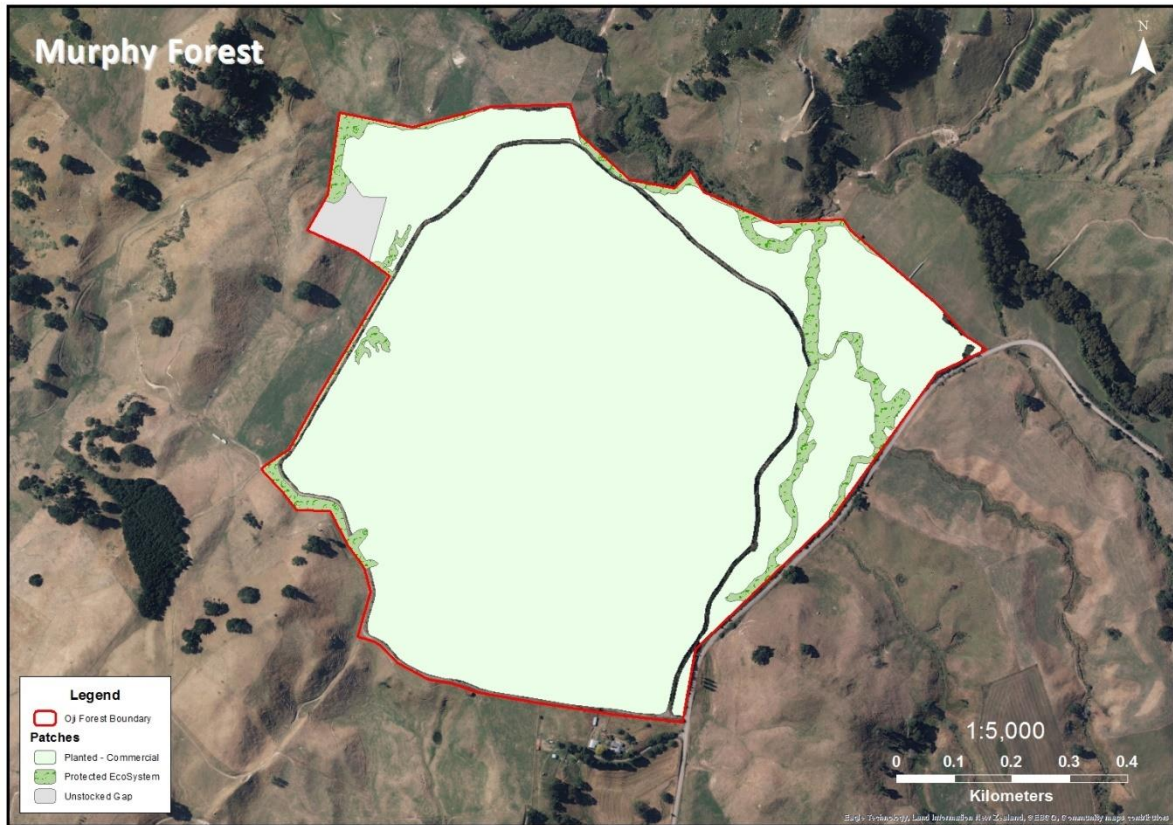
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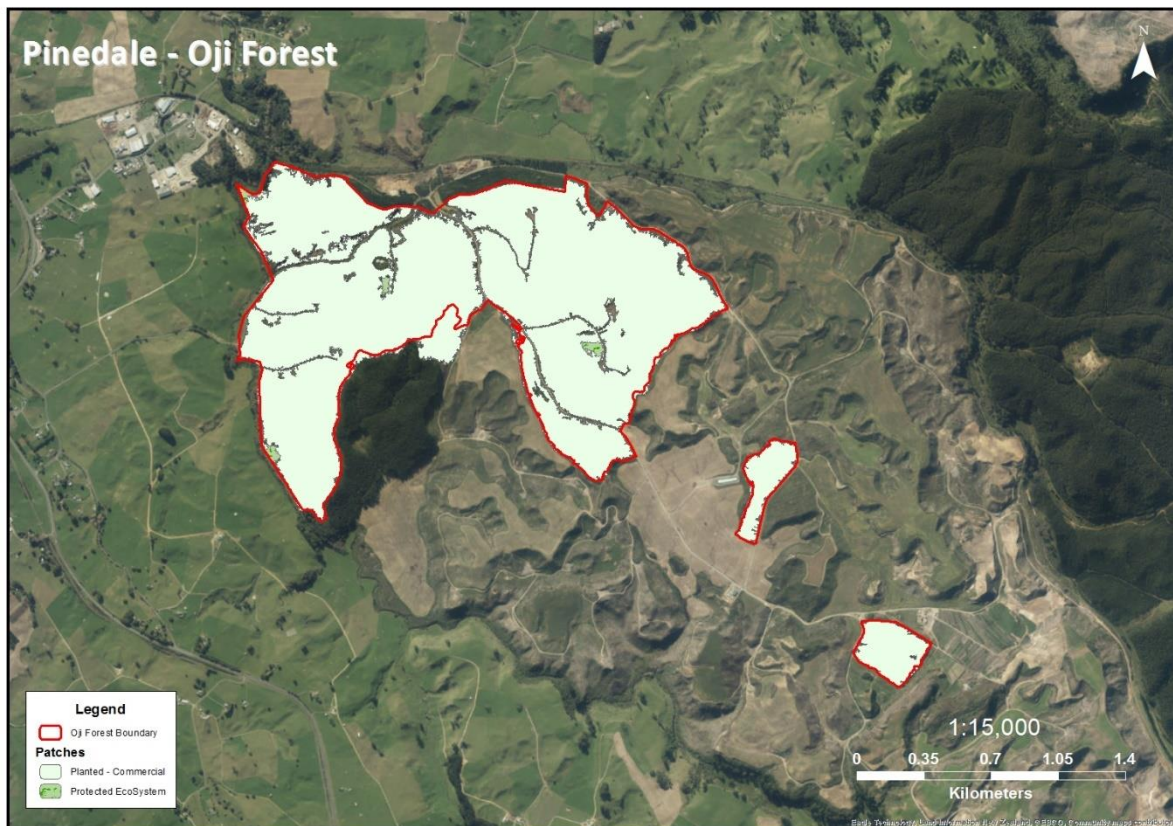
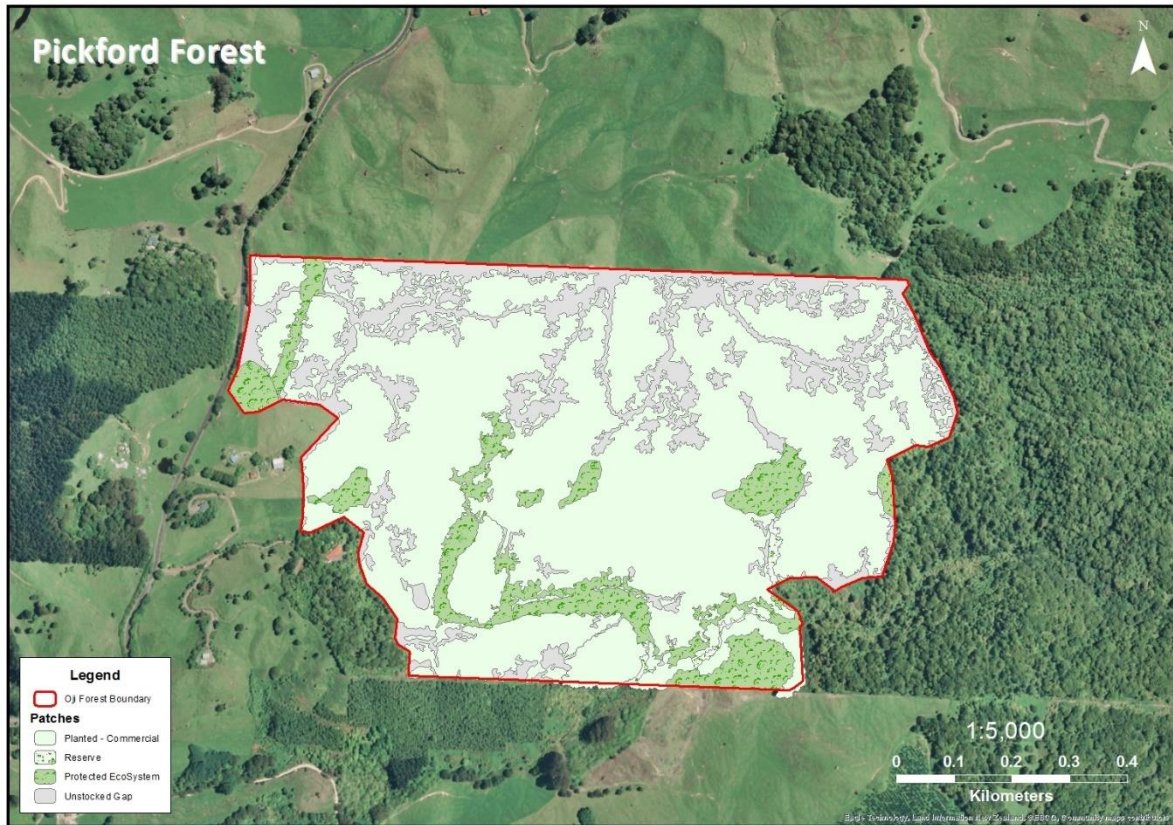
Appendix 1: Forest Maps

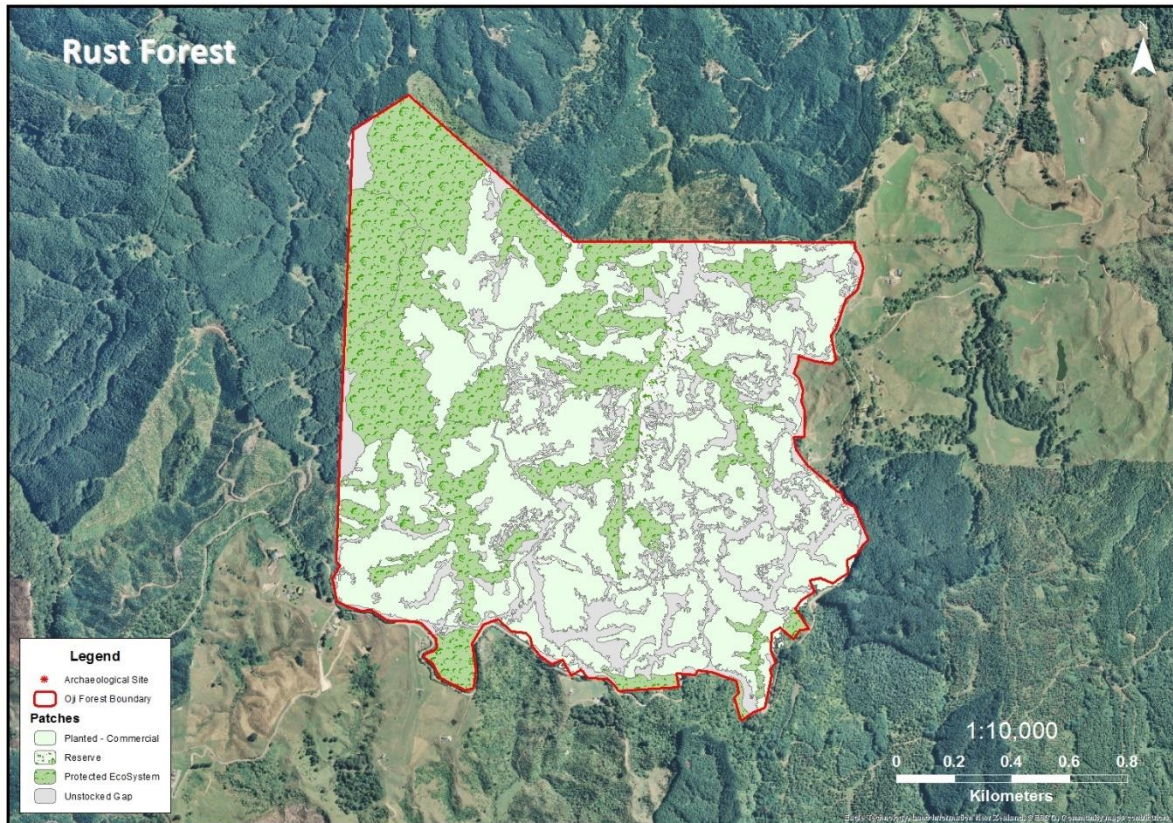
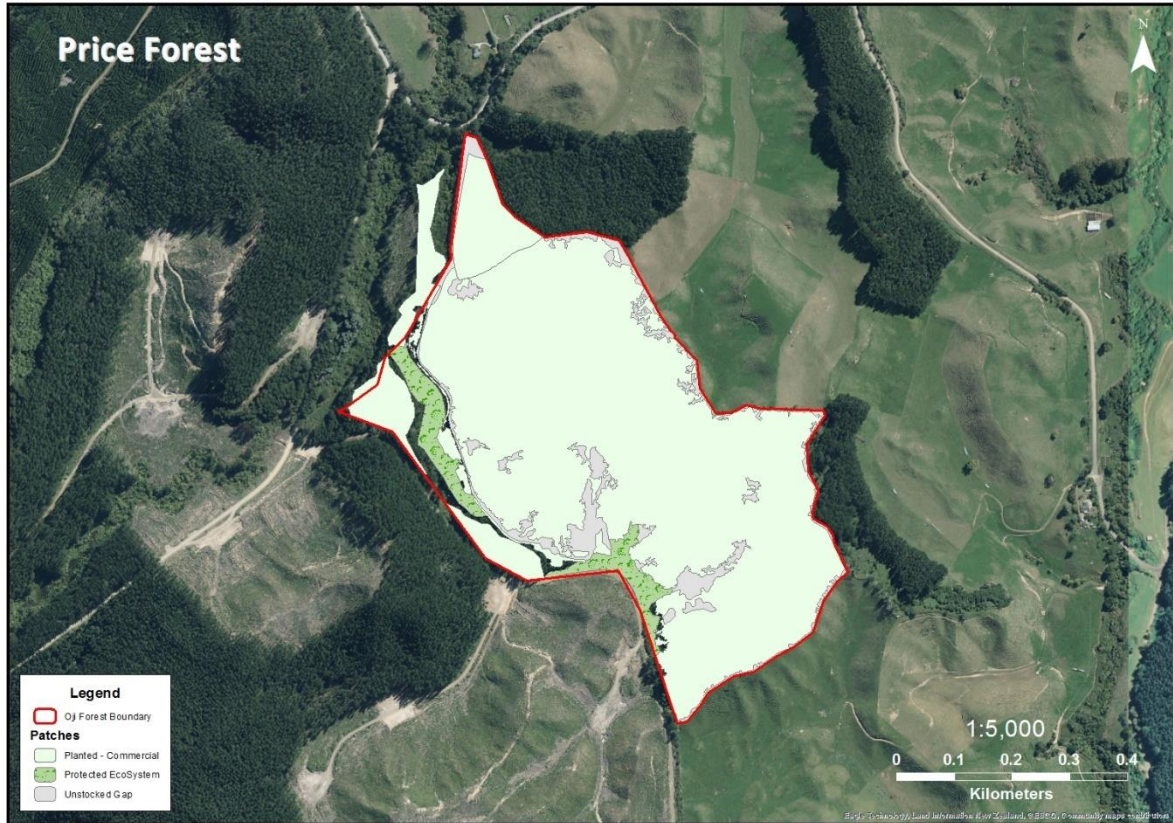




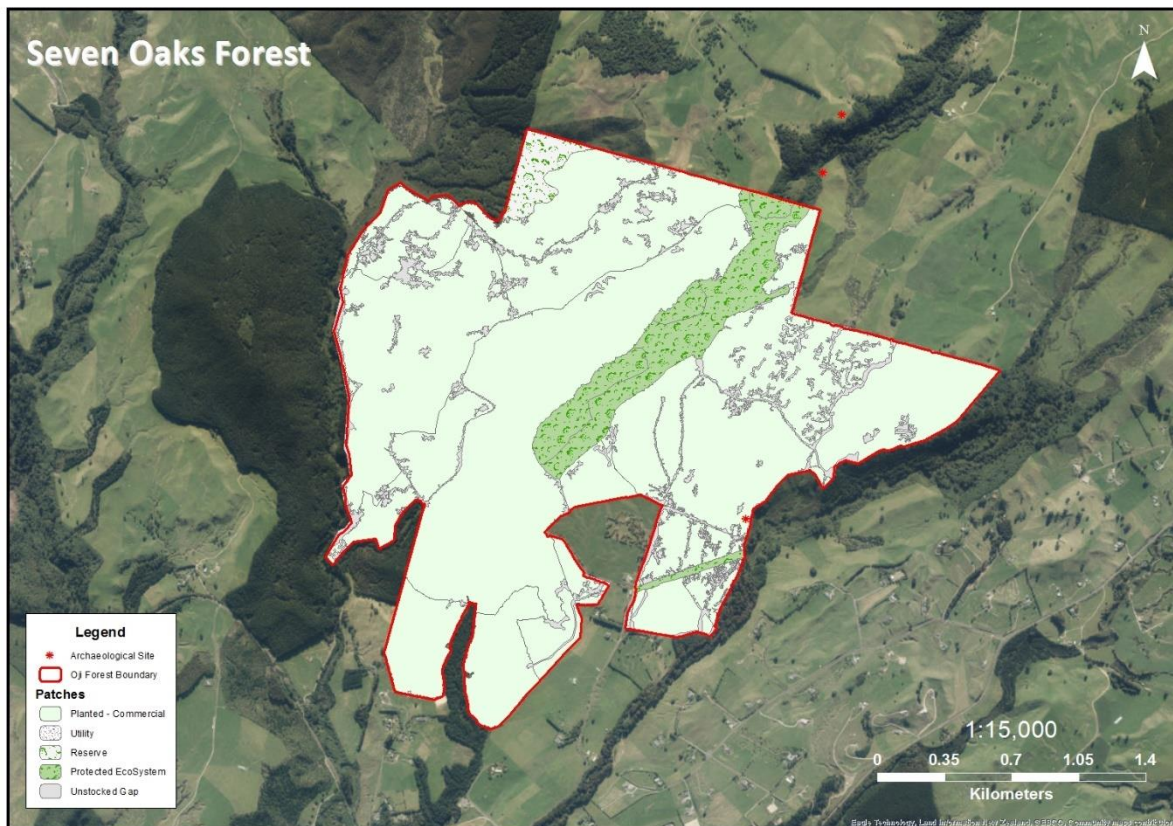
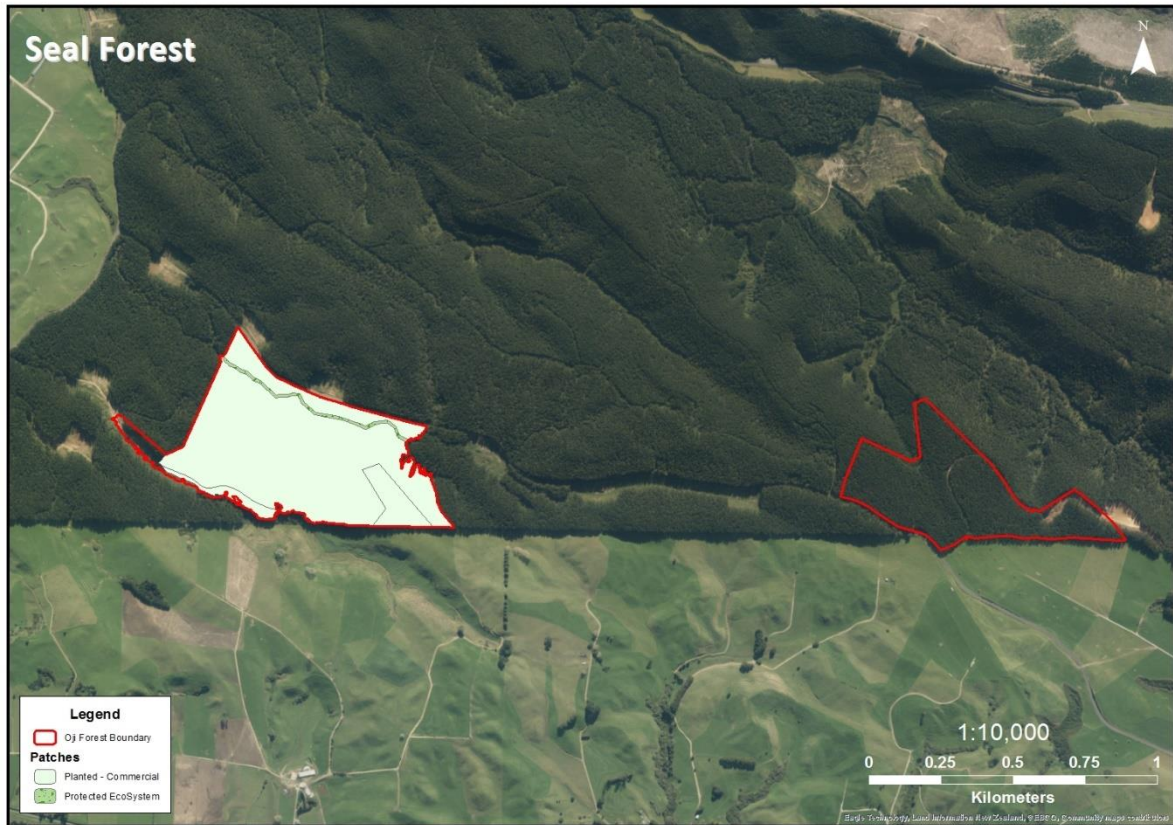


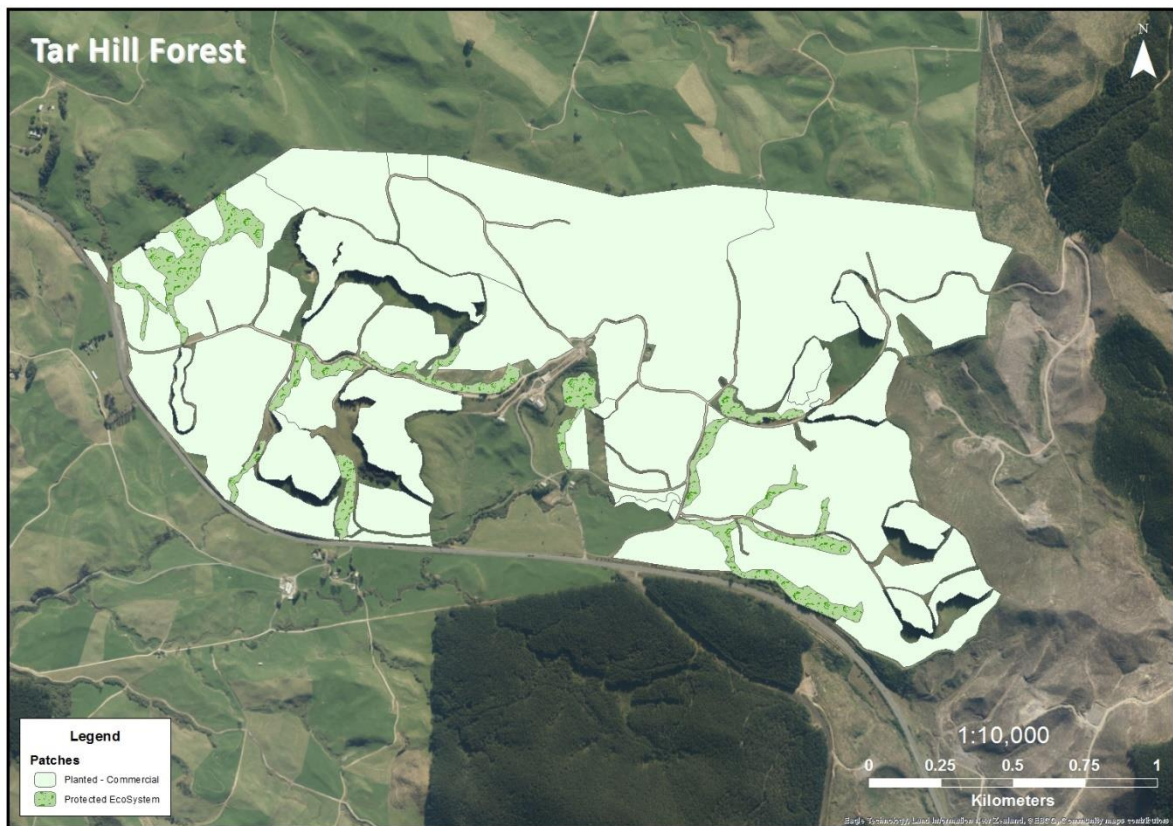
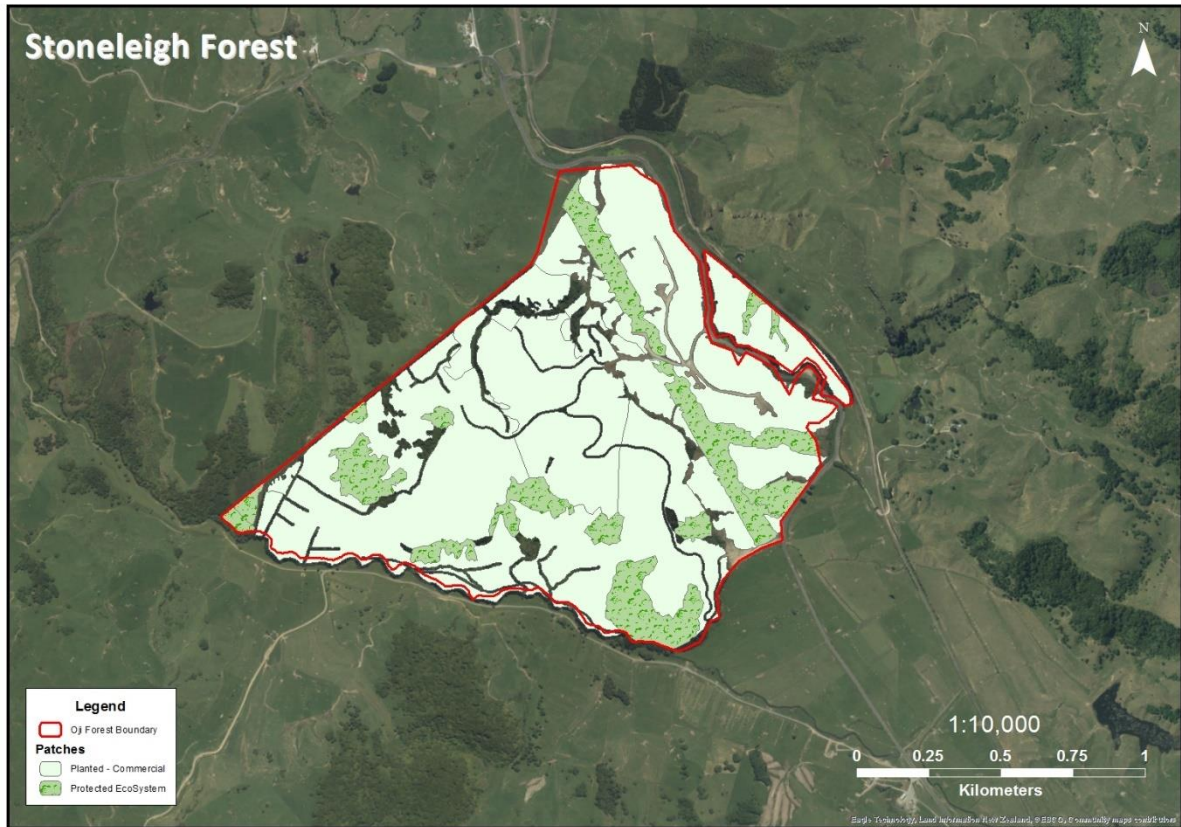


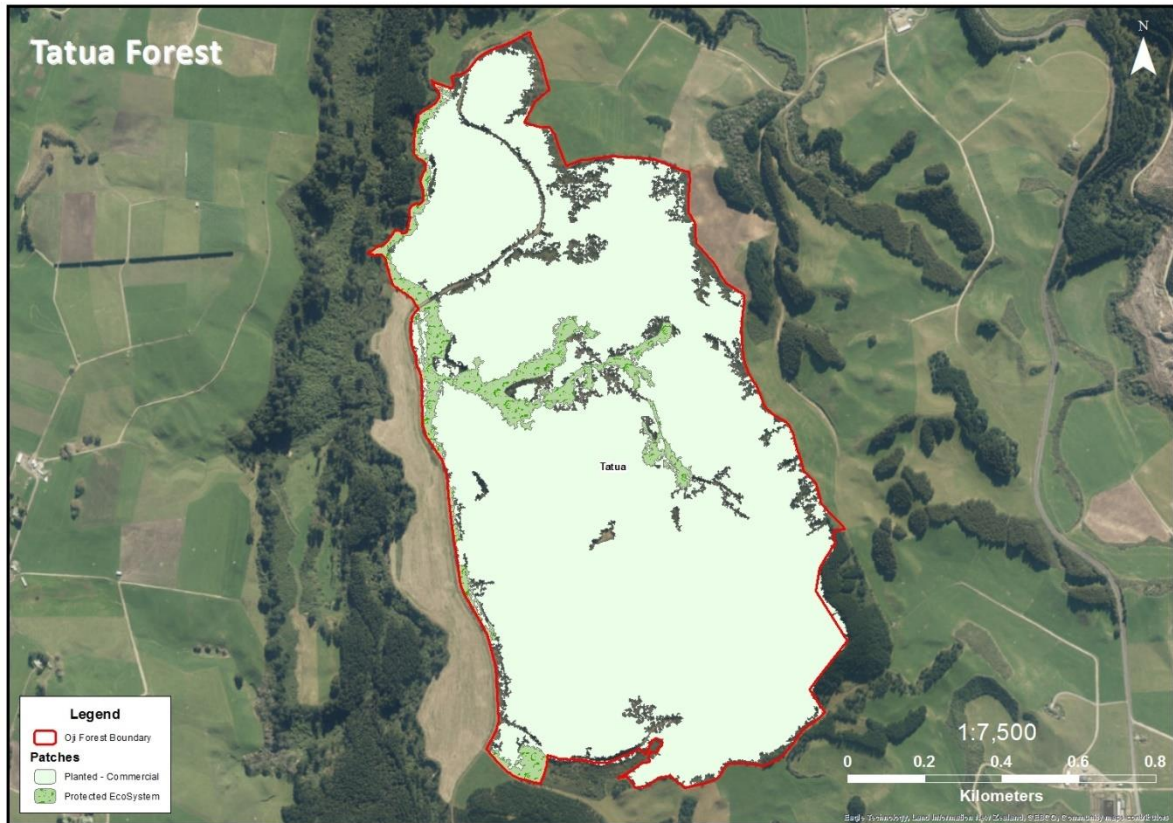
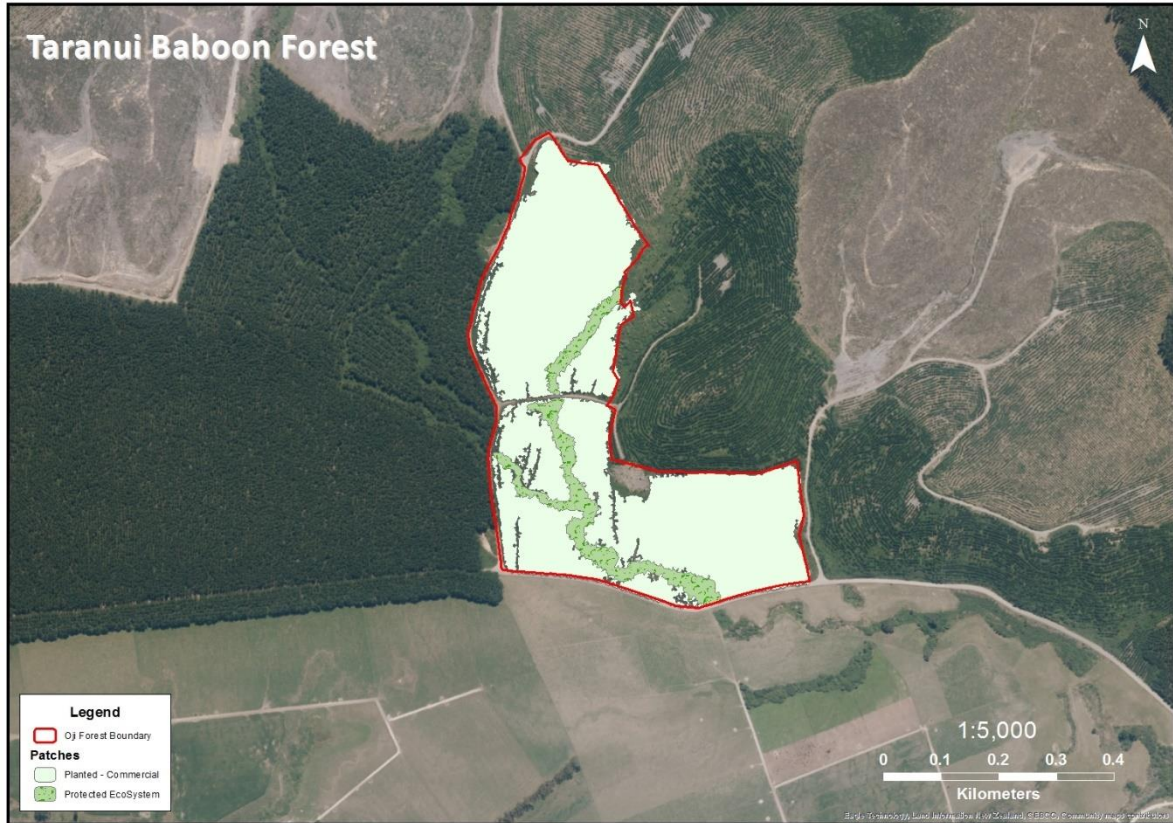


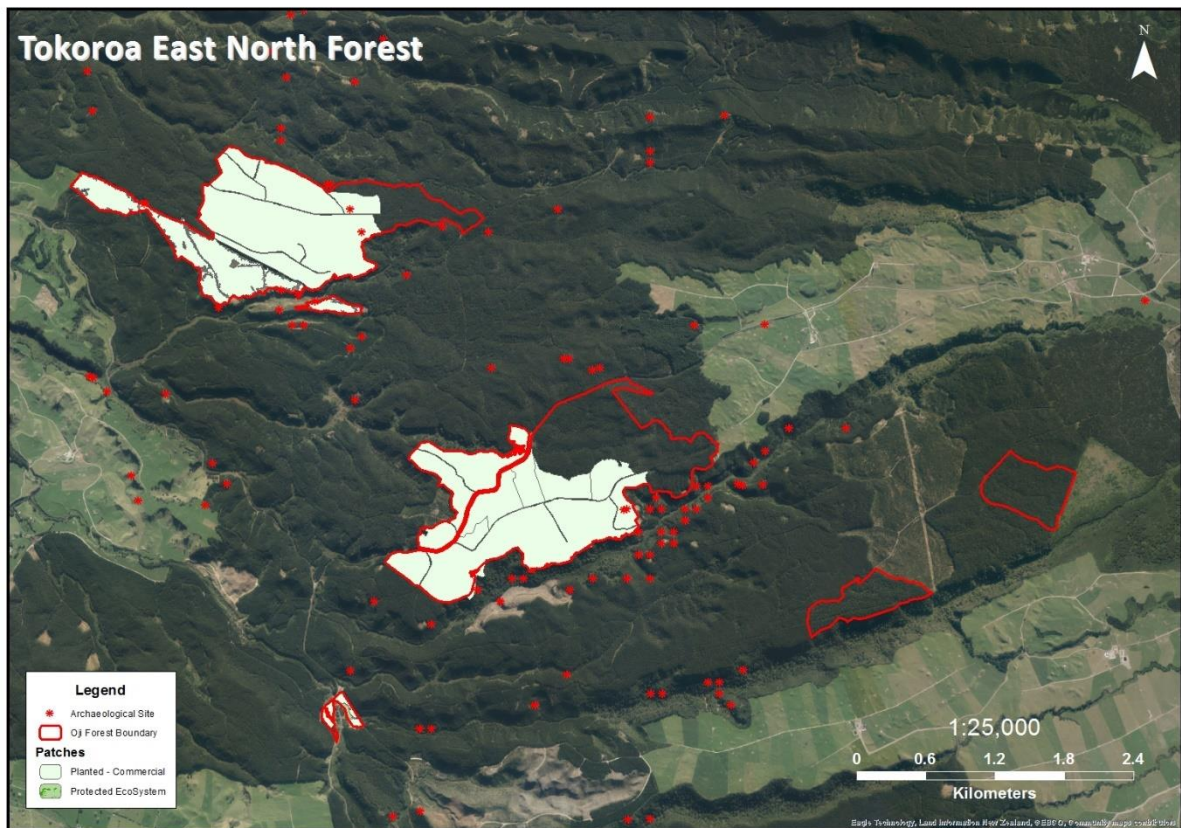
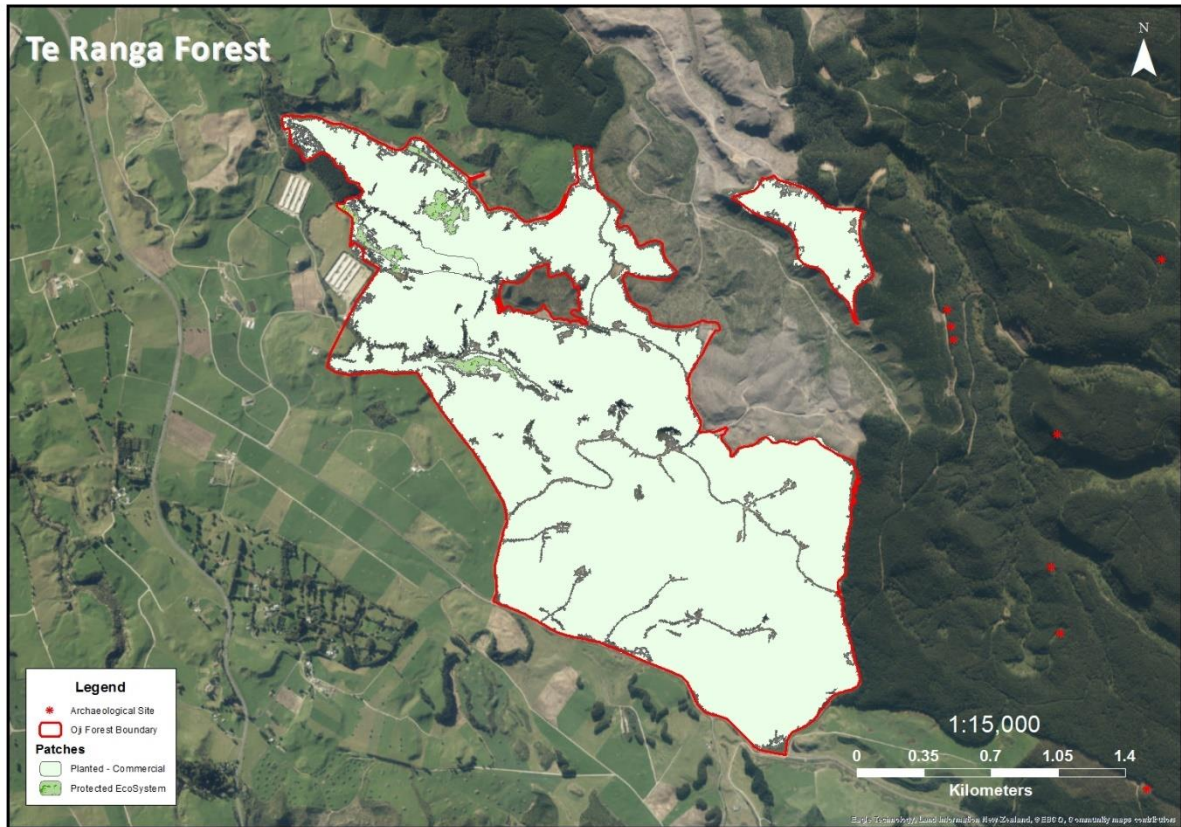


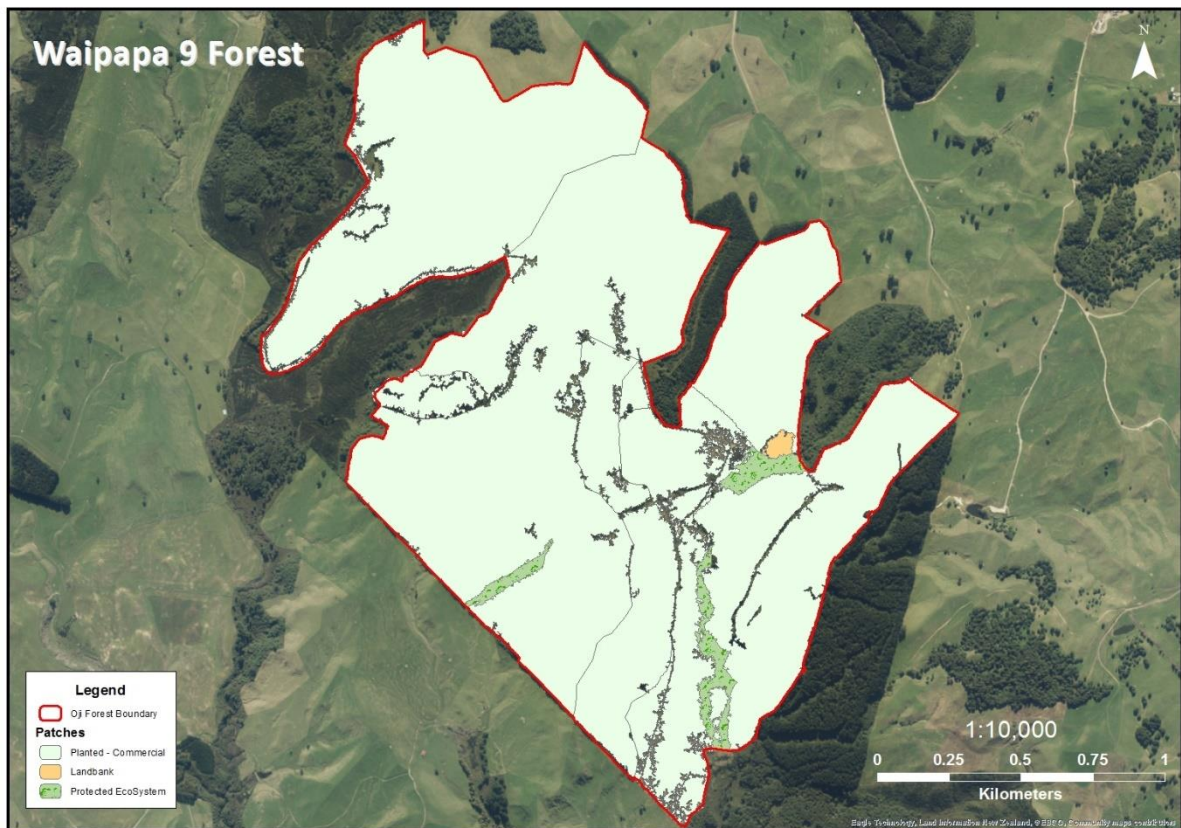
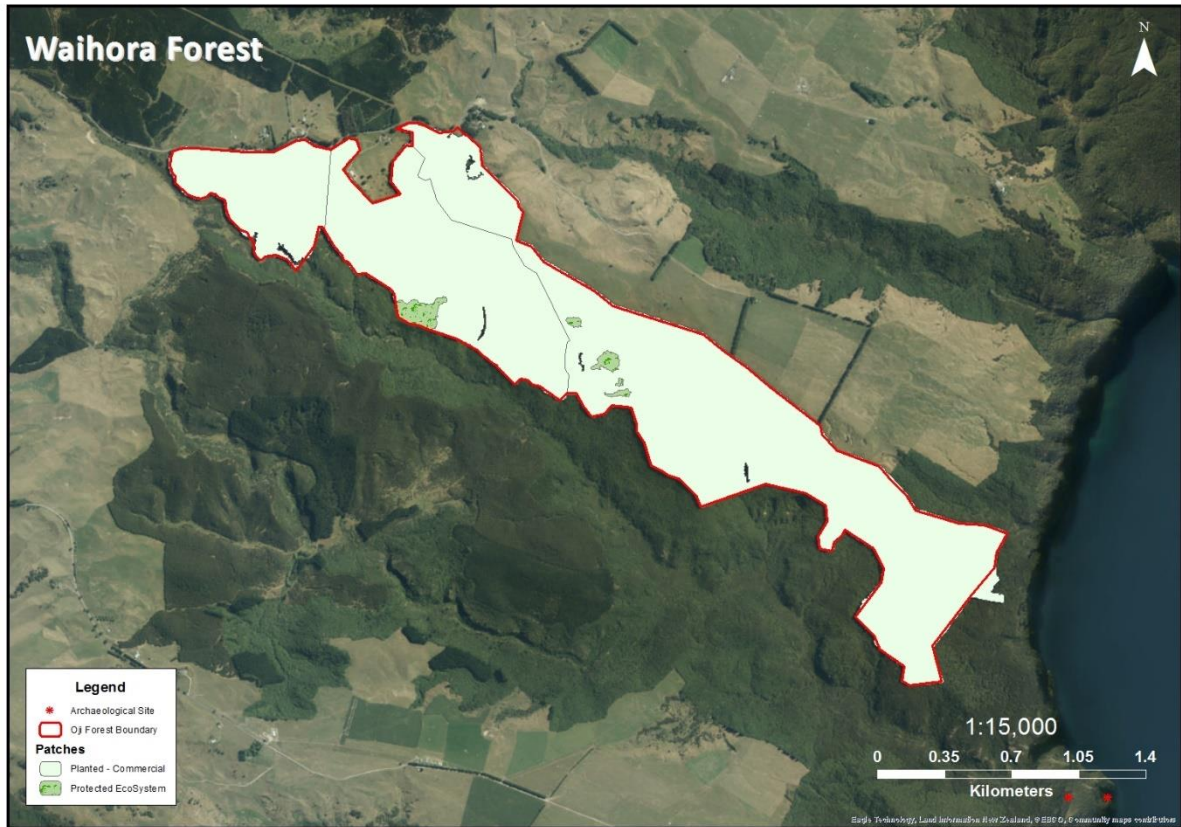


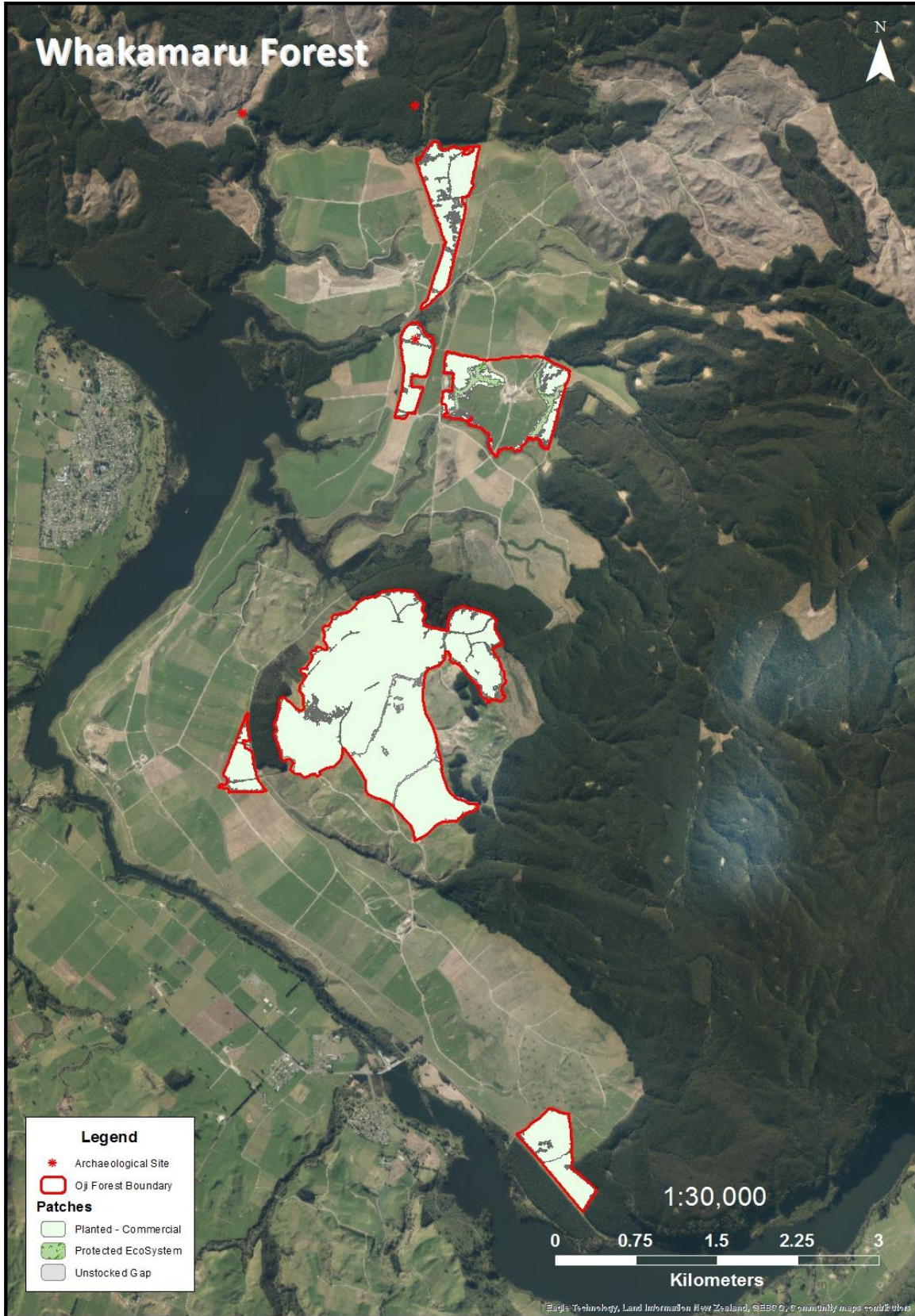












## Appendix 2: Legal Description

Forest	Legal Description	Tenure
<b>Ātiamuri</b>	455763, Lot 2 DP409652 455763, Lot 9 DP 409652 455768, Lot 14 DPS 11436	Forestry Right
<b>Bookers</b>	SA 46D/801, Pt Allotment 330, Matata PSH SA 48A/10, Pt Allotment 331, Matata PSH	Freehold
<b>Davies</b>	SA 46D/801, Pt Allotment 330, Matata PSH	
<b>Duncan</b>	529224, Lot 2, DP 434 079	Forestry Right
<b>Granite</b>	517711, Lot 6, DP 399187	Forestry Right
<b>Kinleith</b>	44425, lot 2, DP 411958 504465, Lot 3, DP 426538 511219, Lot 1, DP 425239 511219, Lot 1, DPS 85434 SA67D/981, Lot 1, DPS 51282	Freehold
<b>Maraeroa C</b>	228046, Lot 2, DP 355898	Forestry Right
<b>Maraetai</b>	449671, Lot 1, DP 413316 499513, Lot 4, DP 425239 537062, Lot 1, DP 430232 SA6B/296, Lot 1, DP 18970	Forestry Right
<b>Murphy</b>	SA67B/184, Lot 2, DPS 84776	Freehold
<b>Ngāruawahia</b>	462409, Allotment 64B4B4B, Waipa PSH 462475, Allotment 63F11, Waipa PSH Pt Allotment 58B1, Waipa PSH Pt Allotment 58B2A, Waipa PSH Pt Allotment 64, Waipa PSH SA25D/1276, Section 27 Blk X, Newcastle SD SA37B/816, Allotment 453, Waipa PSH SA37B/816, Section 32 Blk X, Newcastle SD SA37B/816, Section 34 Blk X, Newcastle SD SA37B/816, Section 35 Blk X, Newcastle SD SA37B/816, Section 37 Blk X, Newcastle SD SA42B/222, Allotment 64B4B5, Waipa PSH SA692/310, Pt Lot 2, DP 26856 SA704/9, Section 5 Blk X, Newcastle SD SA704/9, Section 8 Blk X, Newcastle SD SA704/9, Section 8A Blk X, Newcastle SD SA704/9, Pt Section 11 Blk X, Newcastle SD SA704/9, Section 12 Blk X, Newcastle SD SA704/9, Section 13 Blk X, Newcastle SD SA1028/141, Pt Section 9 Blk X, Newcastle SD SA1053/70, Lot 1, DP 35556 SA1115/59, Lot 1, DP 36556	Freehold
<b>Pickford</b>	SA59D/700, Lot 1, DPS 74419	Freehold

Forest	Legal Description	Tenure
<b>Pinedale</b>	547487, Lot 2, DP 440533 547487, Lot 3, DPS 88350	Forestry Right
<b>Price</b>	Section 26 Blk X, Waihi South SD SA58B/773, Lot 1, DPS 72636	Freehold
<b>Rust</b>	SA67B/585, Lot 1, DPS 86102	Freehold
<b>Seal</b>	504464, Lot 2, DP 426538 504464, Lot 16, DP 421248	Forestry Right
<b>Seven Oaks</b>	493970, Lot 1, DPS 74084 493970, Lot 2, DP 421722	Forestry Right
<b>Stoneleigh</b>	TNJ3/138, Lot 1, DP 17485 TNJ3/139, Lot 2, DP 17485	Freehold
<b>Tar Hill</b>	248067, Lot 1, DP 361069 248067, Lot 3, DP 361069 248067, Lot 4, DP 361069 248067, Lot 7, DP 361069	Freehold
<b>Taranui Baboon</b>	546239, Lot 3, DP 407148	Forestry Right
<b>Tatua</b>	515182, Lot 2, DP 429 418	Forestry Right
<b>Te Ranga</b>	517678, Lot 2, DP 430239 517679, Lot 3, DP 430239	Forestry Right
<b>Tokoroa East North</b>	517680, Lot 4, DP 430239 517680, Lot 9, DP 430239	Forestry Right
<b>Waihora</b>	SA55A/511, Lot 1, DPS 68640 SA55A/513, Lot 3, DPS 68640 SA58C/685, Lot 1, DPS 75881 Section 1 Blk II, Karangahape SD	Freehold
<b>Waipapa 9</b>	511620, Pt Waipapa, 9	Forestry Right
<b>Whakamaru</b>	511217, Lot 2, DP 428181 511217, Lot 3, DP 428181 511217, Lot 5, DP 428181 511217, Lot 6, DP 425239 511217, Lot 7, DP 425239	Forestry Right



### Appendix 3: Archaeological Sites

Forest	GeoUnit	Site ID	Site Description	Easting	Northing
Bookers	BOOK-1-1	V15/175	House site - c. 7 x 3 m (with 2 m scarp at rear)	1924880	5783336
	BOOK-1-3	V15/188	Terrace	1924580	5783236
	BOOK-1-3	V15/189	Terrace and rectangular pit	1924380	5783336
	BOOK-1-3	V15/190	House site. Other possible house sites and midden (oven stones and charcoal) located further down ridge	1924480	5783336
	BOOK-1-1	V15/191	Terrace	1924680	5783336
	BOOK-1-3	V15/230	Pit and terrace	1923180	5782633
	BOOK-1-2	V15/232	Pits and a terrace	1923180	5782633
	BOOK-1-1	V15/283	Terrace	1925082	5782436
	BOOK-1-1	V15/316	Pit - approximately 8.8 x 4.3 m	1924481	5782535
	BOOK-1-1	V15/317	Three circular pits	1924180	5782935
	BOOK-1-1	V15/318	Circular pit on a terrace	1924280	5783336
	BOOK-1-1	V15/319	Circular pit - approximately 2.4 m in diameter	1924280	5783436
	BOOK-1-2	V15/320	Terrace and possible rectangular pit	1924279	5783536
	BOOK-1-2	V15/321	Terrace - 7 x 5.5 m	1924380	5783236
	BOOK-1-1	V15/322	Pit (6.7 x 2.4 m) and a possible house site	1924280	5783436
	BOOK-1-3	V15/323	Terraces and a possible house site	1924280	5783336
	BOOK-1-3	V15/326	Possible house site	1924281	5782234
	BOOK-1-1	V15/327	Terrace	1924281	5782335
	BOOK-1-1	V15/328	Terrace - c. 13.7 x 12.1 m	1924181	5782234
	BOOK-1-1	V15/329	Terrace	1924081	5782234
	BOOK-1-1	V15/330	Terrace - 7 x 5 m	1924162	5782354
	BOOK-1-1	V15/333	Terrace - c. 11 x 11 m	1923981	5782434
	BOOK-1-1	V15/336	Terrace - approximately 4.3 x 5.5 m	1923981	5782534
	BOOK-1-3	V15/337	Terrace	1924081	5782635
	BOOK-1-3	V15/527	Two adjacent terraces - 10 x 5 m and 10 x 10 m	1923080	5782433
	BOOK-1-3	V15/528	A flattened ridge (15 x 50 m) with a single pit (5 x 2.5 x 0.5 m)	1923180	5782633
	BOOK-1-3	V15/529	Three terraces and two pits (9 x 5 x 1.5 m and 8 x 4 x 1 m)	1923179	5782733
	BOOK-1-3	V15/540	Terrace - approximately 30 m long	1924180	5783335
	BOOK-1-3	V15/1349	Terrace	1925199	5782889
	BOOK-1-3	V15/1352	Terrace	1924145	5782499
BOOK-1-3	V15/1353	Terrace	1924174	5782591	

Forest	GeoUnit	Site ID	Site Description	Easting	Northing
	BOOK-1-2	V15/1354	Terrace	1924263	5782521
	BOOK-1-2	V15/1355	Terrace	1924748	5782480
	BOOK-1-2	V15/1376	Two large terraces (25 x 20 m and 20 x 13 m) separated by a knoll remnant on the south side.	1923763	5782219
	BOOK-1-1	V15/1637	Pit on low ridge	1923363	5782765
Davies	DAVS-1-1	V15/212	Terrace	1922580	5782232
	DAVS-1-1	V15/216	Rectangular pit	1922780	5782432
	DAVS-1-1	V15/217	Terrace	1922679	5782432
	DAVS-1-1	V15/225	Three terraces	1923479	5783134
	DAVS-1-1	V15/226	Pit and terraces	1923579	5783134
	DAVS-1-1	V15/227	Terrace	1923379	5783034
	DAVS-1-1	V15/228	Terraces	1923279	5782834
	DAVS-1-1	V15/231	Terrace, pit and hut site	1923179	5782833
	DAVS-1-1	V15/335	Pit - approximately 4.9 x 3.6 m	1923880	5782534
	DAVS-1-1	V15/339	Terrace	1923579	5783034
	DAVS-1-1	V15/340	Pit and terraces	1923679	5783134
	DAVS-1-1	V15/341	Pits and terraces	1923879	5783235
	DAVS-1-1	V15/342	Terrace	1923980	5783135
	DAVS-1-1	V15/345	Terraces	1923180	5782233
	DAVS-1-1	V15/346	Terrace	1923080	5782133
	DAVS-1-1	V15/347	Terrace	1922980	5782132
	DAVS-1-1	V15/352	Hut site / terrace located on ridge	1922155	5782047
	DAVS-1-1	V15/353	Pit	1922024	5782068
	DAVS-1-1	V15/356	Two pits on a large flat area; on a knoll	1922279	5782232
	DAVS-1-1	V15/357	Pit	1922379	5782332
	DAVS-1-1	V15/358	Terrace	1922479	5782232
	DAVS-1-1	V15/359	Terrace	1922479	5782432
	DAVS-1-1	V15/360	Pit	1922579	5782432
	DAVS-1-1	V15/361	Pit and terrace	1922679	5782432
	DAVS-1-1	V15/521	An artificially flattened saddle and knob on the ridge. One rectangular pit and vague depressions.	1921879	5782031
	DAVS-1-1	V15/522	Pit - 7 x 4 x 0.5 m deep	1922379	5782432
	DAVS-1-1	V15/523	Terrace - 10 x 5 m	1922580	5782232
	DAVS-1-1	V15/524	Pit and terrace	1922780	5782432
	DAVS-1-1	V15/530	Terrace (10 x 12 m) cut into a knoll	1923080	5782633
	DAVS-1-1	V15/531	Terrace - 15 x 60 m	1923880	5783035
	DAVS-1-1	V15/533	A series of terraces	1922880	5782132

Forest	GeoUnit	Site ID	Site Description	Easting	Northing
	DAVS-1-1	V15/536	Terrace - c. 8 x 20 paces	1923180	5782233
	DAVS-1-1	V15/541	Terrace	1923980	5783135
	DAVS-1-1	V15/543	Ill-defined pit - 8 x 3 paces	1923379	5783134
	DAVS-1-1	V15/544	Terrace - 11 paces long	1923379	5783134
	DAVS-1-1	V15/545	Pit and terrace	1923279	5783034
	DAVS-1-1	V15/547	Flattened knoll sloping down to ridge terraces. Middle terrace contains two pits.	1923179	5782934
	DAVS-1-1	V15/563	Terrace and a possible pit	1923779	5783335
<b>Seven Oaks</b>	OAKS-1-15	T17/8	Source site	1856402	5720802
<b>Tokoroa East North</b>	TKEN-377-3	T16/34	Bushman's camp	1857145	5770033
	TKEN-374-1	T16/35	Kainga	1855361	5770078
	TKEN-377-3	T16/46	Burial cave. Remains of coffins.	1857245	5769833
<b>Whakamaru</b>	WKMU-355-1	T16/41	Bushman's camp (for 'planters')	1845362	5750607

## Appendix 4: Forest Neighbours

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Not Publicly Available

## Appendix 5: Significant Natural Areas by District Council

### South Waikato District Council<sup>11</sup>

Forest	Stand/s	Area of SNA (ha)	SNA Reference
<b>Ātiamuri</b>	ATMI-323-02	9.0	BF35UP412
<b>Duncan</b>	DNCN-55-1	14.3	BF35UP273
<b>Granite</b>	GRNT-330-06	8.3	BF35UP412
<b>Kinleith</b>	KINL-18-02	1.0	BF35UP321
	KINL-21-01	5.5	BF35UP320
		0.3	BF35UP321
	KINL-21-02	2.1	BF35UP320
	KINL-21-03	2.4	BF35UP318
		5.1	BF35UP320
	KINL-27-01	30.4	BF35UP320
	KINL-165-01	3.3	BF35UP318
KINL-308-02	4.6	BF35UP318	
KINL-SCRB-01	15.2	BF35UP320	
<b>Maraetai</b>	MRTI-303-01	2.5	BF35UP320
	MRTI-365-12	4.6	BF35UP310
<b>Pinedale - Oji</b>	PNCH-30-01	8.7	BE35UP136
		16.3	BE35UP422
	PNCH-RIPR-01	0.6	BE35UP422
<b>Tar Hill</b>	TARH-01-01	0.7	BF36UP415
	TARH-01-02	0.3	BF36UP415
	TARH-01-04	2.4	BF36UP332
	TARH-01-05	4.8	BF36UP330
		3.5	BF36UP332
	TARH-01-06	0.5	BF36UP341
	TARH-01-07	2.0	BF36UP331
	TARH-01-09	0.2	BF36UP332
	TARH-01-10	1.6	BF36UP331
		1.5	BF36UP341
	TARH-01-11	0.9	BF36UP331
	TARH-01-12	0.3	BF36UP332
	TARH-01-13	0.4	BF36UP332
	TARH-01-14	3.9	BF36UP331
		0.2	BF36UP332
TARH-01-15	13.7	BF36UP330	
	7.6	BF36UP332	

<sup>11</sup> South Waikato District Council. Operative District Plan April 2021. <https://plans.southwaikato.govt.nz/public/district-plan/>. See Appendix E

		15.7	BF36UP415
	TARH-01-16	18.6 27.2 3.8	BF36UP331 BF36UP332 BF36UP341
	TARH-SCRB-01	1.6	BF36UP415
	TARH-SCRB-02	1.2	BF36UP332
	TARH-RIPR-01	0.6 1.1	BF36UP332 BF36UP415
	TARH-RIPR-02	1.6	BF36UP330
	TARH-RIPR-03	3.1	BF36UP332
	TARH-RIPR-06	2.3 3.0	BF36UP331 BF36UP332
	TARH-SECF-01	1.6	BF36UP332
	TARH-PRIF-01	3.1	BF36UP415
<b>Taranui Baboon</b>	TNBB-346-01	6.9	BF36UP355
	TNBB-SCRB-01	0.5	BF36UP355
	TNBB-SCRB-02	0.4	BF36UP355
<b>Te Ranga</b>	TRNG-372-04	1.1	BE36UP223
	TRNG-373-02	11.1	BE36UP223
<b>Tokoroa East North</b>	TKEN-374-01	1.4	BE36UP237
	TKEN-377-01	19.6	BE36UP238
	TKEN-377-02	2.1 3.7 42.5	BE36UP238 BE36UP240 BE36UP242
<b>Whakamaru</b>	WKMU-355-01	8.0	BF35UP379
	WKMU-355-27	10.0	BF35UP318
	WKMU-355-28	13.1	BF35UP379
	WKMU-BRDI-02	4.3	BF35UP379
	WKMU-BRDI-03	4.1	BF35UP379
	WKMU-BRDI-04	0.1	BF35UP379

### Taupo District Council<sup>12</sup>

Forest	Stand/s	Area of SNA (ha)	SNA Reference
<b>Seven Oaks</b>	OAKS-PRFI-01	30.6	SNA 193 Ivan Swan Covenant
	OAKS-SECF-01	2.2	SNA 193 Ivan Swan Covenant
	OAKS-SECF-02	3.0	SNA 193 Ivan Swan Covenant
	OAKS-SECF-03	10.1	SNA 193 Ivan Swan Covenant

<sup>12</sup> Taupo District Council. Taupo District Plan. <https://taupo.isoplan.co.nz/eplan/rules/0/13/0/6999/0/100> See Schedule 7.8.

	Adjacent to north-western forest boundary	N/A	SNA 015 Marotiritiri Wetland
<b>Waihora</b>	WAHA-01-04	1.5	SNA 271 Hingarāe Scenic Reserve
	Adjacent to southern and western forest boundaries	N/A	SNA 271
	Adjacent to southern and western forest boundaries	N/A	SNA 272 Kotukutuku Stream Scenic Reserve

**Waitomo District Council<sup>13</sup>**

Forest	Stand/s	Area of SNA (ha)	SNA Reference
<b>Stoneleigh</b>	STON-01-11	3.9	S17UP091.02 S17UP091.03
	STON-PRIF-01	0.5	S17156
	STON-PRIF-02	3.1	S17UP091.02
	STON-PRIF-03	0.5	S17UP091.02
	STON-SECF-01	0.3	S17UP091.03
	STON-SECF-02	0.3	S17UP091.02
	STON-SECF-04	1.4	S17UP091.02
	STON-LEPT-01	0.1 0.5	S17156 S17UP091.02

**Whakatane District Council<sup>14</sup>**

Forest	Stand/s	Area of SNA (ha)	SNA Reference
<b>Bookers</b>	BOOK-01-01	0.13	BS8 A
	BOOK-01-03	0.00	BS8 A
	BOOK-01-04	0.20	BS8 A
	BOOK-LGRA-01	0.88	BS8 A
	BOOK-RIPR-01	1.08	BS8 A
	BOOK-RIPR-02	5.54	BS8 A
	BOOK-WETL-01	8.30	BS8 A
	BOOK-WETL-02	1.15	BS8 A
	BOOK-WETL-03	0.77	BS8 A
	BOOK-WETL-04	0.83	BS8 A
	BOOK-WETL-05	0.50	BS8 A
<b>Pickford</b>	PICK-01-01	0.00	BS29 B
	PICK-PRIF-04	0.00	BS29 B

<sup>13</sup> Waitomo District Council. Operative District Plan <https://www.waitomo.govt.nz/council/publications/district-plan/>.

<sup>14</sup> Whakatane District Council. Operative District Plan. See Schedules A and B. <https://www.whakatane.govt.nz/sites/www.whakatane.govt.nz/files/documents/documents-section/council-plans/operative-district-plan/Operative%20District%20Plan%20-%20web.pdf>

	PICK-SCRB-02	0.00	BS29 B
	Unstocked Gap	0.00	BS29 B
<b>Rust</b>	RUST-01-03	0.02	BS93 A
	RUST-PRIF-01	7.03	BS93 A
	RUST-PRIF-02	5.91	BS93 A
	RUST-PRIF-03	2.36	BS93 A
	RUST-SECF-01	0.45	BS93 A
	Unstocked Gap	0.00	BS93 A

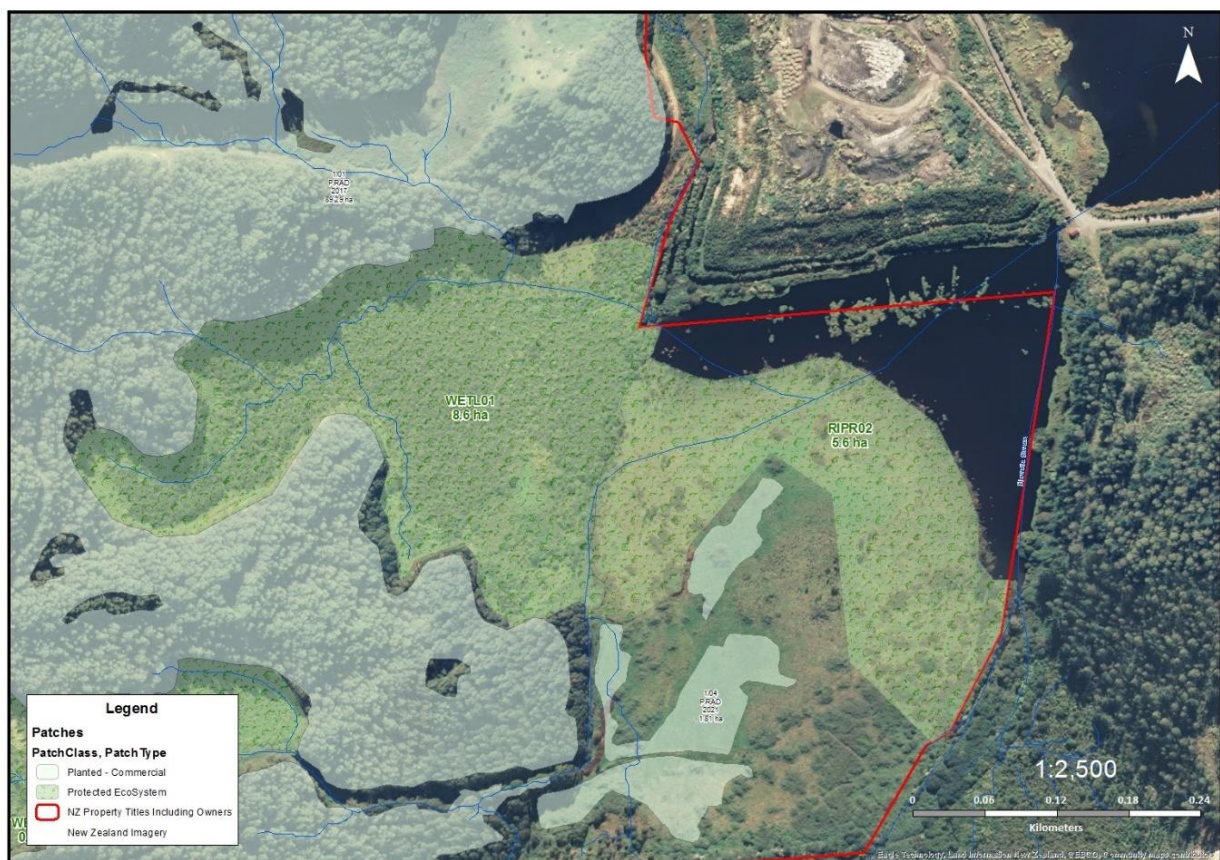


Appendix 6: HCVF Management Plans

**Bookers Forest, HCVF Area #1**  
**Stands WETL-01 and RIPR-02**

**Location**                    **WETL-01**, 8.6 hectares  
                                      **RIPR-02**, 5.6 hectares

South-eastern corner of forest near Hiawatia Stream, close to Lake Rotoroa.



**HCVF class**                    HCV3 – Forest areas that are in or contain rare, threatened or endangered ecosystems

**Species composition**

**WETL-01: Grey willow / *Machaerina rubiginosa*-mānuka-raupō-blackberry-swamp millet sedge-shrubland**

This vegetation type covers the majority of Bookers Wetland. Grey willow forms a discontinuous canopy 3-4 metres tall over a predominantly indigenous shrub tier. Frequent mānuka (c.2 metres tall) and scattered shrubs of karamū, *Coprosma x cunninghamii*, and *Coprosma tenuicaulis* (all under c.2 metres tall) occur in the shrub tier alongside occasional harakeke, tī kōuka, whekī, *Coprosma propinqua* var. *propinqua*, and local pōhuehue. *Machaerina rubiginosa*, kāpūngāwhā (*Schoenoplectus tabernaemontani*), *Carex* spp. Mātātā and swamp kiokio are common species within the tall ground layer. Swamp millet (*Isachne globosa*) is locally abundant within small, open areas scattered throughout this vegetation and habitat type, where it forms dense swards in association with Yorkshire fog and occasional lotus.

**RIPR-02: Wīwī-soft rush-paspalum rushland**

Wīwī (*Juncus edgariae*) and soft rush occur with exotic grassland species including paspalum (*Paspalum dilatatum*), Yorkshire fog, creeping buttercup and narrow-leaved plantain (*Plantago lanceolata*). Occasional grey willow (less than c.2 metres tall) are also present.

**Work Program**

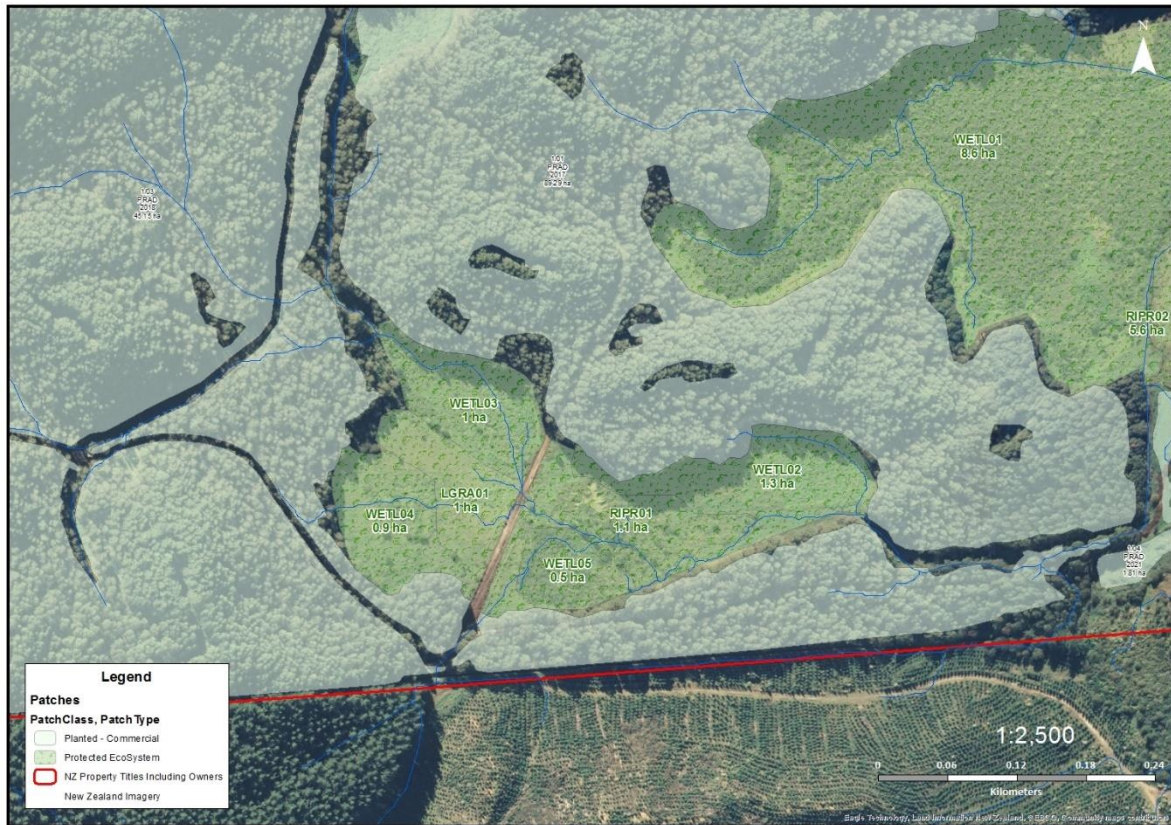
Timing	Activity type	Actions
Annual	Walk-through check / drone survey	<ul style="list-style-type: none"> <li>Forest manager to do annual onsite check. This can be done via a combination of a walk-through check on the ground and use of a drone to carry out an aerial assessment of the block.</li> <li>Note any issues including weeds, wilding pines, animal browse.</li> </ul>
Annual	Photopoint monitoring	<ul style="list-style-type: none"> <li>Establish photopoint vegetation monitoring of both sites.</li> <li>Repeat photos annually.</li> </ul>
Ongoing	Pest control - Animals	<ul style="list-style-type: none"> <li>Formalise a pest control plan - possibly using an external contractor.</li> <li>May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density).</li> </ul>
Ongoing	Pest Control - Plants	<ul style="list-style-type: none"> <li>Carry out any pest plant control based on annual walk-through check / drone survey information and the Regional Pest Management Plan.</li> </ul>

## Bookers Forest, HCVF Area #2

### Stands WETL-02, WETL-03, WETL-04, WETL-05, LGRA-01 and RIPR-01

<b>Location</b>	<b>WETL-02</b> , 1.3 hectares
	<b>WETL-03</b> , 1.0 hectares
	<b>WETL-04</b> , 0.9 hectares
	<b>WETL-05</b> , 0.5 hectares
	<b>LGRA-01</b> , 1.0 hectares
	<b>RIPR-01</b> , 1.1 hectares

South-eastern corner of forest near Hiawatia Stream, almost on forest's southern boundary.



<b>HCVF class</b>	HCV3 - Forest areas that are in or contain rare, threatened or endangered ecosystems
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**Species  
composition**

**WETL-02 & WETL-03: Carex spp. sedgeland**

Dense Carex spp., such as pūrei (*Carex secta*) and *Carex virgata*, occur with swamp millet and Yorkshire fog. Scattered swamp kiokio (*Blechnum minus*), *Coprosma tenuicaulis*, and several grey willow (c.3 metres tall) are present. Kāpūngāwhā is present occasionally. Along the wetland margin of this vegetation and habitat type, blackberry and creeping buttercup (*Ranunculus repens*) are common.

**WETL-04 & WETL-05: Grey willow/Machaerina rubiginosa-mānuka-raupō-blackberry-swamp millet sedge-shrubland**

This vegetation type covers the majority of Bookers Wetland. Grey willow forms a discontinuous canopy 3-4 metres tall over a predominantly indigenous shrub tier. Frequent mānuka (c.2 metres tall) and scattered shrubs of karamū, *Coprosma x cunninghamii*, and *Coprosma tenuicaulis* (all under c.2 metres tall) occur in the shrub tier alongside occasional harakeke, tī kōuka, whekī, *Coprosma propinqua* var. *propinqua*, and local pōhuehue. *Machaerina rubiginosa*, kāpūngāwhā (*Schoenoplectus tabernaemontani*), *Carex* spp. Mātātā and swamp kiokio are common species within the tall ground layer. Swamp millet (*Isachne globosa*) is locally abundant within small, open areas scattered throughout this vegetation and habitat type, where it forms dense swards in association with Yorkshire fog and occasional lotus.

**LGRA-01: Swamp millet grassland**

Present in Bookers Wetland, swamp millet forms a dense cover with occasional interspersed Yorkshire fog. Local kāpūngāwhā, *Carex* sp., swamp kiokio, and mānuka are also present. Spanish heath is common on the margins, in addition to occasional pampas and patches of blackberry.

**RIPR-01: (Grey willow)/raupō reedland**

Occasional grey willow (c.3 metres tall) is emergent over abundant raupō, interspersed with occasional swamp kiokio and buddleia (in drier areas). Mānuka (up to c.3 metres tall) and *Coprosma tenuicaulis* are present on the margins of this vegetation type.

**Work Program**

Timing	Activity type	Actions
<b>Annual</b>	Walk-through check / drone survey	<ul style="list-style-type: none"> <li>• Forest manager to do annual onsite check. 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.</li> <li>• Note any issues including weeds, wilding pines, animal browse.</li> </ul>
<b>Annual</b>	Photopoint monitoring	<ul style="list-style-type: none"> <li>• Establish photopoint vegetation monitoring of both sites.</li> <li>• Repeat photos annually.</li> </ul>
<b>Ongoing</b>	Pest control - Animals	<ul style="list-style-type: none"> <li>• Formalise a pest control plan - possibly using an external contractor.</li> <li>• May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density).</li> </ul>
<b>Ongoing</b>	Pest Control - Plants	<ul style="list-style-type: none"> <li>• Carry out any pest plant control based on annual walk-through check / drone survey information and the Regional Pest Management Plan.</li> </ul>

## Appendix 7: Schedule of Ecological Management

### All Oji forests

Activity Type	Actions	Area/s	Due Date
<b>Walk-through check / drone survey</b>	<ul style="list-style-type: none"> <li>Forest manager to do annual onsite check to note any issues including weeds, wilding pines, animal browse.</li> <li>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.</li> </ul>	All indigenous areas within forests	31-Dec (annually)
<b>Pest control – Animals</b>	<ul style="list-style-type: none"> <li>Formalise a pest control plan – possibly using an external contractor.</li> <li>May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density).</li> </ul>	All indigenous areas within forests	31-Dec (annually)
<b>Pest Control – Plants</b>	<ul style="list-style-type: none"> <li>Carry out any pest plant control based on annual walk-through check / drone survey information and the Regional Pest Management Plan.</li> </ul>	All indigenous areas within forests	31-Dec (annually)
<b>Bat surveys</b>	<ul style="list-style-type: none"> <li>Carry out targeted pre-harvest surveys for long-tailed bats</li> <li>Ideally, carried out in warmer months to avoid hibernation</li> </ul>		

### Select forests

Activity Type	Actions	Forest/s	Due Date
<b>Ecological Offset – Ātiamuri ED</b>	<ul style="list-style-type: none"> <li>Annual donation to ecological restoration project within ED</li> <li>Need receipt as proof of offset</li> </ul>	Ātiamuri, Granite, Kinleith, Murphy, Tar Hill, Tatua & Whakamaru Total offset area = 116.3ha	31-Dec (annually)
<b>Ecological Offset – Rotorua ED</b>	<ul style="list-style-type: none"> <li>Annual donation to ecological restoration project within ED</li> <li>Need receipt as proof of offset</li> </ul>	Davies Total offset area = 8.4 ha	31-Dec (annually)
<b>Ecological Offset – Taupo ED</b>	<ul style="list-style-type: none"> <li>Annual donation to ecological restoration project within ED</li> <li>Need receipt as proof of offset</li> </ul>	Seven Oaks, Waihora & Waipapa 9 Total offset area = 47.1 ha	31-Dec (annually)

<p><b>Ecological Offset – Tokoroa ED</b></p>	<ul style="list-style-type: none"> <li>• Annual donation to ecological restoration project within ED</li> <li>• Need receipt as proof of offset</li> </ul>	<p>Duncan, Kinleith, Maraetai, Pinedale – Oji, Seal, Te Ranga, Tokoroa East North &amp; Whakamaru Total offset area = 212.1 ha</p>	<p>31-Dec (annually)</p>
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**HCVF Areas**

Activity Type	Actions	Area/s	Due Date
<p><b>Walk-through check / drone survey</b></p>	<ul style="list-style-type: none"> <li>• Forest manager to do annual onsite check to note any issues including weeds, wilding pines, animal browse.</li> <li>• 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.</li> </ul>	<p>Bookers HCVF Areas 1 and 2</p>	<p>31-Dec (annually)</p>
<p><b>Pest control – Animals</b></p>	<ul style="list-style-type: none"> <li>• Formalise a pest control plan - possibly using an external contractor.</li> <li>• May include shooting, trapping and/or poisoning (with initial and ongoing Residual Trap Catch for possum density).</li> </ul>	<p>Bookers HCVF Areas 1 and 2</p>	<p>31-Dec (annually)</p>
<p><b>Pest Control – Plants</b></p>	<ul style="list-style-type: none"> <li>• Carry out any pest plant control based on annual walk-through check / drone survey information and the Regional Pest Management Plan.</li> </ul>	<p>Bookers HCVF Areas 1 and 2</p>	<p>31-Dec (annually)</p>