FSC® FOREST MANAGEMENT PLAN

Ponga Silva Southern Forests

Ponga Silva Limited

Reporting Period: April 2025 – March 2030

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1. What is this Plan?

1.1 About this Plan

This **specific** forest management plan provides details about the Ponga Silva Southern Forests:

Forest	Region	District
Castle Downs	Southland	Southland
Groveburn	Southland	Southland
Hokonui	Southland	Southland
Middle Mount	Otago	Waitaki
Monavae	Southland	Southland
O'Brien	Southland	Southland
Opio	Southland	Southland
Pinnacle Pine	Southland	Southland
Rugged Hills	Southland	Southland
Waitane	Southland	Gore, Southland

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

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

1.2 Foundation Principle

As a policy:

- Ponga Silva Ltd has a long-term commitment to the FSC Principles and Criteria in the management unit, and to related FSC Policies and Standards, and

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

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

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

Waitane Forest, Southland

2. The Forest Land

2.1 Forest area

Ponga Silva Southern forests are within the Southland and Otago regions. The location of the forests is shown in appendix 1. The net stocked areas have been measured from mapping produced by PF Olsen. These areas are subject to change due to farmland retirement and afforestation and are correct as of February 2025.

Forest	Productive Current	Productive Planned afforestation	Productive Total	Reserve Indigenous Natural	Reserve Indigenous Planted	Reserve Indigenous Total	Reserve Exotic	Total Forest Area (ha)	% reserve	Total Legal Area (ha)
Castle Downs	51.5		51.5	4.5		4.5		56.0	8.0	65.3
Groveburn	310.2		310.2	216.2		216.2		526.4	41.1	535.7
Hokonui	183.4		183.4	25.4		25.4		208.8	12.2	221.4
Middle Mount	686.0		686.0	8.3		8.3		694.3	1.2	803.0
Monavae	161.4		161.4	3.7		3.7		165.1	2.2	185.1
O'Brien	386.1		386.1	277.7		277.7		663.8	41.8	691.1
Opio	526.6		526.6	100.2		100.2		626.8	16.0	669.7
Pinnacle Pine	336.9		336.9	12.9		12.9		349.8	3.7	400.0
Rugged Hills	537.2		537.2	20.3		20.3		557.5	3.6	637.8
Waitane	556.6		556.6	112.7		112.7		669.3	16.8	637.7
Total MU (ha)	**3,735.8**		**3,735.8**	**781.90**		**781.90**		**4,517.80**	**17.3%**	**4,846.8**

2.2 Location and access

Forest	Location
Castle Downs	Hamilton Burn-Dipton Road, approximately 11 km NW of Dipton
Groveburn	Groveburn Road and Waimotu Road, approximately 10 km west of Tuatapere
Hokonui	Bushy Park Road, approximately 26 km west of Gore
Middle Mount	Mount Trotters Road, approximately 8.5 km southwest of Palmerston
Monavae	Dipton Flat Road, approximately 15 km SW of Dipton
O'Brien	Lake Monowai Road, near the village of Monowai, approximately 55 km northwest of Nightcaps
Opio	Gowan Hill Road and Heenan Road, approximately 8.5 km north of Nightcaps
Pinnacle Pine	Tangitarua Road, Dipton Flat Road, approximately 14 km SW of Dipton
Rugged Hills	McDonald Road, approximately 9 km west of Dipton
Waitane	Lawrence Road, from State Highway 26, approximately 13 km west of Mataura

2.3 Legal ownership

The forest is freehold. The legal descriptions of the forests are shown in appendix 3.

The following documents and agreements have been checked to ensure the legality of the forest:

- Certificate of title
- Title maps

The following agreements are in place between the forest owner and PF Olsen:

- Harvest management agreement
- Forest management agreement
- FSC client member agreement

PF Olsen is legally registered company, filing annual returns, and is audited annually by an independent financial auditor.

2.4 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 type
Niagara Winton	40 – 80 km	Domestic
Niagara Kennington	70 – 100 km	Domestic
Daiken Mataura	30 – 130 km	Chip
South Port Bluff	75 – 120 km	Export

2.5 Topography and soil

Forest	Topography & altitude - metres above sea level	LUC Class	Soils	Erosion potential
Castle Downs	Rolling to strongly rolling 180-260m asl	4e7	Loess-mantled downlands with Brown and Pallic soils.	Moderate to severe sheet, rill and wind erosion hazard when cultivated.
Groveburn	Rolling to steep 120-220m asl	4e3, 4s10, 6s2, 6e28	Loess-mantled downlands and indurated sandstone and semi schist with silt loam textured Brown and drainage impeded Fragic Pallic soils.	Moderate sheet, and slight soil slip erosion.
Hokonui	Strongly rolling to steep 400-600m asl	6e6	Indurated tuffaceous greywacke and sandstone with Brown and Melanic soils.	Slight to moderate sheet and soil slip erosion.
Middle Mount	Rolling to steep 40-420m asl	4e3, 4e15, 6e7, 6e15	Tertiary gravel, and loess-mantled downlands with silt loam textured Brown and drainage impeded Fragic Pallic soils.	Moderate sheet, soil slip and rill erosion.
Monavae	Rolling to steep 300-500m asl	6c1, 6e10	Schist and greywacke with Brown soils.	Slight to moderate wind and sheet erosion.
O'Brien	Rolling to steep 180-320m asl	4e7, 6e28, 6s12, 7e20	Loess-mantled downlands and tuffaceous greywacke and granite with Brown and Pallic soils.	Moderate to severe soil slip and sheet erosion potential under grassland.
Opio	Rolling to steep 280-540m asl	4e13, 6e10	Indurated schist and greywacke with Brown soils.	Moderate sheet, wind and rill erosion potential.

Forest	Topography & altitude - metres above sea level	LUC Class	Soils	Erosion potential
Pinnacle Pine	Rolling to steep 220-520m asl	6c1, 6e15	Tertiary gravel, hard rock, schist and greywacke with an intermittent loess mantle of variable depth, with Brown and Pallic soils.	Slight to moderate wind, soil slip and sheet erosion.
Rugged Hills	Rolling to steep 180-540m asl	4e7, 6e15	Consolidated Tertiary gravel and hard rock, and loess-mantled downlands with Brown and Pallic soils.	Moderate sheet and soil slip erosion.
Waitane	Undulating to steep 80-220m asl	3c2, 6e21	Indurated tuffaceous greywacke, sandstone and schist with Brown and Gley soils.	Moderate to severe sheet and soil slip erosion.

2.6 Climate

Forest	Region	Climate
Castledowns Groveburn Hokonui Monavae O"Brien Opio Pinnacle Pine Rugged Hills Waitane	Southland	Exposed to weather systems arriving from the west and south. Prevailing winds are westerlies. Average annual rainfall in the eastern lowlands and hills is between 800 to 1200mm/year. Temperatures are generally cooler than the rest of the country with frequent frosts and snowfalls. On average, Southland receives less sunshine than the rest of New Zealand.
Middle Mount	Otago	Prevailing westerlies near the coast, often strong in exposed places. Winter is the least windy season. Annual rainfall at Middle Mount Forest is around 600mm/year, and annual average temperature is around 10°C.

3. Ecological Information

3.1 Ecological District

The forests are located within the following Ecological Districts (EDs) and Ecological Regions. Refer to the following information about the EDs:
https://www.doc.govt.nz/documents/science-and-technical/ecoregions4.pdf

Forest	Ecological Region	Ecological District
Castle Downs	Southland Hills	76.02 Taringatura
Groveburn	Te Wae Wae	77.02 Tuatapere
Hokonui	Southland Hills	76.03 Hokonui
Middle Mount	Otago Coast	69.01 Waikouaiti
Monavae	Southland Hills	76.02 Taringatura
O'Brien	Fiord	72.03 Te Anau
Opio	Southland Hills	76.02 Taringatura
Pinnacle Pine	Southland Hills	76.02 Taringatura
Rugged Hills	Southland Hills	76.02 Taringatura
Waitane	Gore Makarewa Southland Hills	75.01 Gore 78.01 Southland Plains 76.03 Hokonui

3.2 FSC requirement: Ecological District

See the Standard FMP for further detail about the requirements of indicators 6.5.6 and 6.5.8 in the NZ FSC Standard.

- The forests meet the FSC requirement of having at least 10% of their total forest area as indigenous reserves at the MU level, with a total of 16.7% reserves (see table in section 2.1).
- There are shortfalls in two EDs as per the following table. These will be addressed by equivalent ecological effort within the Opio and Pinnacle Pine HCV areas for the Taringatura ED shortfall, and the Middle Mount HCV area for the Waikouaiti ED shortfall (see appendix 6: HCV management plan for details).

Reserve areas by Ecological District

Ecological District	Total Forest Area (ha)	Reserve Area (ha)	Reserve %	Meets FSC?	Reserve Shortfall (ha)	Equivalent ecological effort ($/annum)
75.01 Gore	321.0	58.1	15.3%	Yes		
76.03 Hokonui	183.4	27.6	13.1%	Yes		
78.01 Southland Plains	190.8	30.5	13.8	Yes		
76.02 Taringatura	1,622.0	141.5	8.0	No	34.8	$993
72.03 Te Anau	403.2	277.7	40.8	Yes		
77.02 Tuatapere	309.9	216.3	41.1	Yes		
69.01 Waikouaiti	686.0	8.3	1.2	No	61.1	$1,743

3.3 Threatened Environments Classification

The reserve areas in the Ponga Silva Southern Forests are within the following NZ Threatened Environments Classifications.

- Two-thirds of the natural indigenous vegetation reserves fall in the >30% remaining & >20% protected category. This category has a reasonable proportion of its original (pre-human) extent remaining and protected.
- A total of 85.5 ha of the reserve area falls in the two most threatened categories, the <10% remaining and the 10-20% remaining categories. These areas are shown in appendix 4. Some of these are the focus of restoration - see Section 9 Indigenous Biodiversity and the ecological workplan in appendix 7.

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)
Castle Downs	4.5						4.5
Groveburn						216.2	216.2
Hokonui			14.4			11.1	25.5
Middle Mount	2.8	0.1	5.4				8.3
Monavae		1.0			2.7		3.7
O'Brien		25.6			25.6	226.5	277.7
Opio	0.1	3.0			97.1		100.2
Pinnacle Pine	5.8		2.2		4.2	0.6	12.8
Rugged Hills	16.7		0.9		2.7		20.3
Waitane	16.0	9.9	35.3			51.4	112.6
Total area (ha)	**45.9**	**39.6**	**58.2**	**0**	**132.3**	**505.8**	**781.9**

4. Cultural and Social Aspects

4.1 Forest history

Six of the ten forests were previously owned by Craigpine Timber Ltd and were FSC® certified. PF Olsen Ltd was appointed as the forest manager in mid-2021. Castle Downs, Hokonui, Monavae, Pinnacle Pines, Rugged Hills and Waitane forests were certified under the PF Olsen FSC® Group Scheme in 2022.

The remaining forests (Groveburn, Middle Mount, O'Brien and Opio) are recent acquisitions to the Ponga Silva portfolio and the PF Olsen FSC Group Scheme.

- Groveburn is a first rotation ex-farm planted by Ponga Silva.
- Middle Mount and O'Brien are both first rotation, ex-farms planted by previous owners.
- Opio Forest is in its second forestry rotation - the first crop was sold as stumpage by the previous owner.

4.2 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 contribution to the local economy by way of added incremental employment from the forests throughout the forest rotation, including:

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

4.3 Historic and archaeological sites

The following table summarises the archaeology in the vicinity of the forests, from the following sources:

- Records from the NZ Archaeological Association's 'Archsite' web resource.
- In 2007, a registered archaeologist undertook a desktop survey of Castle Downs, Hokonui, Monavae, Pinnacle Pine, Rugged Hills and Waitane, and found no sites within or within 1 km of the forests (except Waitane).

Forest	Archaeology
Castle Downs	Closest site 1.3 km away (adze findspot)
Groveburn	Closest site 3.3 km away (midden)
Hokonui	Closest site 5 km away (adze findspot)
Middle Mount	Closest sites 1.6 km and 1.8 km away (colonial mine, homestead)
Monavae	Closest site 2.1 km away (adze findspot)
O'Brien	Closest site 4.7 km away (chert cutter findspot)
Opio	Closest site 4.8 and 5.5 km away (pre-European quarry and workings, tramway alignment)
Pinnacle Pine	Closest site 2.1 km away (adze findspot)
Rugged Hills	Closest site 2.2 km away (adze findspot)
Waitane	250 m from boundary is an oven/adze findspot site. 2 km SE of forest boundary is a cluster of seven different sites (ovens, adze findspot)

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

4.4 Tangata Whenua

Ngāi Tahu has statutory acknowledgements and kaitiakitanga. There are 18 regional Papatipu Rūnanga that each have a representative on Te Rūnanga o Ngāi Tahu governing council, which oversees the tribe's activities. The nearest Papatipu Rūnanga to the Ponga Silva Southern Forests are:

- Hokonui Rūnanga, based in Gore.
- Ōraka-Aparima Rūnaka, based in Riverton.

Te Ao Marama[2] represents four Papatipu Rūnanga in Murihiku/Southland, including Hokonui Rūnanga and Ōraka-Aparima Rūnaka. Te Ao Marama is tasked with Resource Management Act responsibilities under the Local Government Act 2002. The Iwi Management Plan, 'Te Tangi a Tauira - The Cry of the People' sets out the intent of Ngāi Tahu ki Murihiku participation in natural resource management and environmental planning.

Kāti Huirapa Rūnaka ki Puketeraki is based in Karitane.
The Takaka whenua say that all things which affect Maori land will be dealt with by Maori first and foremost. The Iwi Management Plan, Kāti Huirapa Rūnaka ki Puketeraki Strategic Plan[3] sets out the intent of Kāti Huirapa Rūnaka ki Puketeraki participation in natural resource management and environmental planning.

4.5 Tenure & resource rights

There are no other known Iwi interests in the estate aside from those outlined above.

4.6 Neighbours

Appendix 5 lists the forest neighbours. Some of these parties should be consulted when operations are proposed in forest areas adjacent to their boundaries.

[2] Te Ao Marama Iwi Management Plan https://www.es.govt.nz/about-us/partnership-with-iwi
[3] Kati Huirapa Runaka ki Puketeraki https://www.puketeraki.nz/About+Us.html

5. Regulations

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

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

The table below shows the productive plantation area of each forest by the respective NES- CF ESC class. The forests are located on generally low erosion risk land. The majority of the forest activities will be permitted subject to meeting the NES-CF regulations. None of the forests are zoned as ESC red.

Productive plantation area (ha) within each ESC Class

Forest	Low	Moderate	High	Very High	Very High (8e)	Total
Castle Downs	0.9	50.6				**51.5**
Groveburn	310.2					**310.2**
Hokonui	183.4					**183.4**
Middle Mount	104.4	581.7				**686.0**
Monavae	160.5	0.9				**161.4**
O'Brien	306.9	16.5	62.7			**386.1**
Opio	526.6					**526.6**
Pinnacle Pine	132.5	204.3				**336.9**
Rugged Hills	120.1	417.1				**537.2**
Waitane	488.1					**556.6**
TOTAL	**2,378.2**	**1,271.1**	**68.2**			**3,717.4**

5.2 Council RMA Plans

The forests fall within the following districts and regions. Where the relevant district or regional plan has rules more stringent than the NES-CF, this is noted in the table below.

Forest	Regional plan	Rules more stringent than NES-CF	District plan	Rules more stringent than NES-CF
Castle Downs Groveburn Hokonui Monavae O'Brien Oplo Pinnacle Pine Rugged Hills	Southland	Discharge to surface waterbodies, stormwater discharge, river crossings, agrichemical discharge	Southland	ONF/ONL overlays (gravel extraction, afforestation, historic heritage sites
Waitane			Gore	Hokonui Hills Significant Landscape, significant indigenous vegetation overlays
Middle Mount	Otago	Discharge to waterbodies and land, river crossings, agrichemical discharge	Waitaki	ONFL overlay, significant indigenous vegetation and habitat overlay, indigenous vegetation clearance, afforestation setbacks, heritage trees

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

5.3 Consents & authorities held

There are currently no resource consents or Archaeological Authorities relevant to the forests.

5.4 Emissions Trading Scheme

Groveburn Forest is post-1989 forest land and is registered in the Emissions Trading Scheme (ETS) under the averaging accounting method. This means that carbon credits are accrued until the long-term average carbon stock is achieved in the first rotation. No more credits are accrued in subsequent rotations.

The remainder of the forests are pre-1990 forest land. Ponga Silva would have to meet a carbon liability if there was a change in landuse from forestry within these forests.

6. Managing environmental risk

6.1 Assessment of environmental effects

Refer to the Standard FSC Forest Management Plan for the full assessment of environmental effects.

6.2 Natural hazards

Natural hazards are disturbances that can be a risk to social and environmental values, and important ecosystem functions. The following natural hazards have been identified in the Ponga Silva Southern forests:

- Drought
  - The forests are susceptible to mild-moderate drought during a particularly dry summer/autumn in the Waiau catchment (O'Brien and Groveburn forests).
- Flooding/heavy rainfall events
  - The Southland and Otago low-lying landscape is susceptible to flooding, however the location of the forests on foothills reduces the risk of floodwater inundation. The forests are subject to occasional heavy rainfall events.
- Fire (see following section on fire)

Climate change predictions[4] identify average warming for the Southland and Otago regions of 0.5 to 1.0 °C by 2040. This may result in:

- Warmer average autumn temperatures.
- More 'heatwave days' (days over 25°C).
- Fewer frosts.
- A slight increase in annual rainfall, especially in winter, except in the Waiau catchment, which is predicted to receive less rainfall, particularly in summer.
- Heavy rain days (>50mm per day) will increase across all seasons, except the Waiau catchment which will likely have fewer heavy rain days.

[4] Southland climate change impact assessment (2018). National Institute of Water & Atmospheric Research Ltd.
https://niwa.co.nz/sites/default/files/Southland%20climate%20change%20report%202018.pdf

- Sea level is predicted to rise 0.2 to 0.3m by 2040.

These factors contribute to an overall risk of drought and flood in the future.

6.3 Erosion susceptibility: NES-CF ESC red zone

There is no NES-CF ESC red zone forest land within the estate.

6.4 Local infrastructure and community risk

The following table outlines key infrastructure and community assets in the vicinity of the forests, with a focus on their relationship to forestry operations and potential exposure to natural hazards. An assessment of natural hazard risks affecting infrastructure, forest resources, and neighbouring communities is provided in the Standard Forest Management Plan.

Castle Downs Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Nil			
Powerlines	Nil			
Neighbours	Nil			

Grove Burn Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Waimotu Road runs through centre of northern block. Grove Burn Road runs along northwestern boundary of southern block.	Windthrown trees, landslides or flooding could block the road and/or cause harm to road users.	Contact the district council to report any hazards affecting public roads.	Southland District Council Ph 0800 732 732

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Powerlines	Powerlines run through the centre of the northern block.	Windthrown trees or landslides could damage/break the powerlines and disrupt downstream users. Forest fire affecting powerlines and electricity supply to users.	Observe afforestation/replanting setbacks from powerlines in NES-CF and district plans. Contact the network provider to report any trees or landslides affecting powerlines. Emergency procedures for fire implemented. Compliance with FENZ fire prevention and management.	PowerNet Ph 0800 808 587
Neighbours	Dwelling near forest boundary on Grove Burn Road.	Windthrown trees could damage boundary fences and neighbouring properties. Fire spreading from forest to neighbouring properties, or vice versa.	Observe afforestation/replanting setbacks from boundaries in NES-CF and district plans. Emergency procedures for fire implemented. Compliance with FENZ fire prevention and management.	Google Maps Plus Code: WJ73+MPG Grove Burn

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Bushy Park Road runs along the eastern boundary.	Windthrown trees, landslides or flooding could block the road and/or cause harm to road users.	Contact the district council to report any hazards affecting public roads.	Southland District Council Ph 0800 732 732
Powerlines	Nil			
Neighbours	Nil			

Middle Mount Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Mount Trotters Road runs along southern boundary. Cees Road comes off Mount Trotters Road through the forest, then runs along northern boundary. Stenhouse Road runs along eastern boundary.	Windthrown trees, landslides or flooding could block the road and/or cause harm to road users.	Contact the district council to report any hazards affecting public roads.	Southland District Council Ph 0800 732 732
Powerlines	Nil			
Neighbours	Nil			

Monavae Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Nil			
Powerlines	Nil			
Neighbours	Nil			

O'Brien Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Nil			
Powerlines	Powerlines run near the northern boundary.	Windthrown trees or landslides could damage/break the powerlines and disrupt downstream users. Forest fire affecting powerlines and electricity supply to users.	Observe afforestation/replanting setbacks from powerlines in NES-CF and district plans. Contact the network provider to report any trees or landslides affecting powerlines.	PowerNet Ph 0800 808 587

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
			Emergency procedures for fire implemented. Compliance with FENZ fire prevention and management.	
Neighbours	Nil			

Opio Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Nil			
Powerlines	Nil			
Neighbours	Nil			

Pinnacle Pine Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Nil			
Powerlines	Nil			

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Neighbours	Nil			

Rugged Hills Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Nil			
Powerlines	Nil			
Neighbours	Nil			

Waitane Forest

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Public roads	Lawrence Road runs along part of the northern boundary of the southern block. Glencoe Highway runs along the southern boundary of the southern block.	Windthrown trees, landslides or flooding could block the road and/or cause harm to road users.	Contact the district council to report any hazards affecting public roads.	Southland District Council Ph 0800 732 732

Asset	Description	Forestry-specific impacts	Specific mitigations to reduce risk	Asset contact details
Powerlines	Nil			
Neighbours	Nil			

6.5 Pests and diseases

Plant / animal pest	Regional Pest Management Strategy (RPMS) Programme	
	Southland	Otago
Broom	Sustained control	Sustained control
Buddleia	Progressive containment	Organism of interest
Cotoneaster	Progressive containment	Progressive containment
Darwin's barberry	Progressive containment	Site-led
Gorse	Sustained control	Sustained control
Heather	Progressive containment	Organism of interest
Old Mans Beard	Progressive containment	Organism of interest
Spanish heath	Site-led	Organism of interest
Wilding conifers	Progressive containment*	Progressive containment
Ragwort	Sustained control	Sustained control
Possum	Sustained control	Site-led
Rabbit	Sustained control	Sustained control
Bennett's wallaby	Exclusion	Eradication
Rook	Exclusion	Eradication

* Good Neighbour Rule also applies. See Southland Wilding Conifer Management Area (Map 4, Appendix 1 of the Southland RPMP).

6.5.1 Pest Control programme

Pest issues specific to the estate are detailed below. Refer to the section on High Conservation Value Forests (HCVF) for specific pest management within the HCVF areas.

Darwin's barberry (particularly Rugged Hills)

- Survey forests annually
- Remove any found: spray, or cut/paste stump
- Intensive survey around any individuals found

Wilding conifers (particularly Middle Mount, O'Brien, Opio, Groveburn, Rugged Hills west boundary)

- Survey forest boundary annually
- Removal of any found, in consultation with landowner
- Spray, or cut/paste stump

Broom, gorse, ragwort (particularly gorse in Hokonui, Middle Mount, O'Brien, Opio and Waitane)

- Survey forest boundary annually
- Based on survey, decide on a timeline to create 10 m weed free buffer along boundaries where neighbouring block is relatively weed free
- Control along roadsides as required to maintain access

Possum, rabbit

- Survey forests every 5 years
- Apply control when limits are exceeded
  - Possum: 5% Residual Trap Catch (RTC)
  - Rabbit: level 3 modified McLean Scale

Deer, pigs, sheep

- Control when sign becomes apparent, particularly during the establishment phase of the plantation
- Ground shooting via forest access permit system

6.6 Fire

The Ponga Silva Southern Forests fall within the Fire and Emergency NZ (FENZ) Southland and Otago Zones[5]. The Southland and Otago fire plans reference the thresholds for fire restriction levels and the coordination of forestry risk management responses between forest owners/managers and FENZ.

[5] https://www.fireandemergency.nz/outdoor-and-rural-fire-safety/fire-plans/

7. Commercial Plantation Estate

7.1 Current crop

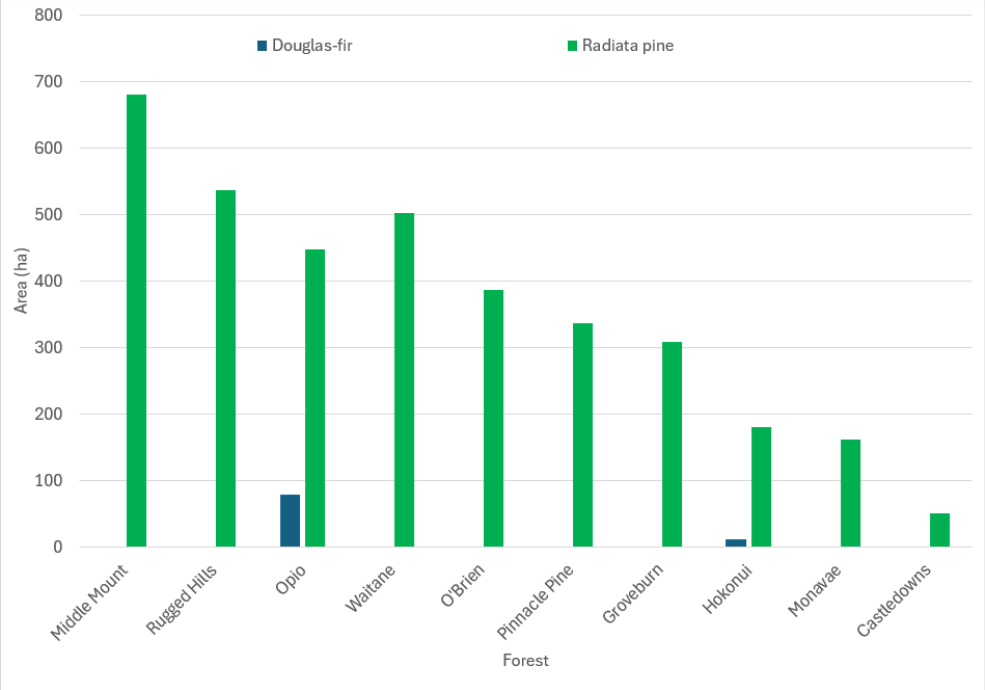
The predominant plantation species is *Pinus radiata*. This species exhibits excellent growth and structural quality in the region, has a proven record (including in relation to disease risk), has large local domestic processing demand, and as well, has proximity to an export port.

There is also 90.3 ha of Douglas-fir (PSMEN) in Opio planted for timber.

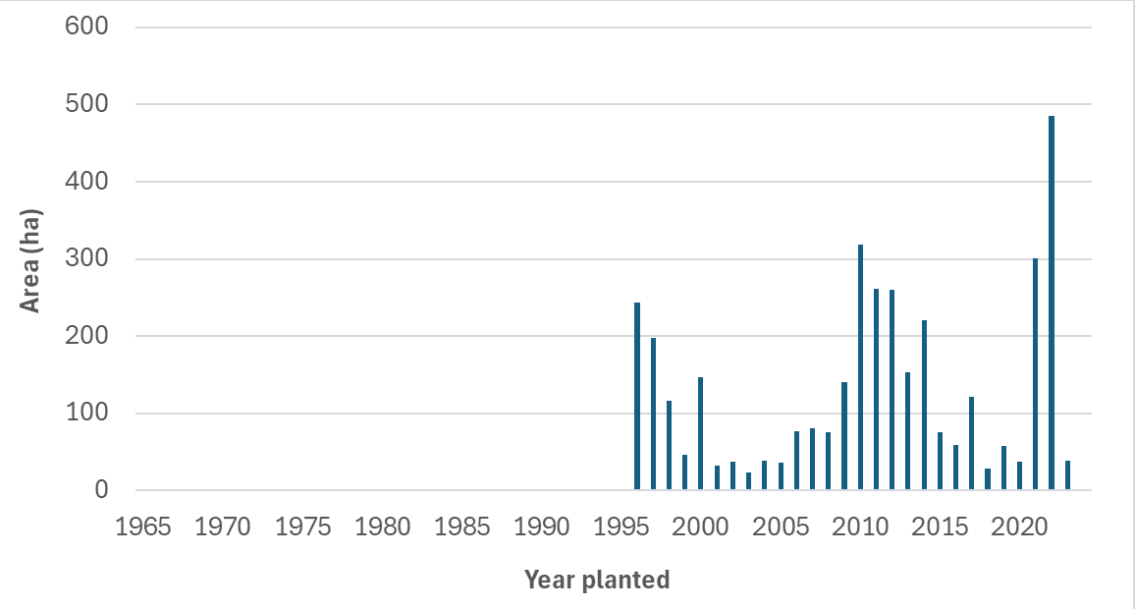
Other species are being planted primarily for non-timber purposes such as riparian protection, erosion control and amenity purposes. Existing stands include:

- 1.2 ha of poplars in Groveburn planted in 2023 for riparian protection.
- 0.3 ha stand of 1965 planted redwood at Waitane
- 0.2 ha macrocarpa in Middle Mount planted in 1999

Recent plantings at Grove Burn and Middle Mount have been with control pollinated radiata pine. Future replanting will mainly be with control pollinated radiata pine. Except for high productive sites close to domestic sawmills, most of the future crop will be managed on a framing regime.



Productive forest area by species



Age class distribution

7.2 Tree nutrition

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

8. Harvesting Strategy

8.1 Harvesting strategy

Topography allows for a relatively equal mix of hauler and ground-based harvesting.

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

- Waitane has approximately 113 hectares of mature forest to be harvested in the next five years, with a target harvest age of 27. These blocks will be harvested using ground-based extraction.
- Middle Mount has approximately 600 hectares of mature forest to be harvested. This program will be undertaken over the next 5+ years and will primarily be hauler extraction.

The planned harvest for radiata is listed below:

Annual harvest (ha)	2025	2026	2027	2028	2029
Middle Mount Forest	50	100	100	100	100
Waitane Forest			65	11	37

8.2 Infrastructure

The majority of the roading upgrades required for the upcoming Waitane harvest were completed during the 2024 harvest. There will be minor maintenance requirements as well as upgrades to stub roads.

Middle Mount will require several kilometres of road upgrades and new roads to prepare the forest for the upcoming harvest.

9. Indigenous Biodiversity

9.1 Natural indigenous vegetation reserves

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

Appendix 7 shows the ecological workplan for the Ponga Silva Southern forests.

Natural indigenous vegetation reserve areas by protection category

Forest	Special	Important	Limited	Total (ha)
Castle Downs		0.7	3.8	**4.5**
Groveburn		212.2	4	**216.2**
Hokonui		19.9	5.5	**25.4**
Middle Mount	8.3			**8.3**
Monavae			3.7	**3.7**
O'Brien		244.9	32.8	**277.7**
Opio	1.0	55.9	43.3	**100.2**
Pinnacle Pine	2.7	5	5.2	**12.9**
Rugged Hills		13.9	6.4	**20.3**
Waitane		110.6	2.1	**112.7**
Total (ha)	**12.0**	**661.8**	**108.1**	781.9

Protection granted to the natural indigenous vegetation reserves

Forest	HCV	NZ Forest Accord	Management Plan	Total (ha)
Castle Downs			4.5	**4.5**
Groveburn		207.6	8.6	**216.2**
Hokonui		18.2	7.2	**25.4**
Middle Mount	8.3			**8.3**
Monavae			3.7	**3.7**
O'Brien		237.7	40	**277.7**
Opio	1.0	33.3	65.9	**100.2**
Pinnacle Pine	2.7	5	5.2	**12.9**
Rugged Hills		9.4	10.9	**20.3**
Waitane		110.6	2.1	**112.7**
Total (ha)	**12.0**	**621.8**	**148.1**	**781.9**

9.2 High Conservation Value (HCV) Forests

Using ecological assessment data from 2018 and 2024 Wildland Consultants Ltd reports, the following HCVFs have been identified:

Forest	Stand	Key value	HCV category	Area (ha)
Middle Mount	MIDM-TUSS-01	Volcanic boulderfields are a historically rare ecosystem and is TEC 1 and 2 category.	HCV 3	8.3 ha
Opio	OPIM-WETL-24	High quality indigenous wetland vegetation, contiguous with Southland HVA (TRTA12 Morley Stream Peatland). Also TEC 2 category.	HCV 3	1.0 ha
Pinnacle Pine	PINN-PRIF-03 PINN-PRIF-04	Last remaining examples of mature silver beech remnants in the Southland region.	HCV 3	2.7 ha

The HCV management plan is in appendix 6.

9.3 Biodiversity values by forest

Forest	Flora	Fauna present or highly likely
Castle Downs	**Overview** Secondary indigenous forest types with a high proportion of weeds, generally in poor condition. However much of the area falls in the Acutely Threatened land environments with <10% remaining nationwide.	**Birds** • Kārearea/eastern falcon (At Risk- Recovering) **Fish** • Longfin eel (At Risk- Declining) • Freshwater mussel (At Risk- Declining) • Gollum galaxias (Threatened- Nationally Vulnerable) • Southern flathead galaxias (Threatened- Nationally Vulnerable) • Kōura (At Risk- Declining) **Lizards** • Southern grass skink (At Risk- Declining) • Green skink (At Risk- Declining) • Cryptic skink (At Risk- Declining) • Korero gecko (At Risk- Declining)

Forest	Flora	Fauna present or highly likely
Groveburn	**Overview** Areas of lowland silver beech forest types such as (mataī)-(southern rātā)/tawhai, kamahi-tawhai. Small areas of broadleaf forest and scrub in gully bottoms, and patches of (lancewood)/*Coprosma dumosa*-marbleleaf scrubland. **Threatened flora** • *Lagenophora barkeri* (At Risk–Declining) • Pirita/scarlet mistletoe *Peraxilla colensoi* (At Risk- Declining) **Ecological values** • The tawhai/silver beech forest fits into the category of 'lowland silver beech forest' in Appendix 2 of the Southland Regional Policy Statement (Environment Southland 2017), which is a Threatened forest habitat type in Southland.	**Bats** • Long-tailed bat (Threatened-Nationally Critical) **Birds** • Kārearea/eastern falcon (At Risk- Recovering) • Tōrea/South Island pied oystercatcher (At Risk-Declining) **Fish** • Longfin eel (At Risk- Declining) • Kōura (southeast) (At Risk-Declining) • Gollum galaxias (Threatened-Nationally Vulnerable) **Herpetofauna** • Tussock skink (At Risk-Declining) • Cryptic skink (At Risk-Declining)

Forest	Flora	Fauna present or highly likely
Hokonui	**Overview** Mostly regenerating secondary indigenous scrub (*Coprosma propinqua, C. dumosa*, broadleaf, manuka, inaka (*Dracophyllum longifolium*), bracken). Gorse present but not likely to hinder transition to indigenous forest. **Ecological values** • One large reserve covers much of the headwater of Dunsdale Stream, contiguous with DOC Hokonui Forest.	**Fish** • Longfin eel (At Risk-Declining) • Kōaro (At Risk- Declining) • Freshwater mussel (At Risk-Declining) • Kōura (At Risk- Declining)

Forest	Flora	Fauna present or highly likely
Middle Mount	**Overview** Highest point within the forest is known as Middle Mount Hill, a basalt peak with volcanic boulder fields- a historically rare ecosystem. This is the sole natural indigenous vegetation area in the forest. The associated unique vegetation type is narrow-leaved snow tussock, matagouri, *Coprosma crassifolia* and exotic grassland. **Threatened flora** • *Carmichaelia petriei* (At Risk- Declining) • *Gingidia grisea* (At Risk- Naturally Uncommon) • *Scandia geniculata* (At Risk- Declining)	**Birds** • Kārearea/eastern falcon (At Risk- Recovering) • Tōrea/South Island pied oystercatcher (At Risk- Declining) **Fish** • Longfin eel (At Risk- Declining) **Herpetofauna** • Kōrero gecko (At Risk- Declining) • Tussock skink (At Risk- Declining) • Herbfield skink (At Risk- Declining)

Forest	Flora	Fauna present or highly likely
Monavae	**Overview** Early successional vegetation with weeds present. Mostly grass and tussockland (*Carex*, copper tussock, *Astelia nervosa*, *Coprosma*, bracken, harakeke and mānuka).	**Birds** • Eastern falcon (At Risk- Recovering) **Fish** • Longfin eel (At Risk- Declining) • Lamprey (Threatened- Nationally Vulnerable) • Kōura (At Risk- Declining) • Gollum galaxias (Threatened- Nationally Vulnerable)

Forest	Flora	Fauna present or highly likely
O'Brien	**Overview** Large areas of tawhairauriki/mountain beech forest, and tawhai/silver beech forest, with sparse/absent understorey. Manuka-marbleleaf forest and treeland fragments in gullies. Small rock outcrops and cliffs are located in several areas across the hills. Marsh and swamp wetlands adjacent to the main stream comprise wīwī, *Glyceria* sp., and indigenous sedges (*Carex* spp.). **Threatened flora** • Pirita/yellow mistletoe *Alepis flavida* (At Risk-Declining) • *Olearia lineata* (At Risk-Declining) **Ecological values** • Adjacent to Dean Forest Conservation area and Fiordland National Park. • The kōwhai within the (kōwhai)-(tī kouka)/puka-Scotch broom-*Coprosma* spp. treeland are uncommon. • The tawhairauriki/mountain beech forest fits into the category of 'mountain beech forest', and the tawhai/silver beech forest fits into the category of 'lowland silver beech forest' in Appendix 2 of the Southland Regional Policy Statement (Environment Southland 2017), which are At Risk forest habitat types in Southland. • The wīwī-*Glyceria* sp.-*Carex* spp. sedgeland is an example of 'swamps (flaxland) and marshes', which is a Threatened wetland habitat type in Southland (Environment Southland 2017).	**Bats** • Long-tailed bat (Threatened-Nationally Critical) **Birds** • Pārera/grey duck (Threatened-Nationally Vulnerable) • Pīhoihoi/NZ pipit (At Risk-Declining) • Kākāriki/yellow-crowned parakeet (At Risk- Declining) • Koekoeā/long-tailed cuckoo (Threatened- Nationally Vulnerable) • Kārearea/New Zealand falcon (Threatened) • Tōrea/South Island pied oystercatcher (At Risk-Declining) • Kawau/black shag (At Risk-Relict) **Fish** • Longfin eel (At Risk- Declining) • Southern flathead galaxias (Threatened- Nationally Vulnerable) • Kōura (southeast) (At Risk-Declining) **Herpetofauna** • Kōrero gecko (At Risk- Declining) • Tussock skink (At Risk- Declining) • Cryptic skink (At Risk- Declining) • Tākitimu gecko (Threatened-Nationally Vulnerable)

Forest	Flora	Fauna present or highly likely
Opio	**Overview** Several patches of tawhai/silver beech forest (*c.* 25-30 metres tall) within gullies. One small area of makomako forest, other gullies of scrub height makomako-marbleleaf-kōtukutuku. In the southwest of the forest is a predominantly-indigenous copper tussock/*Carex geminata* marsh wetland. **Ecological values** • The tawhai/silver beech forest fits into the category of 'lowland silver beech forest' in Appendix 2 of the Southland Regional Policy Statement (Environment Southland 2017), which is a Threatened forest habitat type in Southland. This vegetation type is also representative of 'montane mohoua-silver beech forest', which has been reduced to 5% of its original extent within Taringatura Ecological District (Harding 1999). • The copper tussock/*C. geminata* sedgeland fits into the category 'swamps (flaxland) and marshes' in Appendix 2 of the Southland Regional Policy Statement (Environment Southland 2017), which is a Threatened wetland habitat type in the Southland Region. It is also contiguous with a Southland High Value Area wetland.	**Fish** • Longfin eel (At Risk- Declining) • Gollum galaxias (Threatened- Nationally Vulnerable) • Southern flathead galaxias (Threatened- Nationally Vulnerable) • Kōura (southeast) (At Risk- Declining) **Herpetofauna** • Tussock skink (At Risk- Declining) • Cryptic skink (At Risk- Declining) • Herbfield skink (At Risk- Declining)

Forest	Flora	Fauna present or highly likely
Pinnacle Pine	**Overview** Mostly regenerating secondary indigenous shrublands with a high proportion of weeds. Two small sites of tall silver beech forest (1.4 ha and 0.9 ha). **Threatened flora** • Mistletoe *Peraxilla colensoi* (At Risk- Declining) possible **Ecological values** • Two silver beech remnants appear to be last remaining in the local area. • Reserves located on Acutely Threatened land with <10% indigenous cover left.	**Fish** • Longfin eel (At Risk- Declining) • Freshwater mussel (At Risk- Declining) • Gollum galaxias (Threatened- Nationally Vulnerable) • Southern flathead galaxias (Threatened- Nationally Vulnerable) • Kōura (At Risk- Declining)

Forest	Flora	Fauna present or highly likely
Rugged Hills	**Overview** Mostly regenerating secondary indigenous shrub and fernland, typically with kōhūhū-*Coprosma*-broadleaf. Early successional stage with high proportion of exotic species. **Ecological values** • Reserves located on Acutely Threatened land with <10% indigenous cover left.	**Fish** • Longfin eel (At Risk- Declining) • Freshwater mussel (At Risk- Declining) • Gollum galaxias (Threatened- Nationally Vulnerable) • Southern flathead galaxias (Threatened- Nationally Vulnerable) • Kōura (At Risk- Declining)

Forest	Flora	Fauna present or highly likely
Waitane	**Overview** Some tall kahikatea forest present, +/- kamahi, totara, kowhai, fuchsia. Remainder mostly regenerating indigenous shrubland. **Ecological values** • Several reserves contiguous with DOC Hokonui Forest. • Kahikatea and matai uncommon in the area.	**Fish** • Longfin eel (At Risk- Declining) • Torrentfish (At Risk- Declining) • Gollum galaxias (Threatened-Nationally Vulnerable) • Lamprey (Threatened-Nationally Vulnerable) • Kōura (At Risk- Declining)

9.4 Rare and threatened species management

The general management of these species is shown below. Specific ecological management activities are outlined in the Ecological Workplan (appendix 7). iNaturalist[6] (Biodiversity in Plantations) will be used to record sightings of important indigenous fauna or flora discovered in the forest.

Biodiversity group	Management response
Flora	Indigenous vegetation will benefit from: the exclusion of domestic stock within the natural areas, possum, feral pig and goat control, and careful harvesting along the boundary of indigenous vegetation. Specific ecological weed control is also prescribed in the ecological workplan (appendix 7).
Birds	Birds identified as present or highly likely within the Ponga Silva Southern forests will benefit from reserve/riparian protection and wider pest control implemented across the forests. This includes the eastern falcon, identified within the estate. The NZFOA New Zealand Falcon Management Guide: Plantation Forestry[7], and maintain sightings reporting system is to be followed.
Bats	Long-tailed bats are possibly present in some the forests as suitable bat habitat is present, and populations are known nearby. Targeted pre-harvest surveys are recommended. Populations will benefit from wider pest control, and riparian and reserve protection implemented across the forests.

[6] https://www.inaturalist.org/projects/biodiversity-in-plantations
[7] https://www.wingspan.co.nz/PDF/Forestry-Management-Protocols-final.pdf

Biodiversity group	Management response
Lizards	Herpetofauna identified as present or highly likely within the estate will benefit from wider pest control, and riparian and reserve protection implemented across the forests.
Fish	Fish identified as present or highly likely within the estate will benefit from riparian protection measures applied during forestry operations. Note specific spawning restrictions (NES-CF Fish Spawning Indicator tool[8]).

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

10. Other Special Values: Everything but the timber

10.1 Public Access

Please refer to the Standard FMP for public access categories and descriptions. Public access maps are included in appendix 8.

Public Land

Castle Downs Forest

- There is no public land adjoining the forest.

Groveburn Forest

- Adjoins formed legal roads Grove Burn and Waimotu Roads.
- Adjoins an unformed legal road along the northeastern boundary of the southern block.
- A Public Access Easement connects Groveburn Forest from its north-west corner and the end of the legal road (an extension of Grove Burn Road) to Lindsay Ecological Area some 3.3km to the north.

Hokonui Forest

- Adjoins formed legal road Bushy Park Road.
- Adjoins unformed legal roads from the end of Bushy Park Road to the Hokonui Forest Conservation Area, to the west and south.
- Adjoins unformed legal road in the northwest corner of the block, providing access through the forest to the Hokonui Forest Conservation area.
- The Hokonui Forest Conservation Area is adjacent to the forest to the south and west.

Middle Mount Forest

- Adjoins formed legal roads Mount Trotters, Stenhouse and Cees Road.
- Adjoins unformed legal roads along parts of the Pleasant River along the northern boundary.

Monavae Forest

- There is no public land adjoining the forest.

O'Brien Forest

- Adjoins the Monowai River Marginal Strip
- Adjoins the Fiordland National Park and the Dean Forest Conservation Area.

Opio Forest

- Adjoins formed legal road Heenan Road.
- Adjoins unformed legal road on the southern boundary which extends from formed legal road Beaumont Road.

Pinnacle Pine

- There is no public land adjoining the forest.

Rugged Hills

- There is no public land adjoining the forest.

Waitane

- Adjoins formed legal road Glencoe Highway on the southern boundary.
- Adjoins unformed legal road along northern boundary, near Hedgehope Stream tributary.
- Adjoins unformed legal road that runs through forest near Melford Downs.
- Adjoins partially unformed legal road along northern boundary of southern block.
- Adjoins unformed legal road from south-west corner to southern boundary, extension of formed legal road McKay Road.

10.2 Recreation

Please refer to the Standard FMP for more information on landowner managed public access.

The Ponga Silva CNI forests are usually open for recreation. Access to the privately owned forest areas is managed through the PF Olsen forest access permit system. For information on how to apply for a permit, please phone the PF Olsen Dunedin Office phone number (03 453 6819).

Anyone who accesses the estate is expected to abide by the intent of the Outdoor Access Code and signage or barriers at access points and within the forest.

Closures will apply during times of high fire risk, any force majeure state and during forestry operations over private forestry land

10.3 Non-Timber Forest Products

There are no FSC certified non-timber forest products [9] from the Ponga Silva Southern forests.

[9] 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

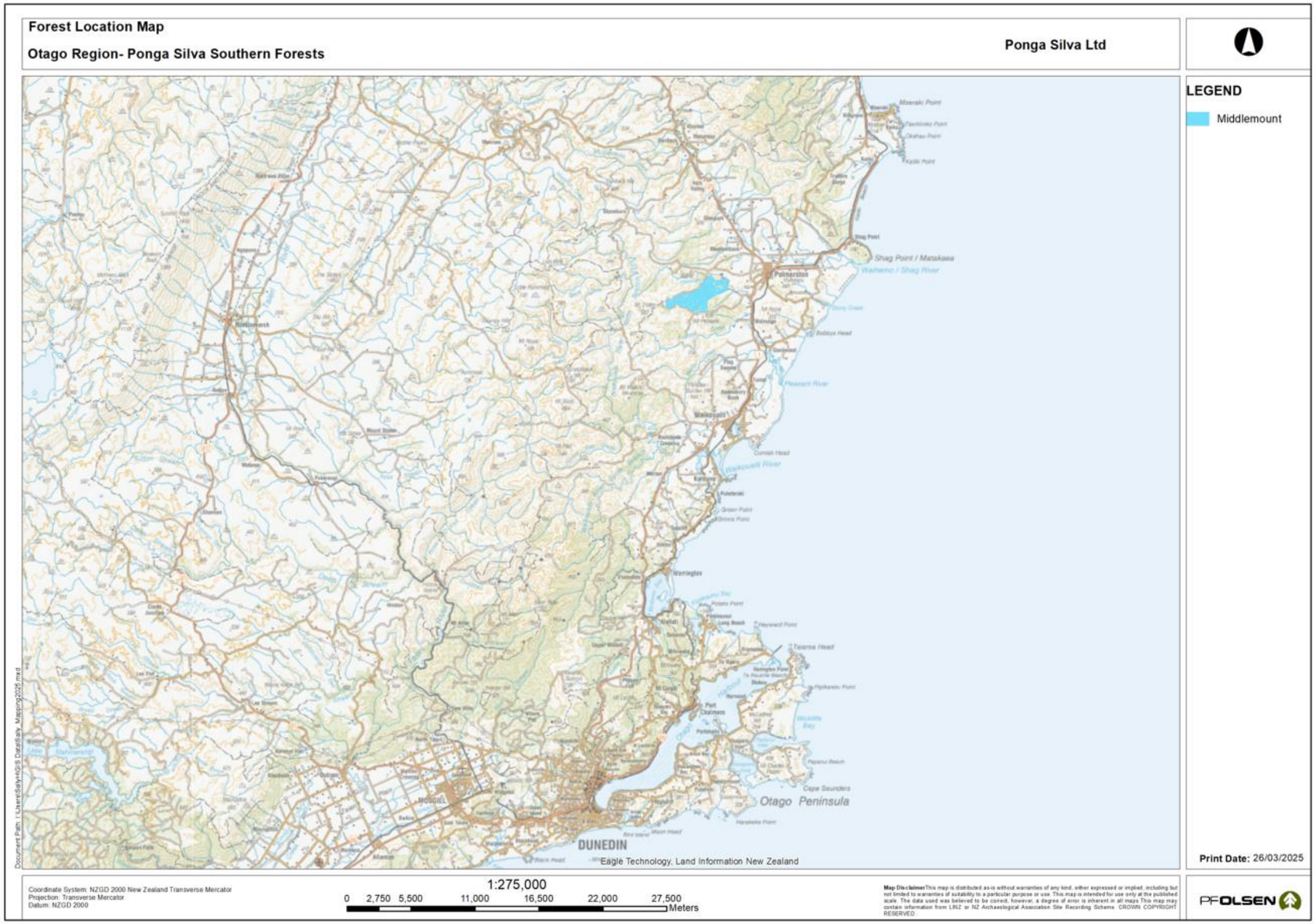
11.1 Plan changes & reviews

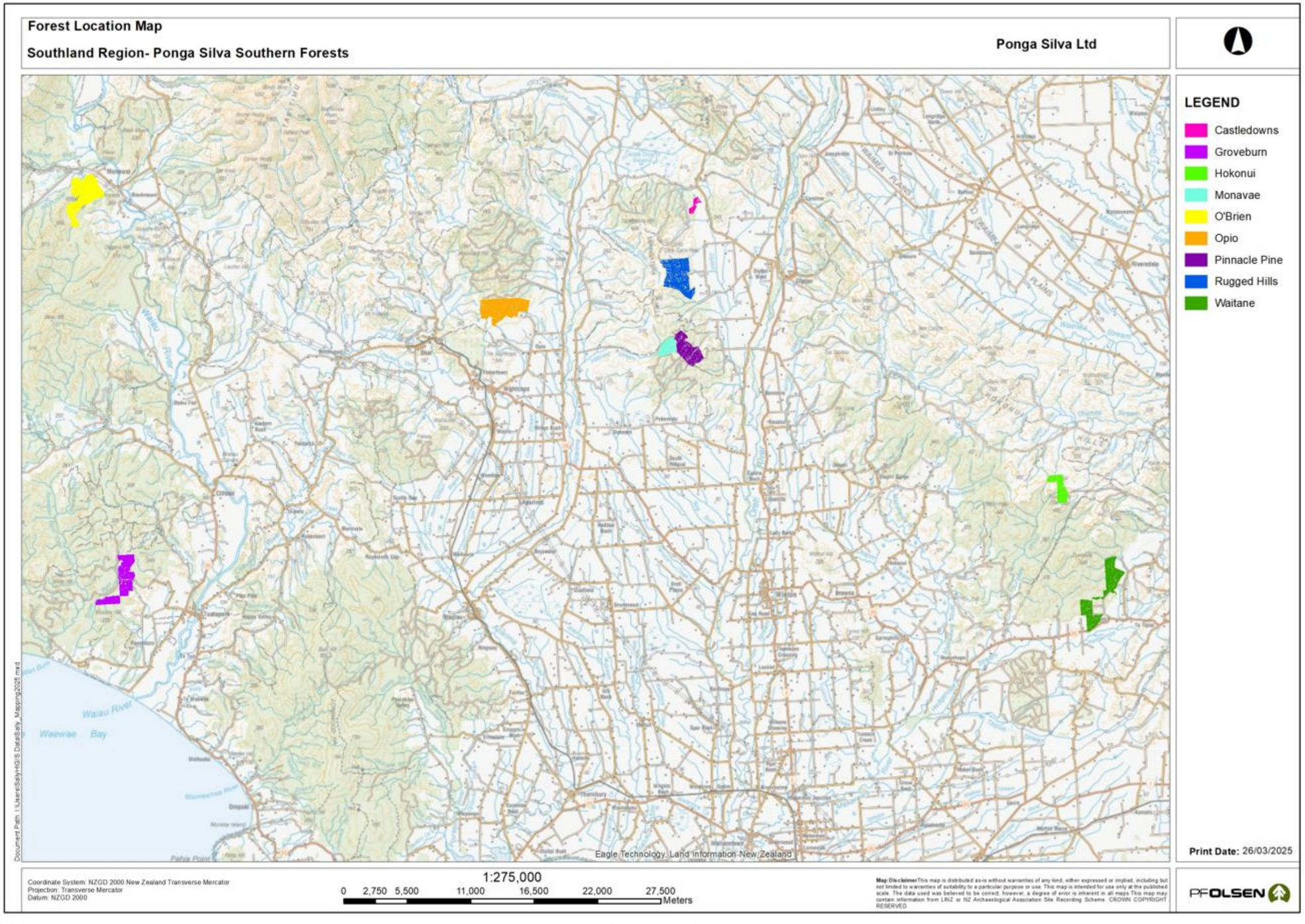
The next major review date for this plan is February 2030 (5 years).

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

Change	Date	Section/Page
Added old man's beard and cotoneaster into pest table, and details of wilding conifer management area.	2/05/2025	S6.5
Added details of PAE and unformed legal road adjoining Groveburn and Waitane Forest.	5/06/2025	10.1
Amended Public Access maps to improve legend symbology.	12/06/2025	Appendix 8
Updated Local infrastructure and community risk section to include forestry-specific impacts and mitigations required under 10.9.	5/08/2025	6.4

Appendix 1: Forest Location Map




Forest Location Map
Southland Region- Ponga Silva Southern Forests
Ponga Silva Ltd
LEGEND
Castledowns
Groveburn
Hokonui
Monavae
O'Brien
Opio
Pinnacle Pine
Rugged Hills
Waitane
Waiau River
Waimrae Bay
Eagle Technology, Land Information New Zealand
Print Date: 26/03/2025
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
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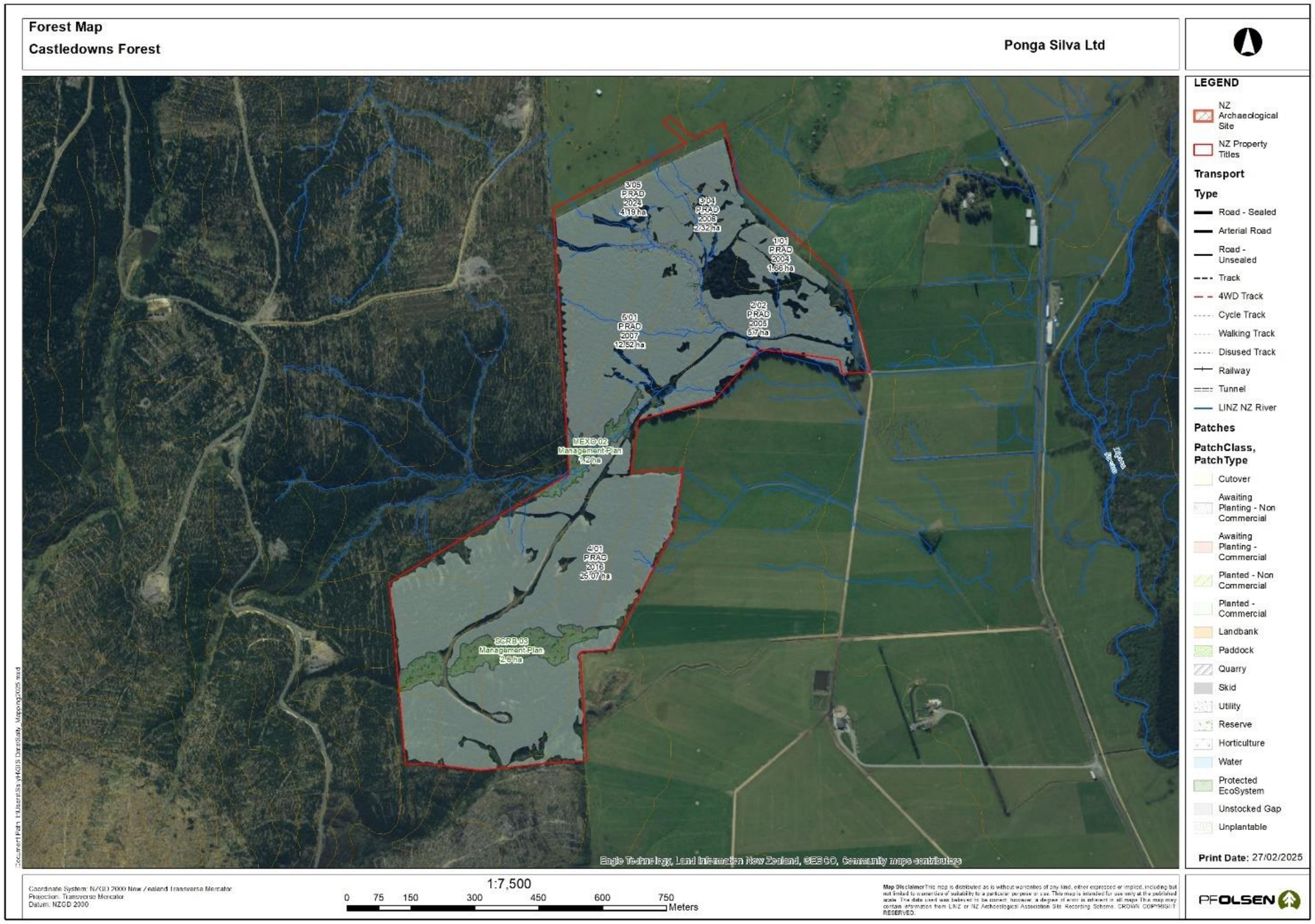
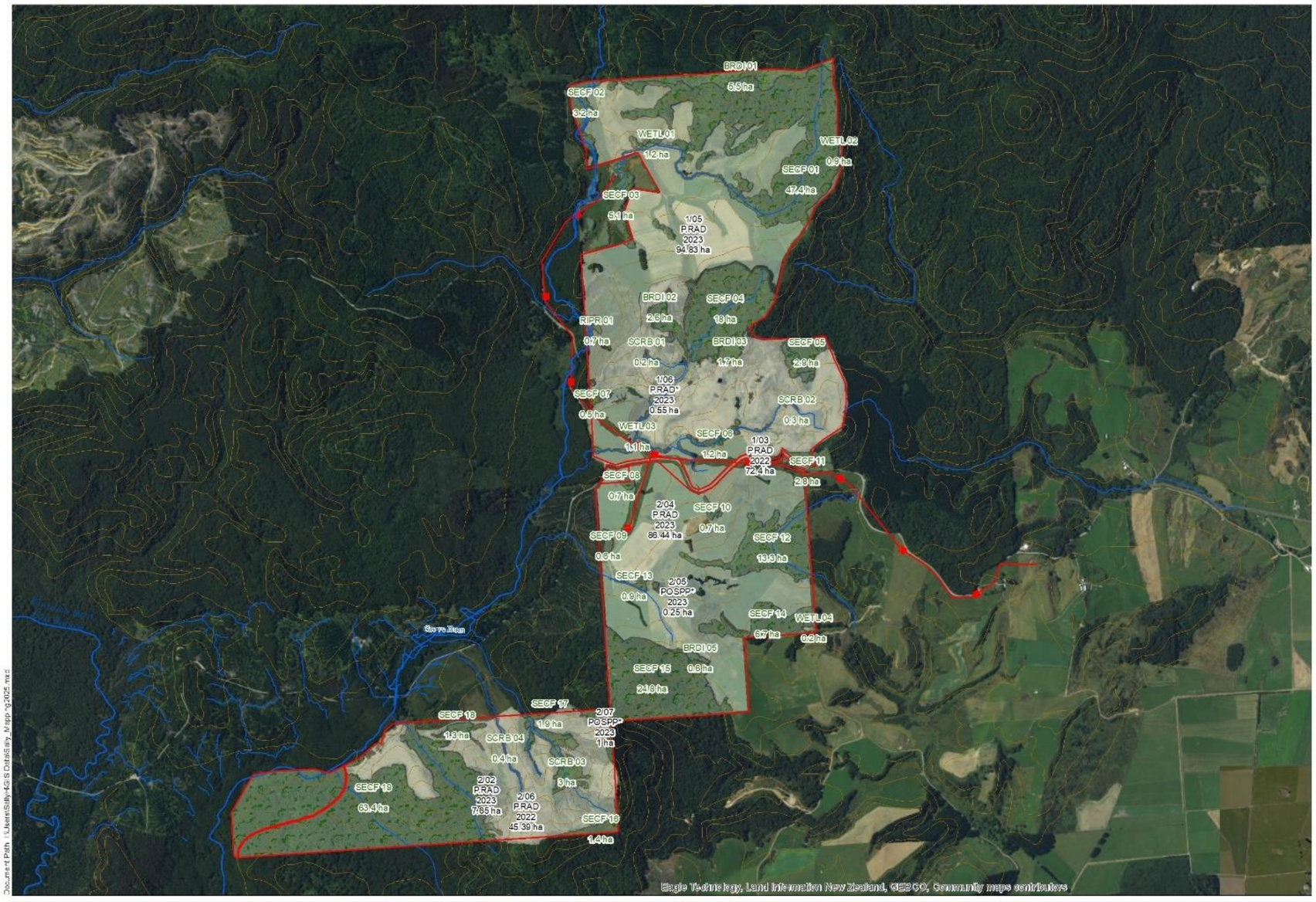
Meters
Map Disclaimer: This map is distributed as-is without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. This map is intended for use only at the published scale. The data used was believed to be correct, however, a degree of error is inherent in all maps.This map may contain information from LINZ or NZ Archaeological Association Site Recording Scheme. CROWN COPYRIGHT RESERVED

Appendix 2: Forest Maps



Forest Map
Groveburn Forest
Ponga Silva Ltd



LEGEND

- NZ Archaeological Site
- NZ Property Titles

Transport

Type

- Road - Sealed
- Arterial Road
- Road - Unsealed
- Track
- 4WD Track
- Cycle Track
- Walking Track
- Disused Track
- Railway
- Tunnel
- LINZ NZ River

Patches

PatchClass, PatchType

- Cutover
- Awaiting Planting - Non Commercial
- Awaiting Planting - Commercial
- Planted - Non Commercial
- Planted - Commercial
- Landbank
- Paddock
- Quarry
- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

1:20,000
0 200 400 800 1,200 1,600 2,000 Meters

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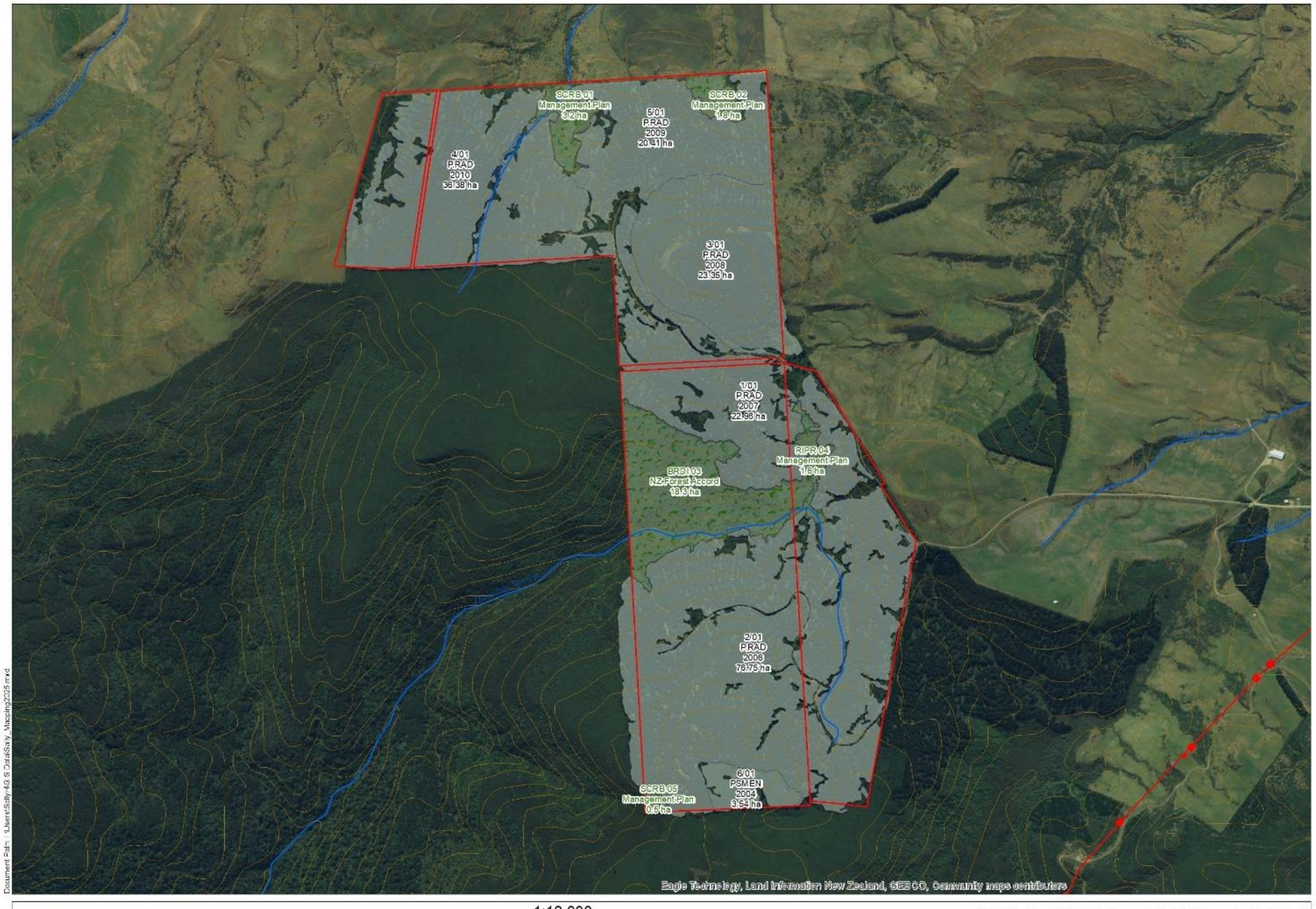
Forest Map
Hokonui Forest

Ponga Silva Ltd



LEGEND

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- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

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Coordinate System: NZGD 2000 New Zealand Transverse Mercator
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Datum: NZGD 2000

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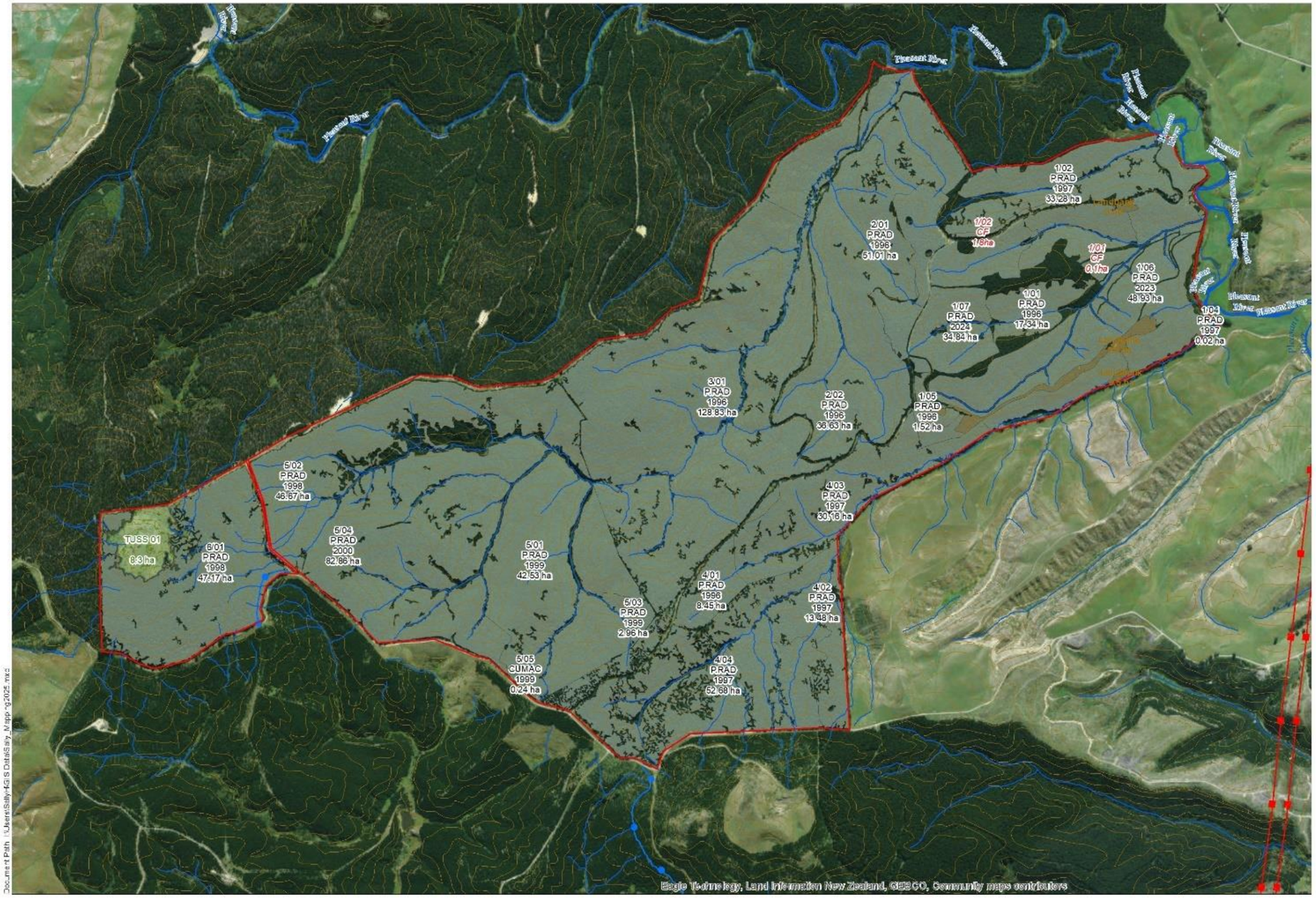
Forest Map

Middlemount Forest

Ponga Silva Ltd



LEGEND

- NZ Archaeological Site
- NZ Property Titles

Transport

Type

- Road - Sealed
- Arterial Road
- Road - Unsealed
- Track
- 4WD Track
- Cycle Track
- Walking Track
- Disused Track
- Railway
- Tunnel
- LINZ NZ River

Patches

PatchClass, PatchType

- Cutover
- Awaiting Planting - Non Commercial
- Awaiting Planting - Commercial
- Planted - Non Commercial
- Planted - Commercial
- Landbank
- Paddock
- Quarry
- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

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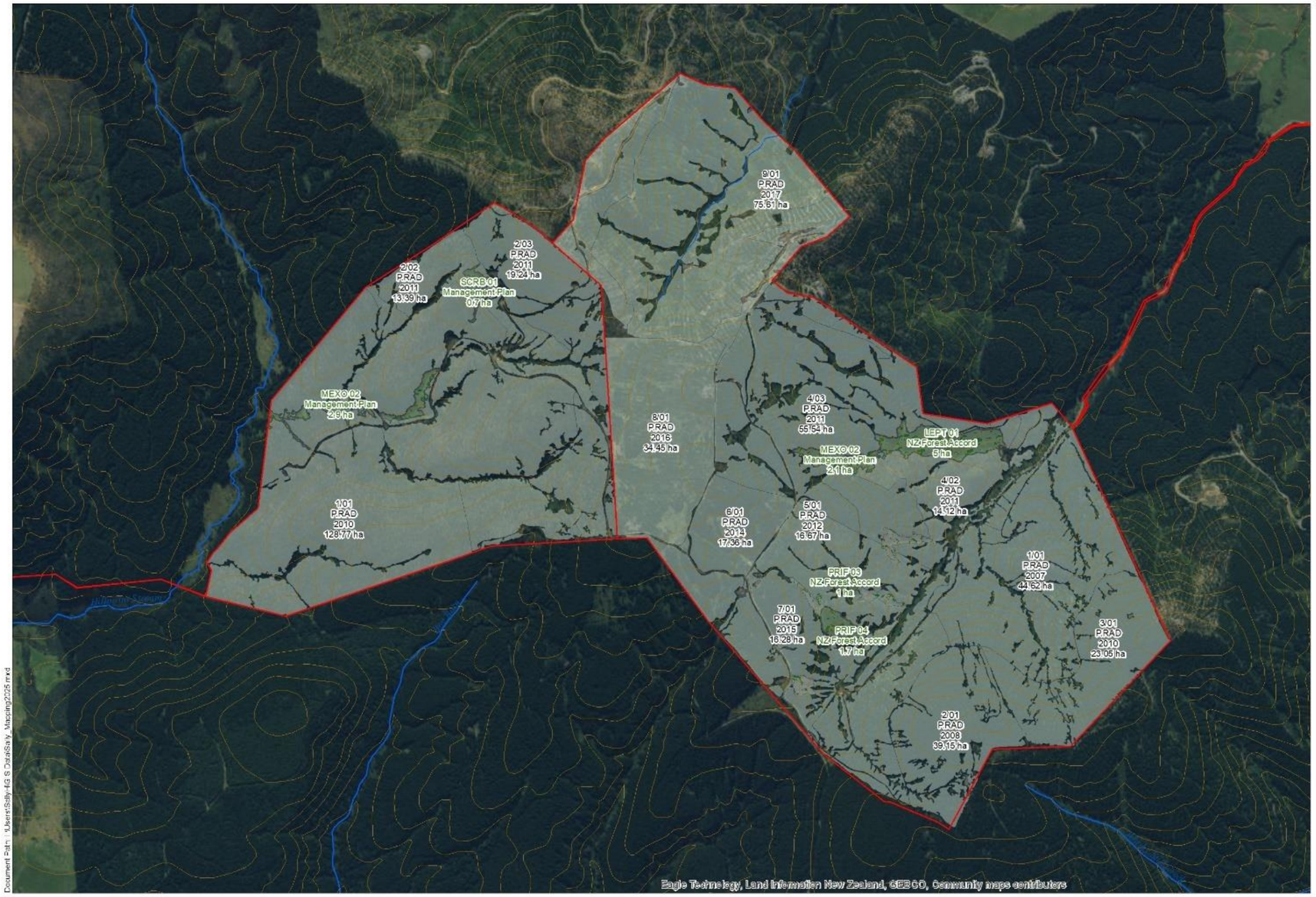
Forest Map

Monavae and Pinnacle Pine Forests — **Ponga Silva Ltd**



LEGEND

- NZ Archaeological Site
- NZ Property Titles

Transport

Type

- Road - Sealed
- Arterial Road
- Road - Unsealed
- Track
- 4WD Track
- Cycle Track
- Walking Track
- Disused Track
- Railway
- Tunnel
- LINZ NZ River

Patches

PatchClass, PatchType

- Cutover
- Awaiting Planting - Non Commercial
- Awaiting Planting - Commercial
- Planted - Non Commercial
- Planted - Commercial
- Landbank
- Paddock
- Quarry
- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

Document Path: ...\Albert\Shilly-fd\S Data\Sally_Mapping\2025.mxd

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

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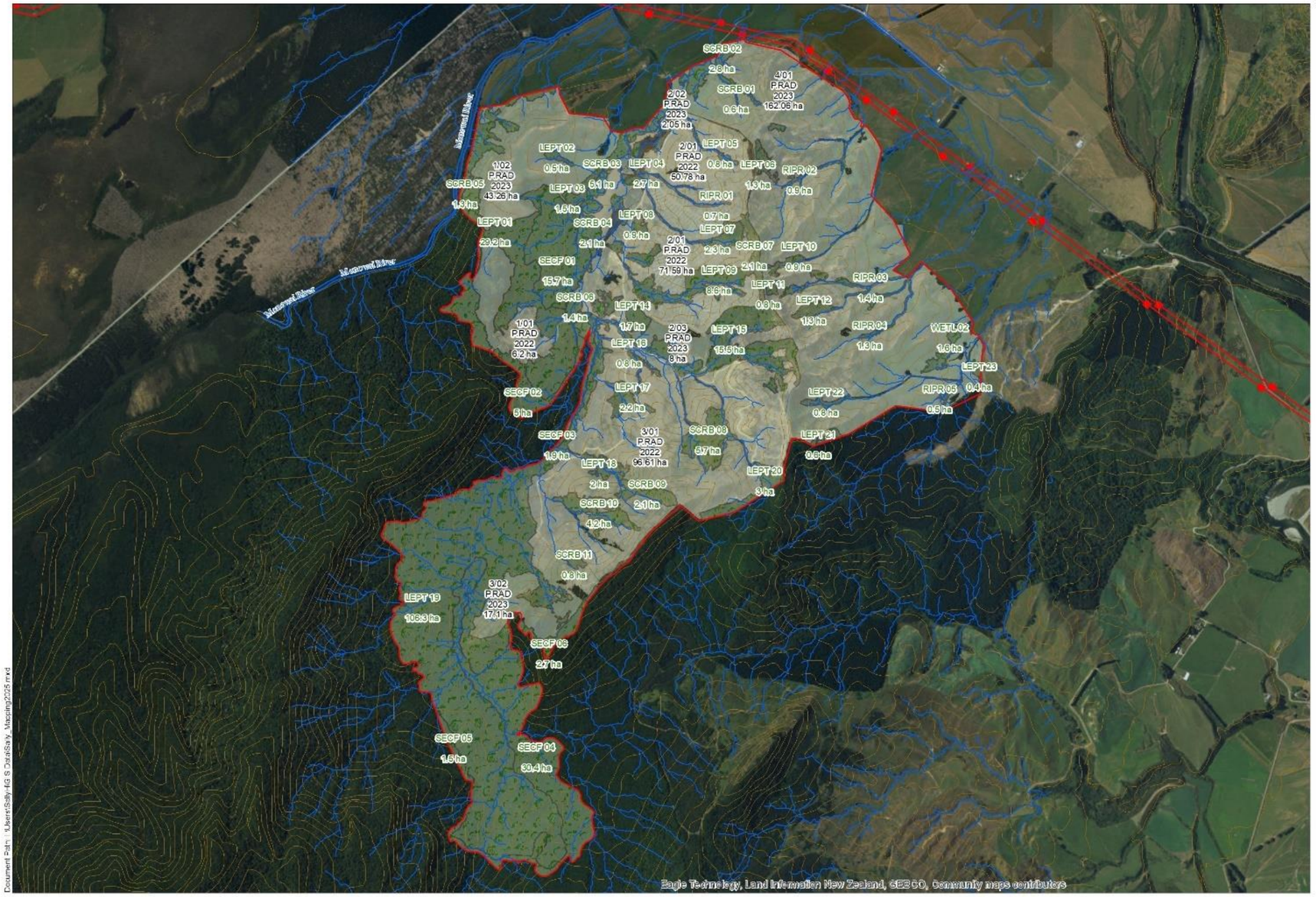
PFOLSEN

Forest Map
O'Brien Forest

Ponga Silva Ltd



LEGEND

- NZ Archaeological Site
- NZ Property Titles

Transport

Type

- Road - Sealed
- Arterial Road
- Road - Unsealed
- Track
- 4WD Track
- Cycle Track
- Walking Track
- Disused Track
- Railway
- Tunnel
- LINZ NZ River

Patches

PatchClass, PatchType

- Cutover
- Awaiting Planting - Non Commercial
- Awaiting Planting - Commercial
- Planted - Non Commercial
- Planted - Commercial
- Landbank
- Paddock
- Quarry
- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

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Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

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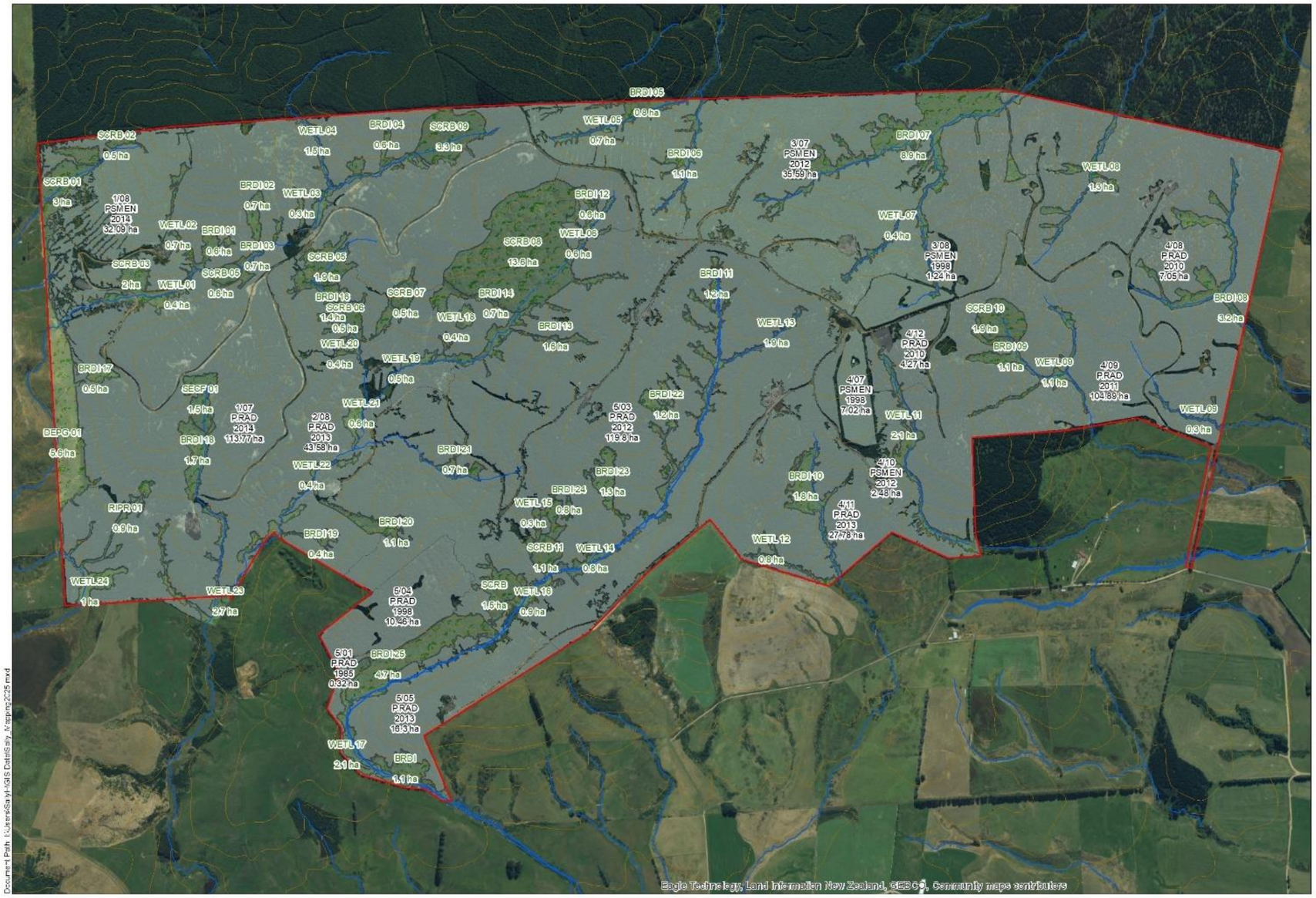
Forest Map
Opio Forest
Ponga Silva Ltd



LEGEND

- NZ Archaeological Site
- NZ Property Titles

Transport

Type

- Road - Sealed
- Arterial Road
- Road - Unsealed
- Track
- 4WD Track
- Cycle Track
- Walking Track
- Disused Track
- Railway
- Tunnel
- LINZ NZ River

Patches

PatchClass, PatchType

- Cutover
- Awaiting Planting - Non Commercial
- Awaiting Planting - Commercial
- Planted - Non Commercial
- Planted - Commercial
- Landbank
- Paddock
- Quarry
- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

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Datum: NZGD 2000

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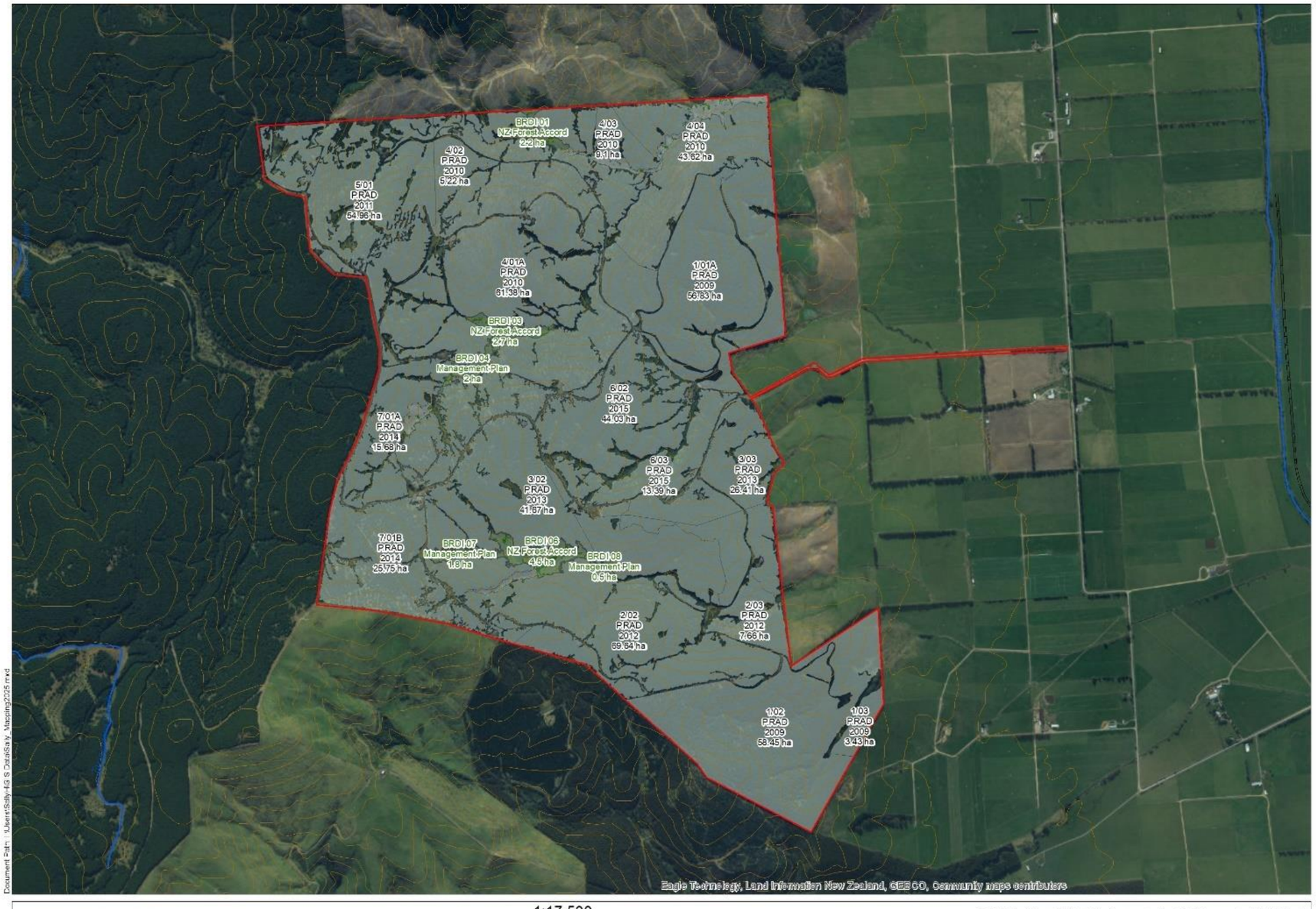
Forest Map

Rugged Hills Forest **Ponga Silva Ltd**



LEGEND

- NZ Archaeological Site
- NZ Property Titles

Transport

Type

- Road - Sealed
- Arterial Road
- Road - Unsealed
- Track
- 4WD Track
- Cycle Track
- Walking Track
- Disused Track
- Railway
- Tunnel
- LINZ NZ River

Patches

PatchClass, PatchType

- Cutover
- Awaiting Planting - Non Commercial
- Awaiting Planting - Commercial
- Planted - Non Commercial
- Planted - Commercial
- Landbank
- Paddock
- Quarry
- Skid
- Utility
- Reserve
- Horticulture
- Water
- Protected EcoSystem
- Unstocked Gap
- Unplantable

Print Date: 27/02/2025

Document Path: \\Jkent\Sally-fs\S Data\Sally_Mapping\2025.mxd

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

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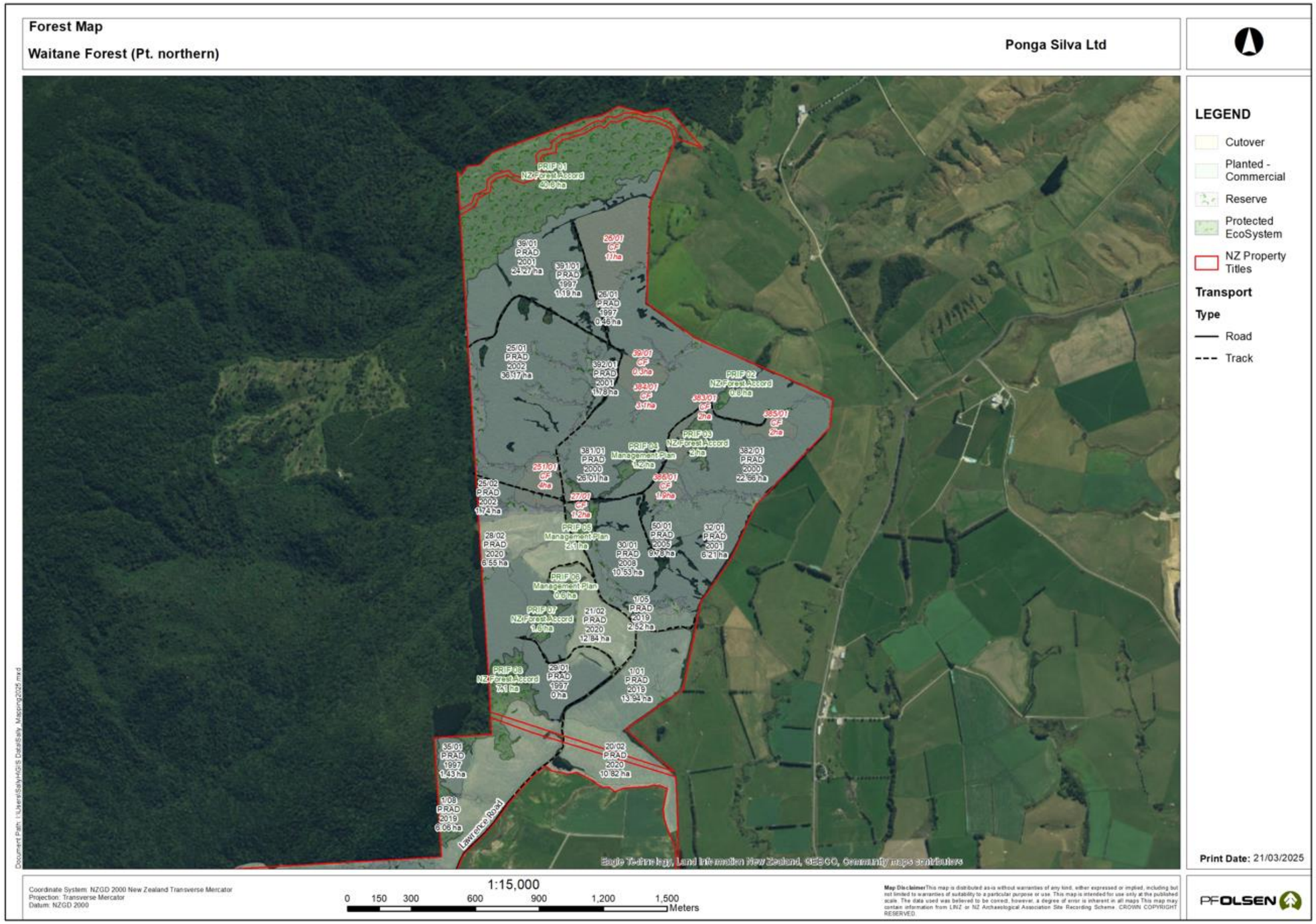
0 175 350 700 1,050 1,400 1,750 Meters


Forest Map
Waitane Forest (Pt. northern)
Ponga Silva Ltd
LEGEND
Cutover
Planted - Commercial
Reserve
Protected EcoSystem
NZ Property Titles
Transport
Type
Road
Track
PRIF 01 NZ Forest Accord 40.8 ha
38/01 PRAD 2001 24.27 ha
26/01 CF 1.1ha
38/101 PRAD 1997 1.19 ha
26/01 PRAD 1997 0.46 ha
25/01 PRAD 2002 36.17 ha
392/01 PRAD 2001 1.78 ha
39/01 CF 0.3ha
394/01 CF 3.1ha
PRIF 02 NZ Forest Accord 0.8 ha
383/01 CF 2ha
385/01 CF 2ha
PRIF 03 NZ Forest Accord 2 ha
PRIF 04 Management Plan 1.2 ha
381/01 PRAD 2000 28.01 ha
382/01 PRAD 2000 22.66 ha
251/01 CF 4ha
388/01 CF 1.9ha
25/02 PRAD 2002 1.74 ha
27/01 CF 1.2ha
PRIF 05 Management Plan 2.1 ha
28/02 PRAD 2020 6.55 ha
50/01 PRAD 2005 9.78 ha
32/01 PRAD 2001 6.21 ha
30/01 PRAD 2008 10.53 ha
PRIF 06 Management Plan 0.8 ha
PRIF 07 NZ Forest Accord 1.6 ha
21/02 PRAD 2020 12.84 ha
1/05 PRAD 2019 2.52 ha
PRIF 08 NZ Forest Accord 7.1 ha
29/01 PRAD 1997 0 ha
1/01 PRAD 2019 13.94 ha
35/01 PRAD 1997 1.43 ha
20/02 PRAD 2020 10.82 ha
1/08 PRAD 2019 6.06 ha
Lawrence Road
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors
Print Date: 21/03/2025
Document Path: I:\Users\Sally\HGIS Data\Sally_Mapping\2025.mxd
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
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Meters
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Forest Map

Waitane Forest (Pt. southern) **Ponga Silva Ltd**

LEGEND

- NZ Archaeological Site
- Cutover
- Planted - Commercial
- Reserve
- Protected EcoSystem
- NZ Property Titles

Transport

Type

- Road
- Track

Print Date: 21/03/2025

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

1:15,000
0 150 300 600 900 1,200 1,500 Meters

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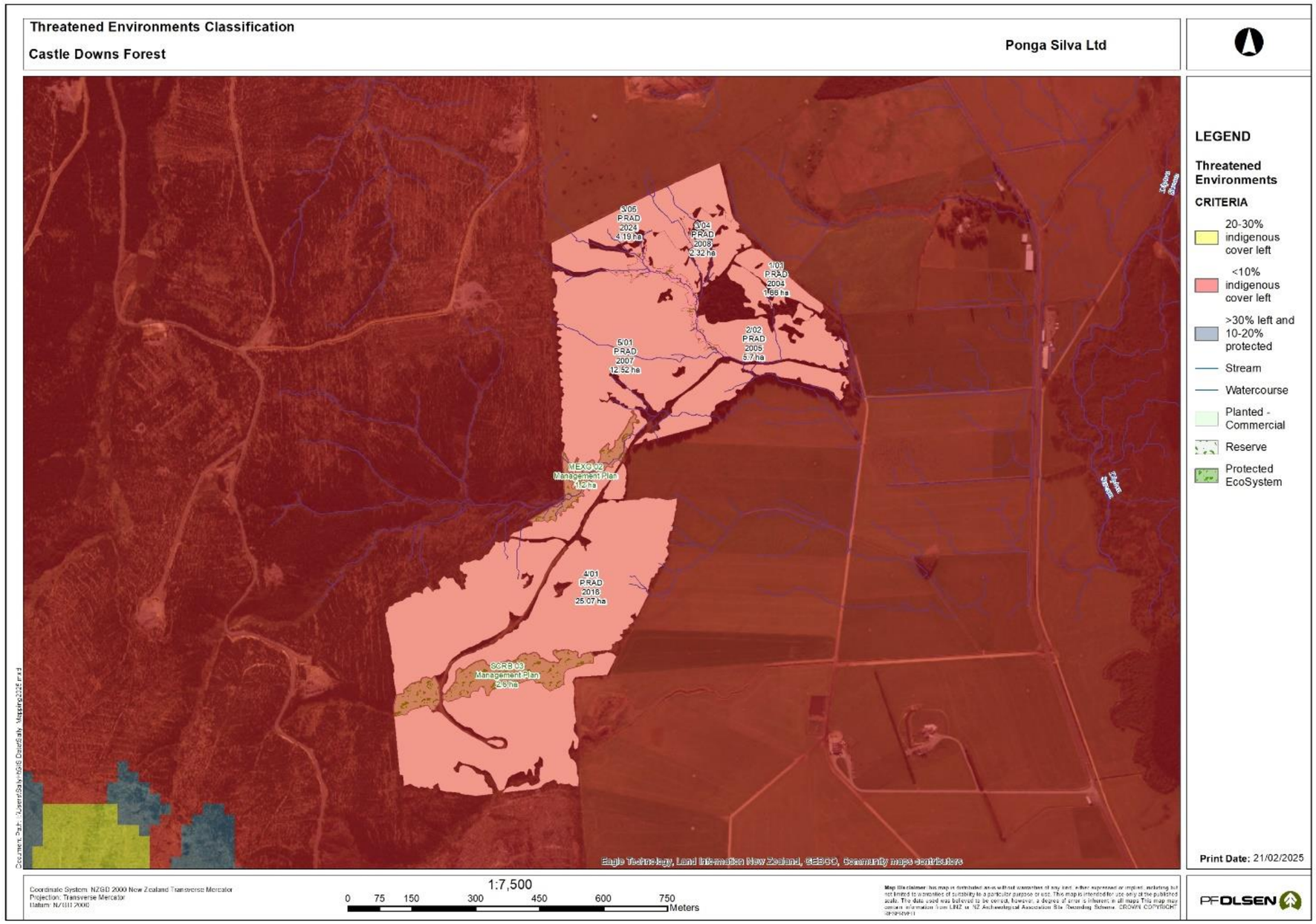
Appendix 3: Legal descriptions

Forest	Legal description
Castle Downs	Fee Simple, 1/1, Lot 2 and Lot 7 Deposited Plan 5453 and Part Lot 2 Deposited Plan 4891, 652,682 m2
Groveburn	Fee Simple, 1/1, Lot 2 Deposited Plan 592694 and Section 5 Block VI Alton Survey District, 2,662,533 m2 Fee Simple, 1/1, Lot 1 Deposited Plan 2939, 1,408,913 m2 Fee Simple, 1/1, Section 14 Block VI Alton Survey District, 12,627 m2 Fee Simple, 1/1, Section 14 Block V Alton Survey District, 1,271,143 m2
Hokonui	Fee Simple, 1/1, Part Section 17 Block I Waimumu Hundred, 392,545 m2
	Fee Simple, 1/1, Section 19 and Section 32 Block I Waimumu Hundred, 1,821,085 m2
Middle Mount	Fee Simple, 1/1, Part Lot 1 Deposited Plan 3379 and Part Lot 1 Deposited Plan 3380, 8,029,570 m2
Monavae	Fee Simple, 1/1, Lot 1 Deposited Plan 13028, 1,850,600 m2
O'Brien	Fee Simple, 1/1, Lot 2 Deposited Plan 604244, 6,910,700 m2
Opio	Fee Simple, 1/1, Section 1 Survey Office Plan 12173 and Lot 1 Deposited Plan 14871, 6,697,289 m2
Pinnacle Pine	Fee Simple, 1/1, Section 522 Block XXIX Taringatura Survey District, 4,000,000 m2
Rugged Hills	Fee Simple, 1/1, Part Section 430 Block XXIII Taringatura Survey District, 6,378,184 m2
Waitane	Fee Simple, 1/1, Lot 2, 4 Deposited Plan 418576 and Part Lot 42-43 Deposited Plan 177, 6,376,691 m2

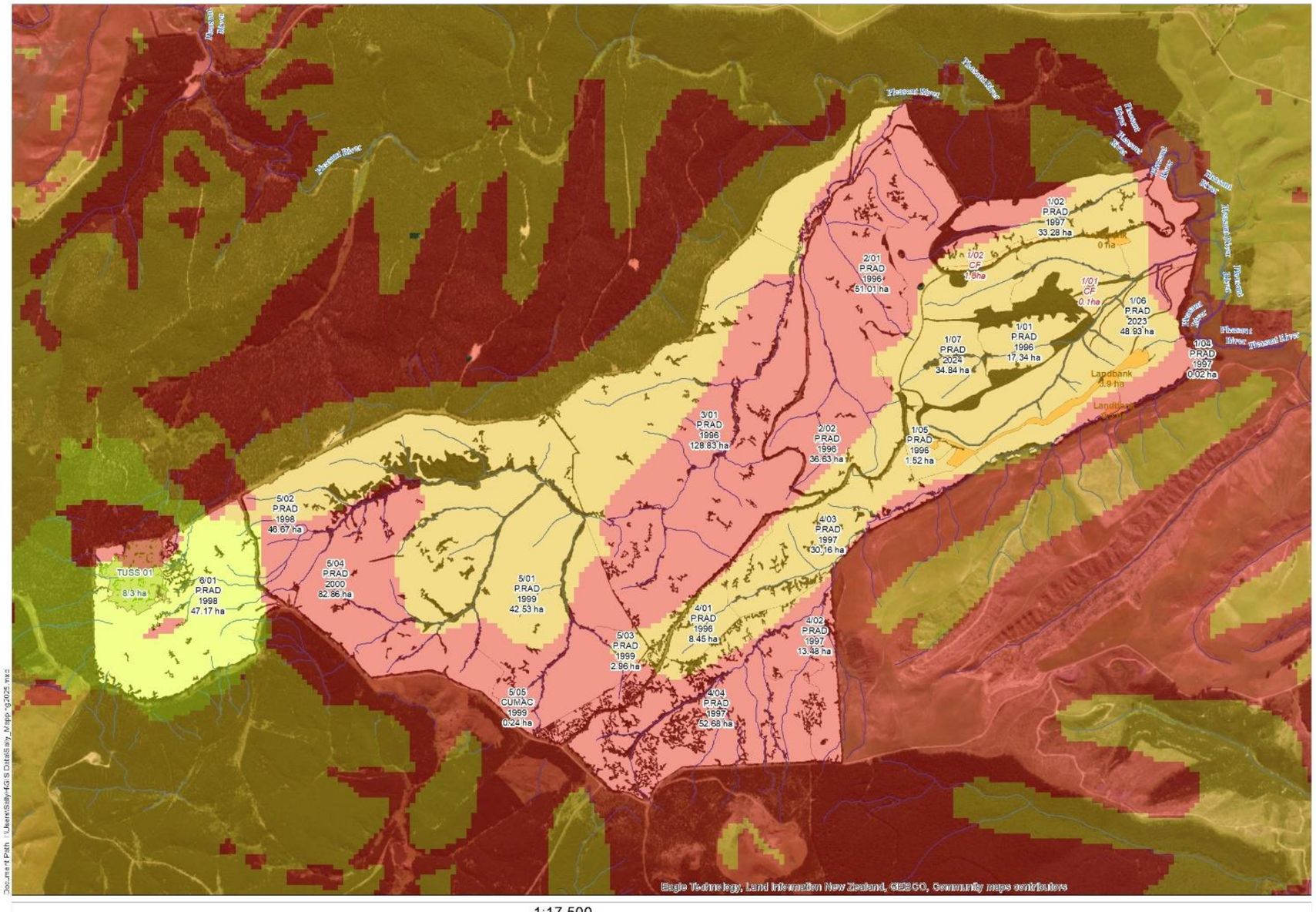
Appendix 4: TEC 1 and 2 Maps



Threatened Environments Classification

Middlemount Forest

Ponga Silva Ltd



LEGEND

Threatened Environments

CRITERIA

- 10-20% indigenous cover left
- 20-30% indigenous cover left
- <10% indigenous cover left
- River
- Watercourse
- Cutover
- Planted - Commercial
- Landbank
- Protected EcoSystem

Print Date: 21/02/2025

Document Path: I:\Users\Sally-Ann\GIS Data\Sally_Mapping2025.mxd

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

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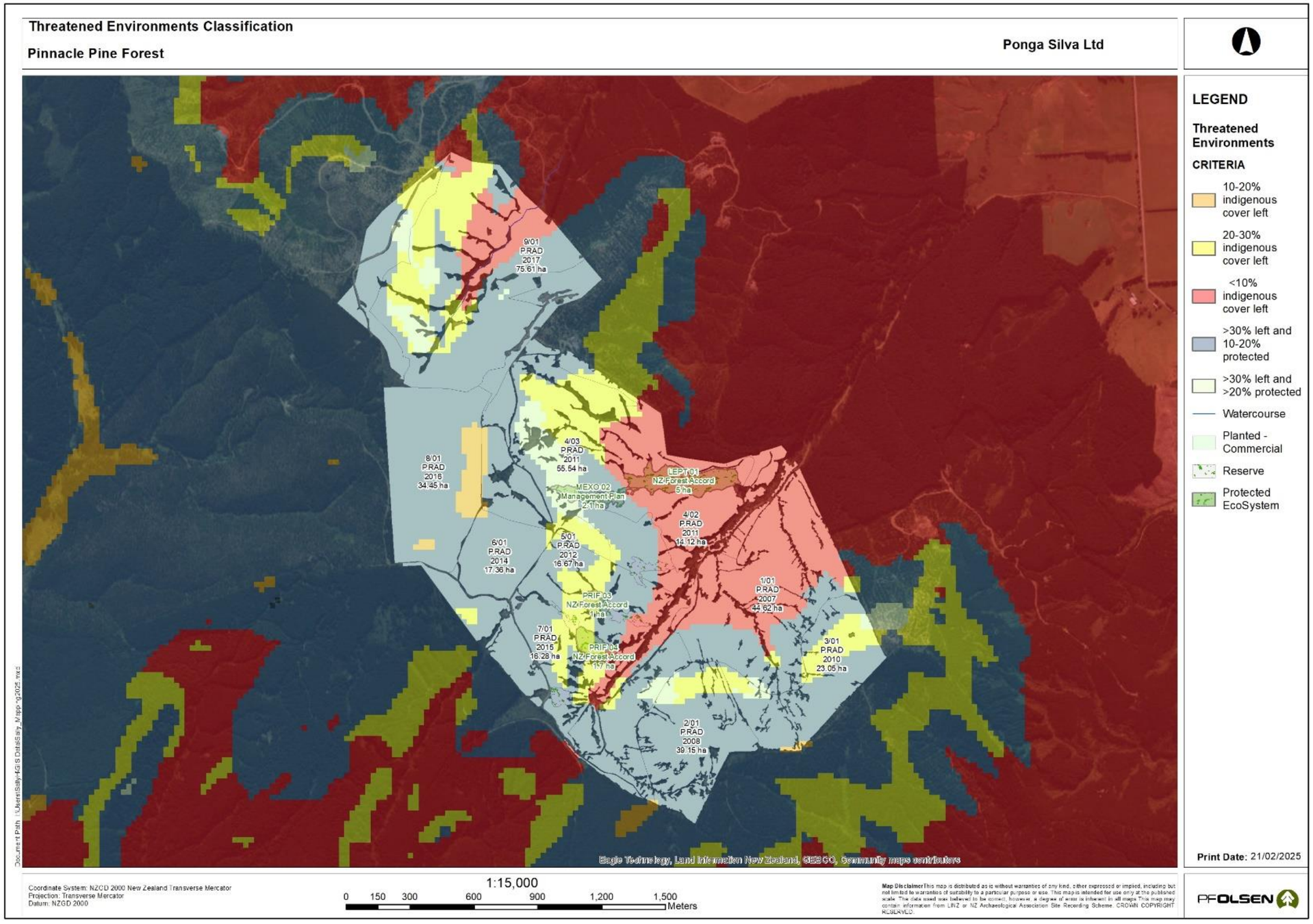
Threatened Environments Classification
Pinnacle Pine Forest
Ponga Silva Ltd
9/01 PRAD 2017 75.61 ha
8/01 PRAD 2016 34.45 ha
4/03 PRAD 2011 55.54 ha
LEPT 01 NZ Forest Accord 5 ha
MEXO 02 Management Plan 2.1 ha
4/02 PRAD 2011 14.12 ha
5/01 PRAD 2012 16.67 ha
6/01 PRAD 2014 17.36 ha
1/01 PRAD 2007 44.62 ha
PRIF 03 NZ Forest Accord 1 ha
7/01 PRAD 2015 16.28 ha
PRIF 04 NZ Forest Accord 17 ha
3/01 PRAD 2010 23.05 ha
2/01 PRAD 2008 39.15 ha
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors
LEGEND
Threatened Environments
CRITERIA
10-20% indigenous cover left
20-30% indigenous cover left
<10% indigenous cover left
>30% left and 10-20% protected
>30% left and >20% protected
Watercourse
Planted - Commercial
Reserve
Protected EcoSystem
Print Date: 21/02/2025
Document Path: I:\Users\Sally-ArGIS Data\Sally_Maps-gc\2025.mxd
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
1:15,000
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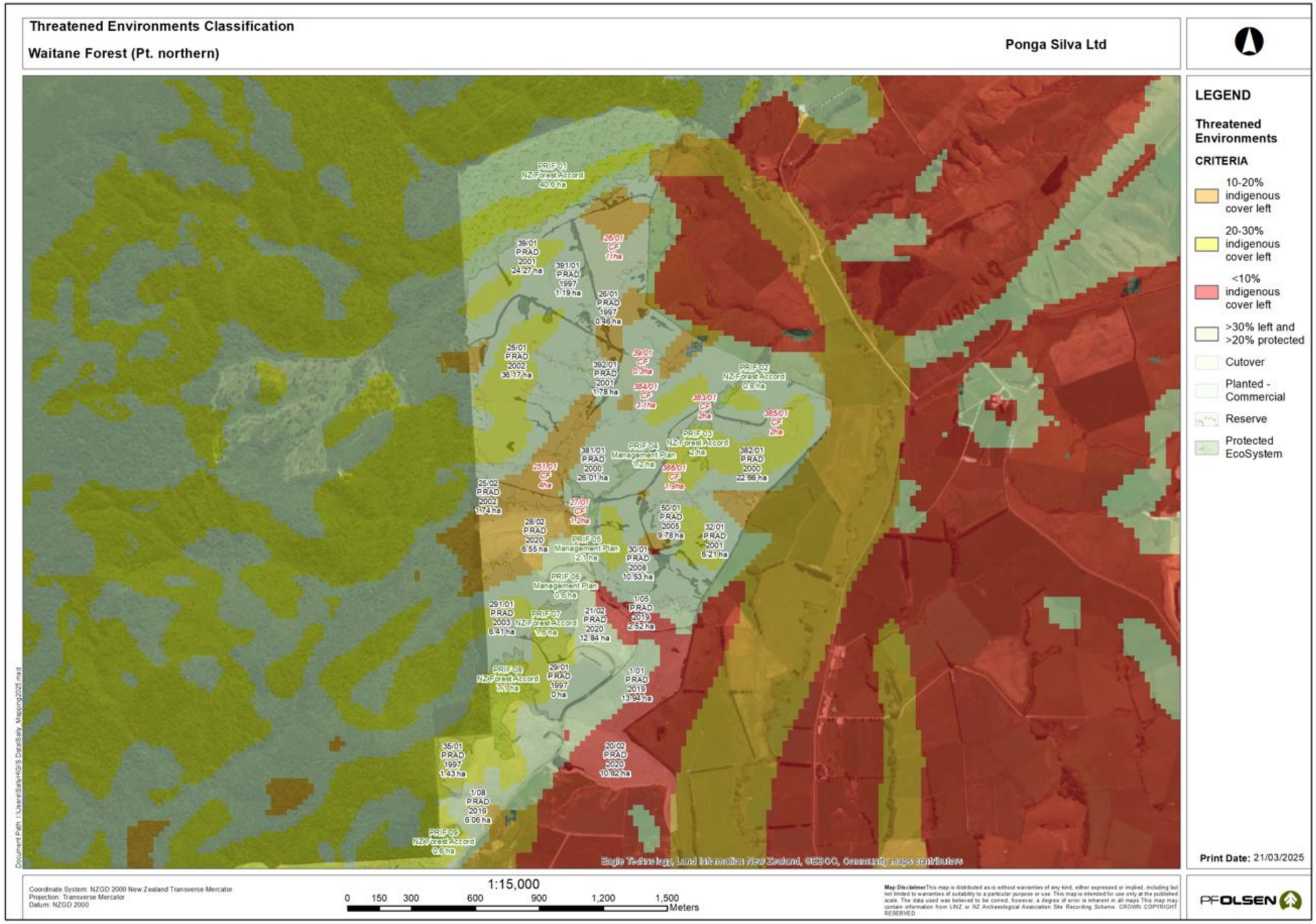
Meters
Map Disclaimer: This map is distributed as is without warranties of any kind, either expressed or implied, including but not limited to warranties of suitability to a particular purpose or use. This map is intended for use only at the published scale. The data used was believed to be correct, however, a degree of error is inherent in all maps. This map may contain information from LINZ or NZ Archaeological Association Site Recording Scheme. CROWN COPYRIGHT RESERVED.


Threatened Environments Classification
Waitane Forest (Pt. northern)
Ponga Silva Ltd
LEGEND
Threatened Environments
CRITERIA
10-20% indigenous cover left
20-30% indigenous cover left
<10% indigenous cover left
>30% left and >20% protected
Cutover
Planted - Commercial
Reserve
Protected EcoSystem
PRIF 01 NZ Forest Accord 40.6 ha
38/01 PRAD 2001 24.27 ha
28/01 CF 1 ha
381/01 PRAD 1997 1.19 ha
26/01 PRAD 1997 0.46 ha
25/01 PRAD 2002 36.17 ha
392/01 PRAD 2001 1.78 ha
39/01 CF 0.3ha
384/01 CF 3.1ha
PRIF 02 NZ Forest Accord 0.8 ha
383/01 CF 2ha
385/01 CF 2ha
PRIF 03 NZ Forest Accord 2 ha
PRIF 04 Management Plan 1.2 ha
381/01 PRAD 2000 26.01 ha
382/01 PRAD 2000 22.66 ha
251/01 CF 4ha
386/01 CF 1.9ha
25/02 PRAD 2002 1.74 ha
27/01 CF 1.2ha
50/01 PRAD 2005 9.78 ha
32/01 PRAD 2001 6.21 ha
28/02 PRAD 2020 6.55 ha
PRIF 05 Management Plan 2.1 ha
30/01 PRAD 2008 10.53 ha
PRIF 06 Management Plan 0.6 ha
1/05 PRAD 2019 2.52 ha
291/01 PRAD 2003 6.41 ha
PRIF 07 NZ Forest Accord 1.6 ha
21/02 PRAD 2020 12.84 ha
PRIF 08 NZ Forest Accord 7.1 ha
29/01 PRAD 1997 0 ha
1/01 PRAD 2019 13.94 ha
35/01 PRAD 1997 1.43 ha
20/02 PRAD 2020 10.82 ha
1/08 PRAD 2019 6.06 ha
PRIF 09 NZ Forest Accord 0.6 ha
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors
Print Date: 21/03/2025
Document Path: I:\Users\SolyH\GIS Data\Sally Mapping\2025.mxd
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
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Meters
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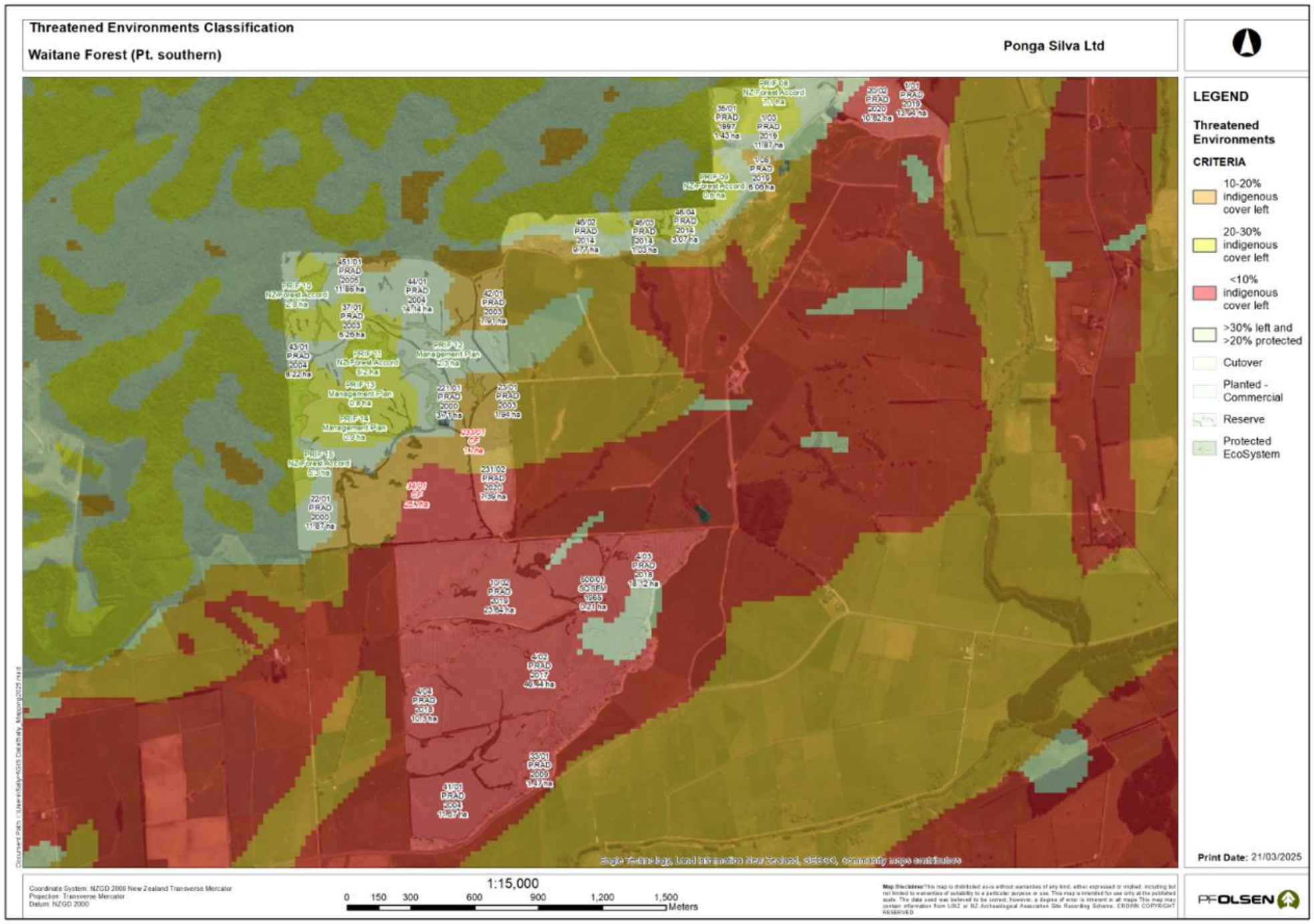

Threatened Environments Classification
Waitane Forest (Pt. southern)
Ponga Silva Ltd
LEGEND
Threatened Environments
CRITERIA
10-20% indigenous cover left
20-30% indigenous cover left
<10% indigenous cover left
>30% left and >20% protected
Cutover
Planted - Commercial
Reserve
Protected EcoSystem
Print Date: 21/03/2025
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
1:15,000
0 150 300 600 900 1,200 1,500
Meters

Appendix 5: Forest Neighbours

Not Publicly Available

Appendix 6: HCV Management Plan

High Conservation Value Management Plan

Pinnacle Pine Forest

Forest	Pinnacle Pine		
Stand	PRIF-03 PRIF-04	Area (ha)	1.0 and 1.7 ha (2.7 ha total)
		Location	NZTM E 1232081 NZTM N 4900160
Species composition	Tall silver beech canopy over *Coprosma lucida* and *C. rhamnoides*, and *Blechnum procerum*, hounds tongue fern, *C. lucida*, crown fern, shield fern. Also present: totara, soft tree fern, *Myrsine divaricata*, lancewood, wineberry, putaputaweta.		
HCV assessment	These two sites appear to be the last remaining examples of mature silver beech remnants in the area, as per ecologist report (Wildland Consultants Ltd 2018). Also in TEC 1 category.		
HCV class	HCV 3 Ecosystems and habitats Rare, threatened, or endangered ecosystems, habitats or refugia.		
Management strategy	The management strategy implemented for this site is described in the table below.		

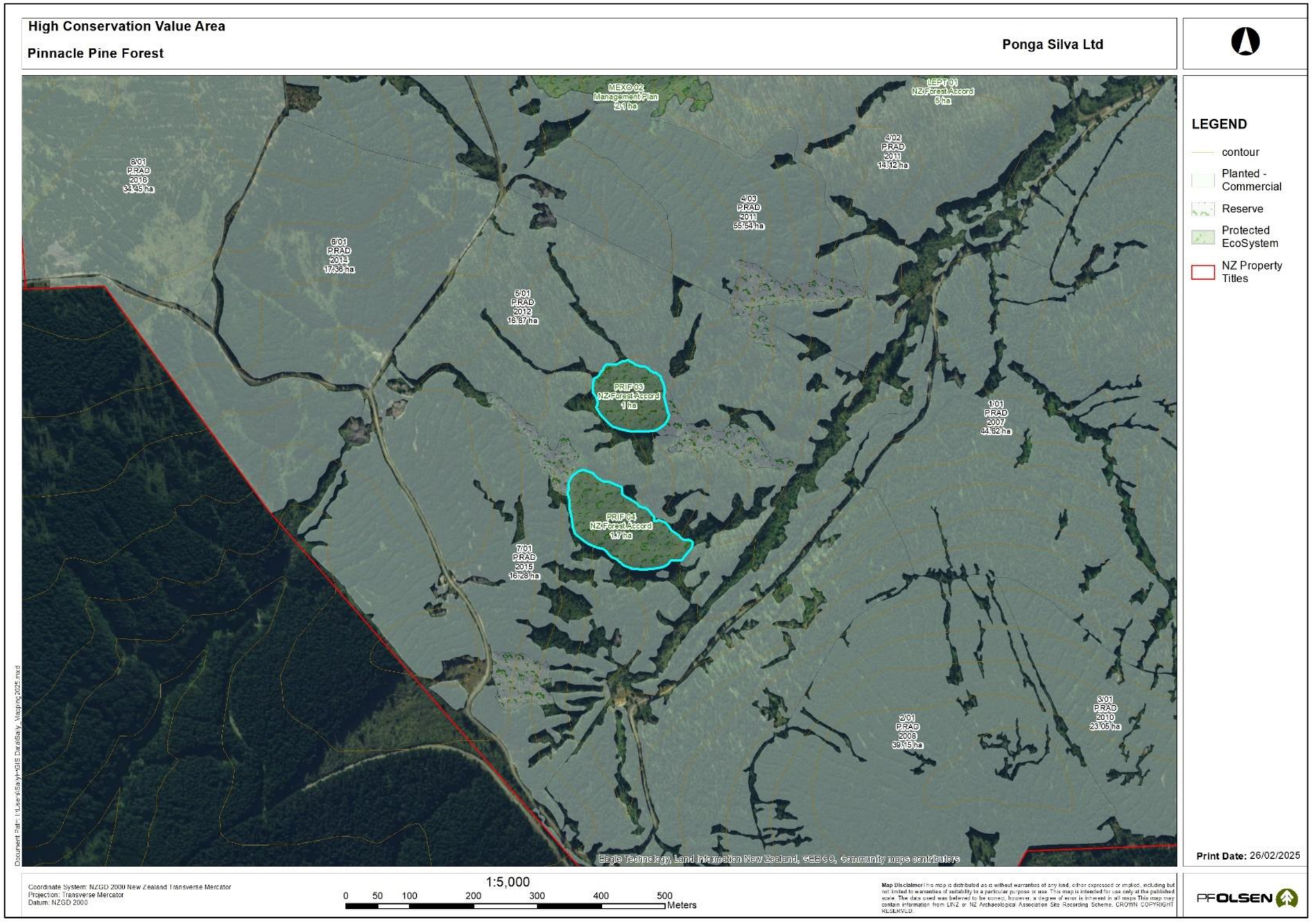
	HCV Category	Management Strategy
		Maintenance
	HCV 3	Maintain the extent and integrity of rare or threatened ecosystems, habitats, or refugia.

Management actions and monitoring

Management actions are the works required to meet the management strategy. The monitoring is prescribed to assess the effectiveness of the management strategy and actions.

This HCV plan is subject to a full 5-yearly review, at which time modifications will be made if the management strategies are not effective.

Refer to appendix 7 – Ecological Workplan for the management actions.


High Conservation Value Area
Pinnacle Pine Forest
Ponga Silva Ltd
MEXO 02
Management Plan
2.1 ha
IEPT 01
NZ Forest Accord
5 ha
4/02
PRAD
2011
14.12 ha
4/03
PRAD
2011
55.64 ha
8/01
PRAD
2013
34.45 ha
6/01
PRAD
2014
17.36 ha
5/01
PRAD
2012
18.87 ha
PRIF 03
NZ Forest Accord
1 ha
1/01
PRAD
2007
44.62 ha
PRIF 04
NZ Forest Accord
1.7 ha
7/01
PRAD
2015
16.28 ha
2/01
PRAD
2008
39.15 ha
3/01
PRAD
2010
23.05 ha
LEGEND
contour
Planted - Commercial
Reserve
Protected EcoSystem
NZ Property Titles
Print Date: 26/02/2025
Document Path: I:\Ares\Sayh+\GIS Data\Sayh_Map\hcv2025.mxd
Eagle Technology, Land Information New Zealand, GEBCO, Community maps contributors
Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000
1:5,000
0 50 100 200 300 400 500
Meters
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High Conservation Value Management Plan

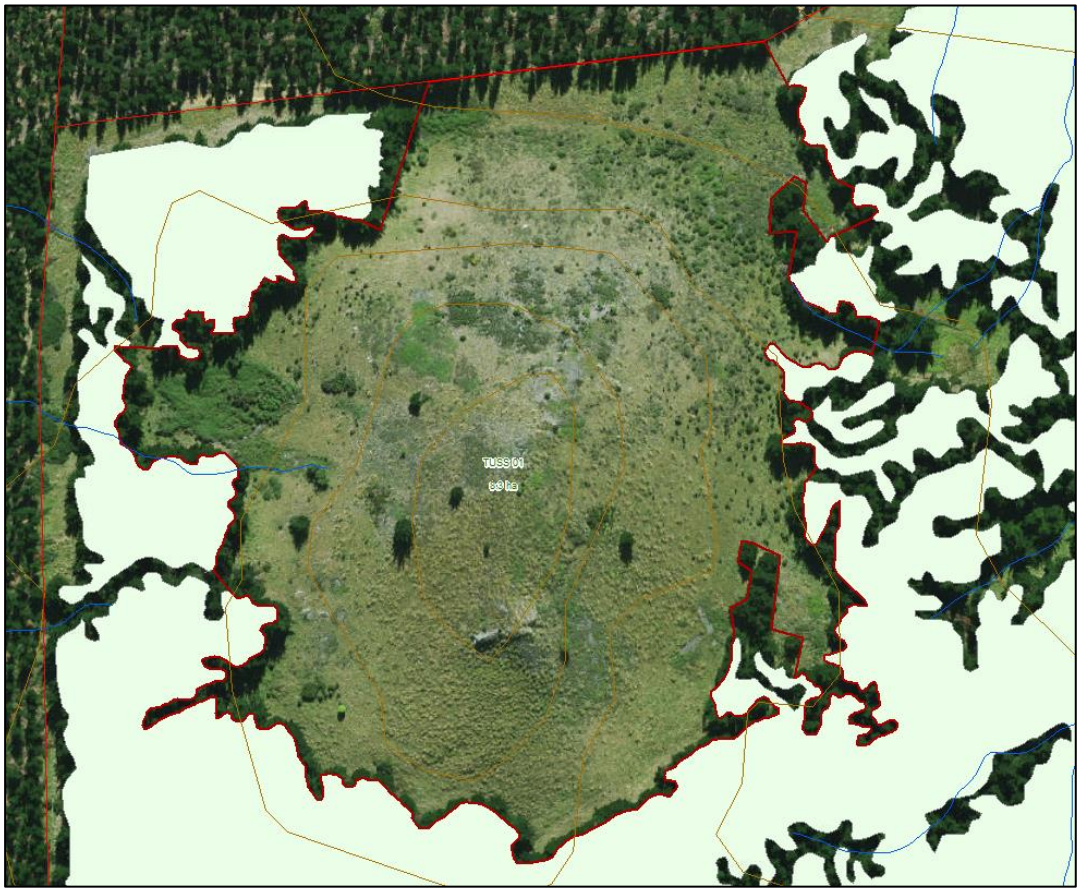
Middle Mount Forest

<table>
<tr><td>Forest</td><td colspan="3">Middle Mount</td></tr>
<tr><td rowspan="2">Stand</td><td rowspan="2">TUSS-01</td><td>Area (ha)</td><td>8.3 ha</td></tr>
<tr><td>Location</td><td>NZTM E 1412908
NZTM N 4958390</td></tr>
<tr><td>Species composition</td><td colspan="3">Predominantly indigenous species with a moderate range of species diversity. Narrow-leaved snow tussock tussockland and matagouri-mikimiki shrubland vegetation types are typical of the remaining indigenous vegetation within Waikouaiti Ecological District, and basalt boulder fields are a historically rare ecosystem. Three 'At Risk' plant species present- Carmichaelia petriei, Gingidia grisea, and Scandia geniculata.</td></tr>
<tr><td>HCV assessment</td><td colspan="3">Volcanic boulderfields are a historically rare ecosystem and is TEC 1 category. (Wildland Consultants Ltd 2024).</td></tr>
<tr><td>HCV class</td><td colspan="3">HCV 3

Ecosystems and habitats

Rare, threatened, or endangered ecosystems, habitats or refugia.</td></tr>
<tr><td>Management strategy</td><td colspan="3">The management strategy implemented for this site is described in the table below.

<table><tr><td>HCV Category</td><td>Management Strategy</td></tr><tr><td></td><td>Maintenance</td></tr><tr><td>HCV 3</td><td>Maintain the extent and integrity of rare or threatened ecosystems, habitats, or refugia.</td></tr></table></td></tr>
</table>



Management actions and monitoring

Management actions are the works required to meet the management strategy. The monitoring is prescribed to assess the effectiveness of the management strategy and actions.

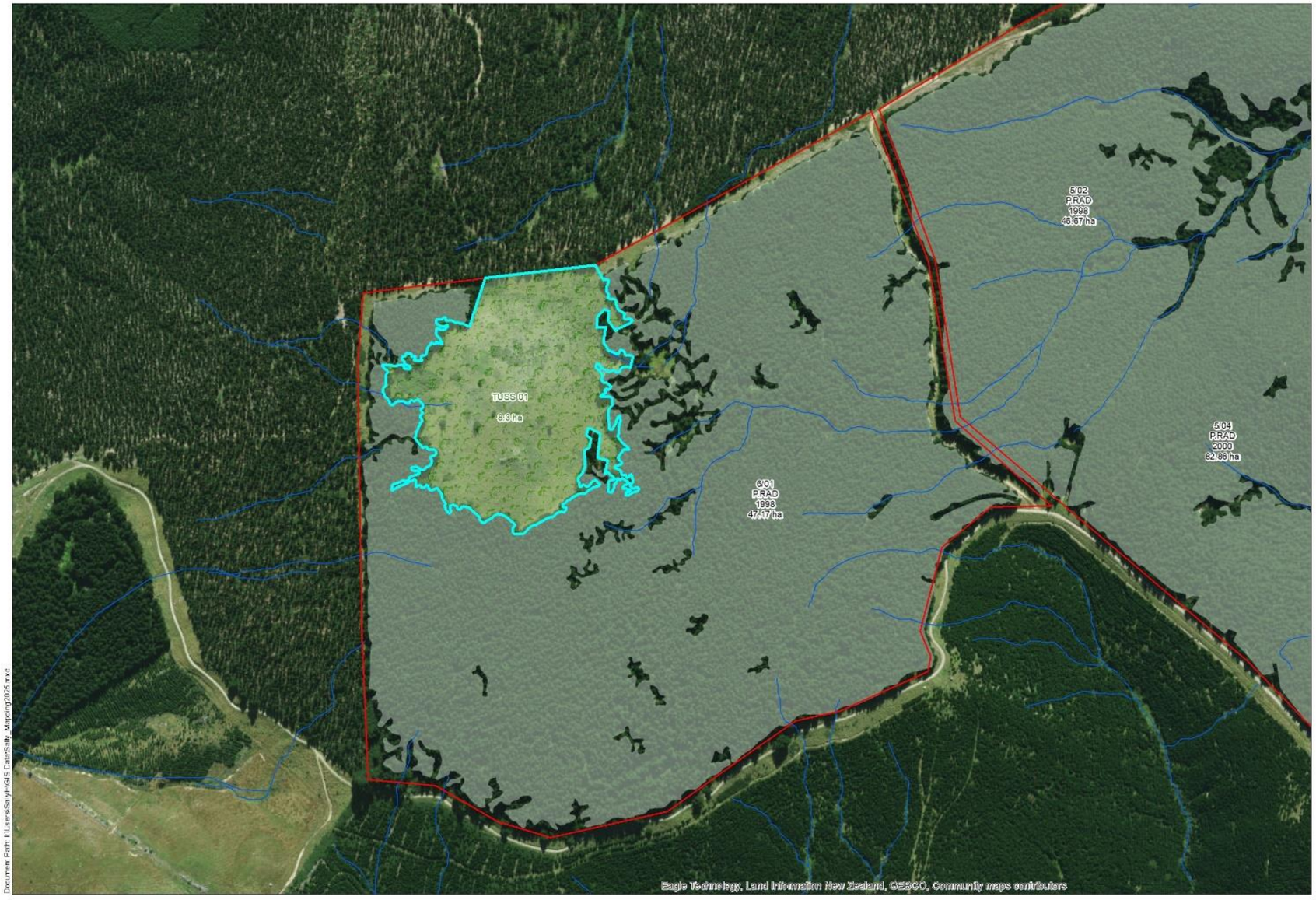
This HCV plan is subject to a full 5-yearly review, at which time modifications will be made if the management strategies are not effective.

Refer to appendix 7 – Ecological Workplan for the management actions.

Middlemount Forest

High Conservation Value Area

Ponga Silva Ltd



LEGEND

- Watercourse
- Planted - Commercial
- Protected Ecosystem
- NZ Property Titles

Print Date: 26/02/2025

Document Path: I:\Users\Sally\+GIS Data\Sally_Mapping\2025.mxd

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
Projection: Transverse Mercator
Datum: NZGD 2000

1:5,000

0 50 100 200 300 400 500 Meters

High Conservation Value Management Plan

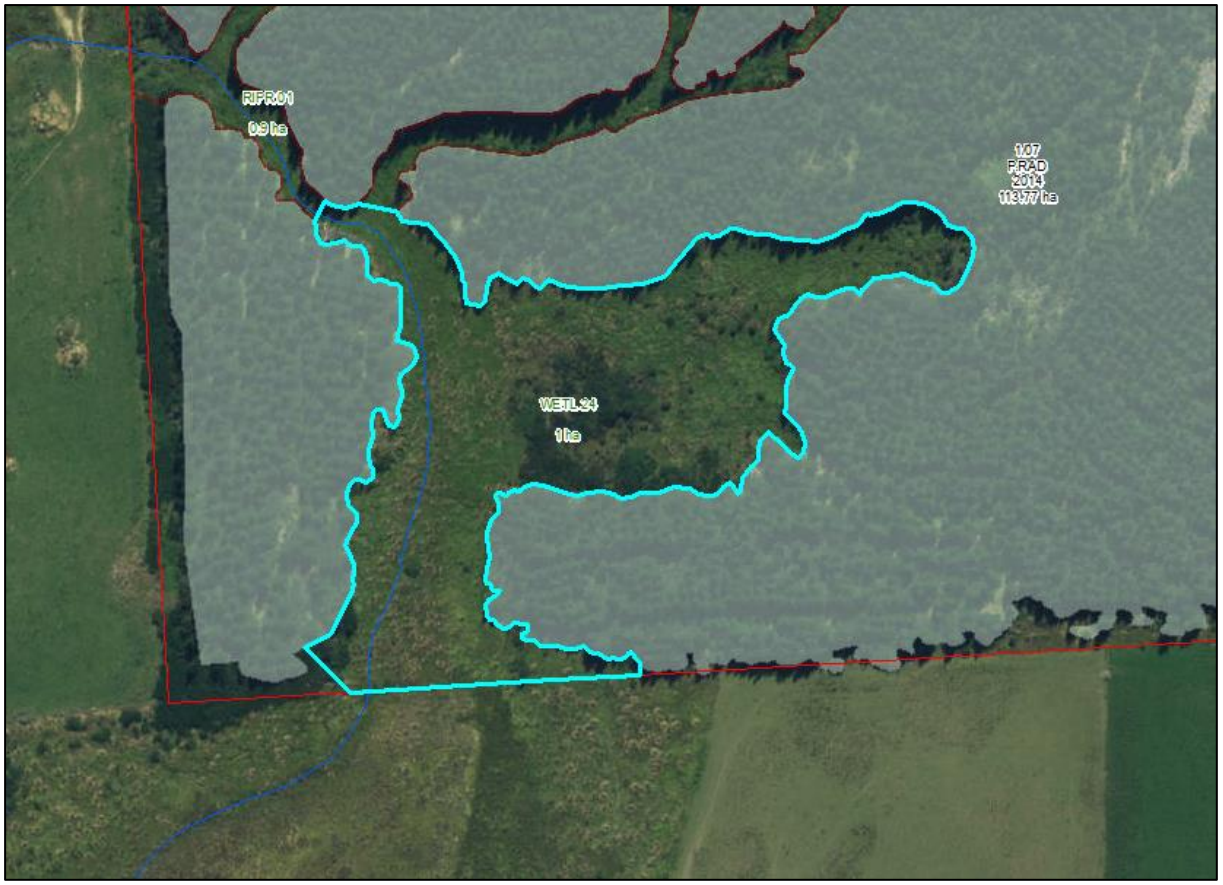
Opio Forest

<table>
<tr><td>Forest</td><td colspan="3">Opio</td></tr>
<tr><td rowspan="2">Stand</td><td rowspan="2">WETL-24</td><td>Area (ha)</td><td>1.0 ha</td></tr>
<tr><td>Location</td><td>NZTM E 1214248
NZTM N 4903359</td></tr>
<tr><td>Species composition</td><td colspan="3">Indigenous-dominant sedgeland in relatively good condition. Copper tussock (c.1-1.5 metres tall) is scattered throughout the marsh, and rautahi (Carex geminata) dominates the groundcover to c.30 centimetres, with occasional buttercup (Ranunculus repens), wire rush (Empodisma minus), soft rush (Juncus effusus), and Gonocarpus micranthus near the edges. Indigenous shrubs such as Olearia bullata, harakeke, and mikimiki occur occasionally to c.2 metres tall.</td></tr>
<tr><td>HCV assessment</td><td colspan="3">High quality indigenous wetland vegetation, contiguous with Southland HVA (TRTA12 Morley Stream Peatland). Also TEC 2 category.</td></tr>
<tr><td>HCV class</td><td colspan="3">HCV 3

Ecosystems and habitats

Rare, threatened, or endangered ecosystems, habitats or refugia.</td></tr>
<tr><td>Management strategy</td><td colspan="3">The management strategy implemented for this site is described in the table below.

<table><tr><td>HCV Category</td><td>Management Strategy
Maintenance</td></tr><tr><td>HCV 3</td><td>Maintain the extent and integrity of rare or threatened ecosystems, habitats, or refugia.</td></tr></table></td></tr>
</table>



Management actions and monitoring

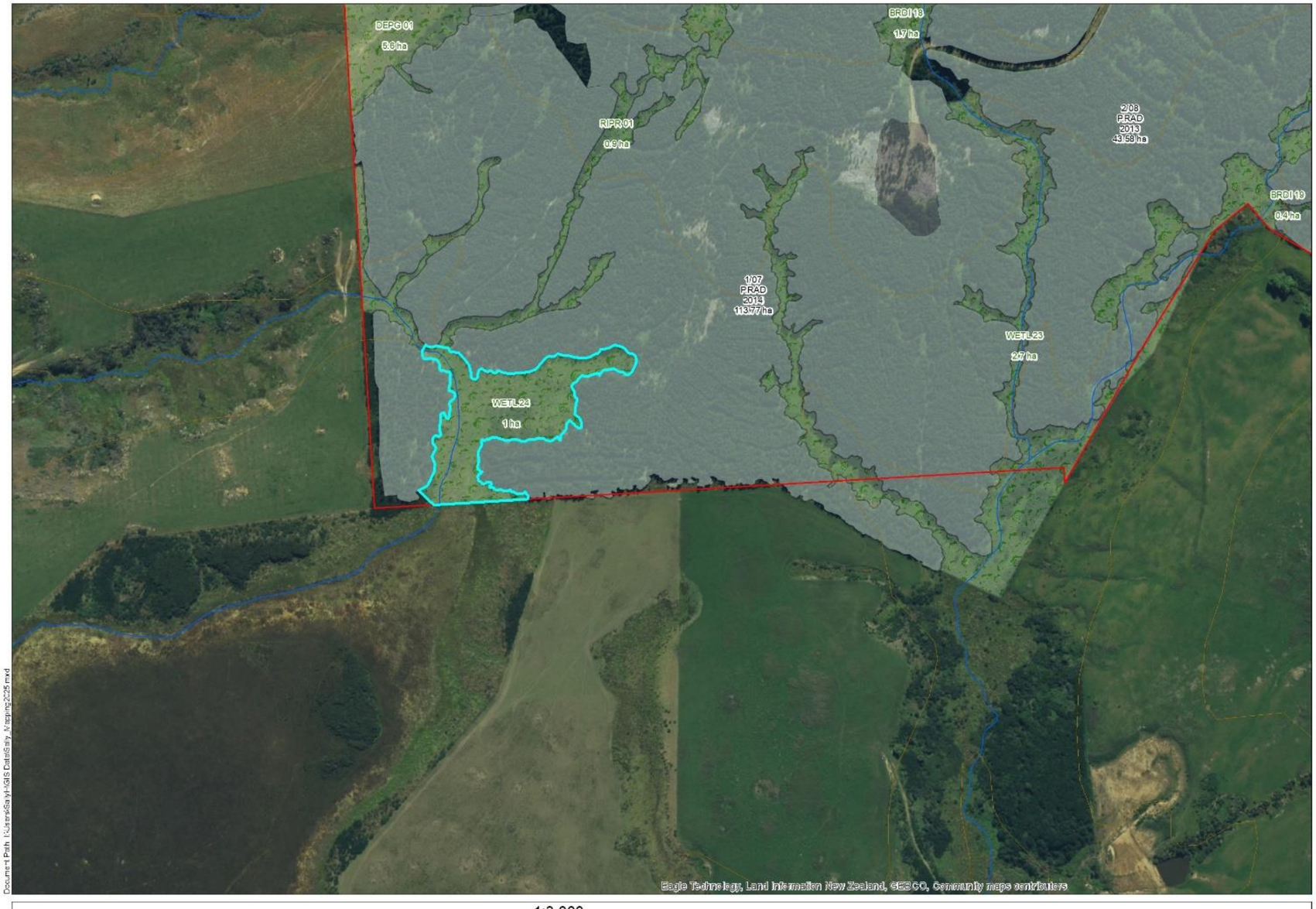
Management actions are the works required to meet the management strategy. The monitoring is prescribed to assess the effectiveness of the management strategy and actions.

This HCV plan is subject to a full 5-yearly review, at which time modifications will be made if the management strategies are not effective.

Refer to appendix 7 – Ecological Workplan for the management actions.

High Conservation Value Area
Opio Forest

Ponga Silva Ltd



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- contour
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- Skid
- Protected EcoSystem
- NZ Property Titles

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Appendix 7: Ecological Workplan

Review Date: February 2025

High Conservation Value Areas

Activity Type	Required actions	Area/s	Timing
Annual walk-through check	Forest manager to do annual onsite check of sites. Note any issues including weeds, wilding pines, animal browse, and program required works accordingly.	All HCV areas	Annual
Pest control - possums	Formalise a pest control plan - possibly using an external contractor. May include both shooting and trapping.	All HCV areas	Q1 2026
Pest control - pigs	Formalise a pest control plan - possibly using an external contractor.	Middle Mount HCV TUSS-01	Q1 2026
Photopoint monitoring	Establish photopoint vegetation monitoring of all sites - drone and/or ground-based as appropriate. Repeat photos annually.	All HCV areas	Establish sites and implement initial monitoring by end of 2025, then annual ongoing.
Noxious weeds	Gorse, broom, wilding conifer, elder control.	Middle Mount HCV TUSS-01	Initial control Q4 2025 / Q1 2026. Follow up one year later. Subsequent monitoring of the site will be carried out as part of the annual walk-through check.
	Willow, alder, gorse, Himalayan honeysuckle, broom, silver birch control.	Opio HCV WETL-24 and adjacent	Initial control Q4 2025 / Q1 2026. Follow up one year later. Subsequent monitoring of the site will be carried out as part of the annual walk-through check.

Other areas

Activity	Action detail	Area/s	Due date
Noxious weeds-high priority	Wilding Douglas-fir and pine	Groveburn Rugged Hills west boundary	Initial control Q4 2026 / Q1 2027. Follow up one year and two years later.
	Willow	Groveburn wetlands	
	Puka (*Muehlenbeckia australis*). Hand pull where puka is compromising kowhai vigour/survival.	O'Brien SCRB-03, SCRB-04, SCRB-06	
Noxious weeds-medium priority	Blackberry, gorse, khasia berry	Groveburn when encroaching on indigenous	Initial control Q4 2027 / Q1 2028. Follow up one year and two years later.
	Gorse, cotoneaster	O'Brien when encroaching on indigenous	
	Darwin's barberry	Rugged Hills- surveillance	
	Gorse	Hokonui, Waitane when encroaching on indigenous	

Activity	Action detail	Area/s	Due date
Animal pests - ungulates	Control when sign becomes apparent, particularly during the establishment phase of the plantation and around high-value reserves. Ground shooting via forest access permit system.	All forests (particularly pigs Middle Mount, Opio, and deer Groveburn, O'Brien)	Ongoing
Train crews Provide kārearea identification resources	Include photos of species in rare species ID posters and train (during inductions) crews to be alert for presence of threatened species (especially kārearea) and to avoid damage within operational areas. Record any sightings in iNaturalist database.	All forests	Ongoing
Bat monitoring	Deploy bat detection boxes prior to harvesting to determine presence or otherwise of bats. If bats are discovered, apply forestry bat management protocols and review existing harvest with ecological advice if required.	Groveburn O'Brien	Summer prior to planned harvest
Retirement	Retirement of small, fragmented plantation stands which occur within natural areas and act as a source of wilding conifer seed is recommended, for example OPIM-2-08. Consider larger setbacks around reserves at replanting where connectivity of reserves can be greatly enhanced.	Opio stand OPIM-2-08	At replant
eDNA water testing	Undertake comprehensive eDNA water testing to: • establish aquatic / amphibious / riparian terrestrial rare species presence. • provide water quality indicator (TICI). If threatened species are identified: • Findings will be reported in iNaturalist	8 proposed sites, as described in the table below and on the maps on the following pages. Exact site location is subject to change based on practical access and stream suitability.	Establish baseline February 2026. Implement annually or 5-yearly as per

Activity	Action detail	Area/s	Due date
	• Review forestry and harvesting operations to ensure that any potential impacts are recognised and managed appropriately to not adversely affect the threatened species (in line with the National Policy Statement for Indigenous Biodiversity). If an unexpected result is produced, a repeat test will be implemented. **Regime:** Implement annually for forest catchment age 0 to 5 years to monitor effects of post-harvest canopy closure. Switch to 5-yearly during mid-rotation (age 5, 10, 15, 20, 25 years), and increase frequency to annual just prior and during next harvest.		**regime** outlined.

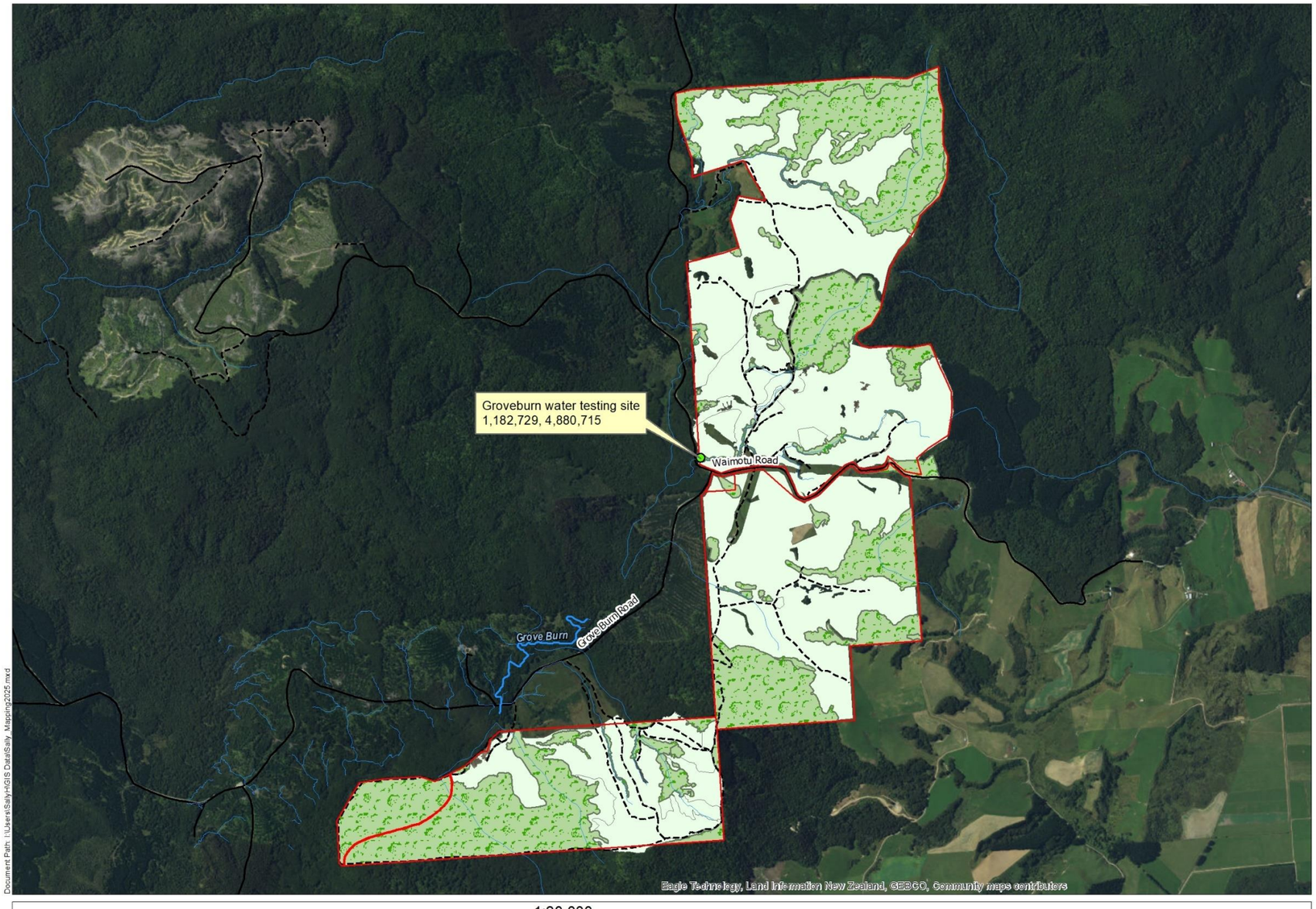
eDNA Water Testing Sites

Forest	Site location (NZTM)	Description	Sampling frequency
Castle Downs	No suitable sites		
Groveburn	E1182729, N4880715	Tributary of Grove Burn. Sample as it leaves Groveburn Forest, above the Grove Burn Road crossing.	Annual monitoring - establishment phase - riparian setbacks created during afforestation. Sample annually until age 5, then switch to 5-yearly.
Hokonui	E1264830, N4888019	Dunsdale Stream - headwaters commence within Hokonui Forest. Sample where practical to access.	Mid rotation - carry out initial baseline monitoring, then implement 5-yearly.
Middle Mount	E1416383, N4960318	Tributary of Pleasant River. Sample above the Annie Road crossing.	Initial monitoring to establish pre-harvest baseline. Implement annual monitoring once harvesting commences in the large catchment.
Monavae	No suitable sites		
O'Brien	E1179449, N4914265	Forest catchment draining into main tributary of Monowai River approximately 2.3 km downstream. Sample above forest road crossing.	Annual monitoring - establishment phase- riparian setbacks created during afforestation. Sample annually until age 5, then switch to 5-yearly.
Opio	E1215415, N4903063	Opio Stream- headwaters commence within Opio Forest. Sample where practical to access.	Mid rotation - carry out initial baseline monitoring, then implement 5-yearly.
Pinnacle Pine	E1232945, N4900784	Tributary of Dipton Stream. Sample as stream leaves the forest boundary, access permitting. Catchment includes HCV sites.	Mid rotation - carry out initial baseline monitoring, then implement 5-yearly.
Rugged Hills	E1231325, N4907733	Tributary of Dipton Stream. Sample above track crossing.	Mid rotation - carry out initial baseline monitoring, then implement 5-yearly.
Waitane	E1269313, N4880343	Forest catchment draining into main tributary of Hedgehope Stream. Sample as stream leaves the forest boundary, access permitting.	Mid rotation - carry out initial baseline monitoring, then implement 5-yearly.

Water Quality Monitoring Site

Groveburn Forest

Ponga Silva Ltd



LEGEND

Patches

PatchClass, PatchType

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- Protected EcoSystem

Transport

Type

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- Stream
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- NZ Property Titles

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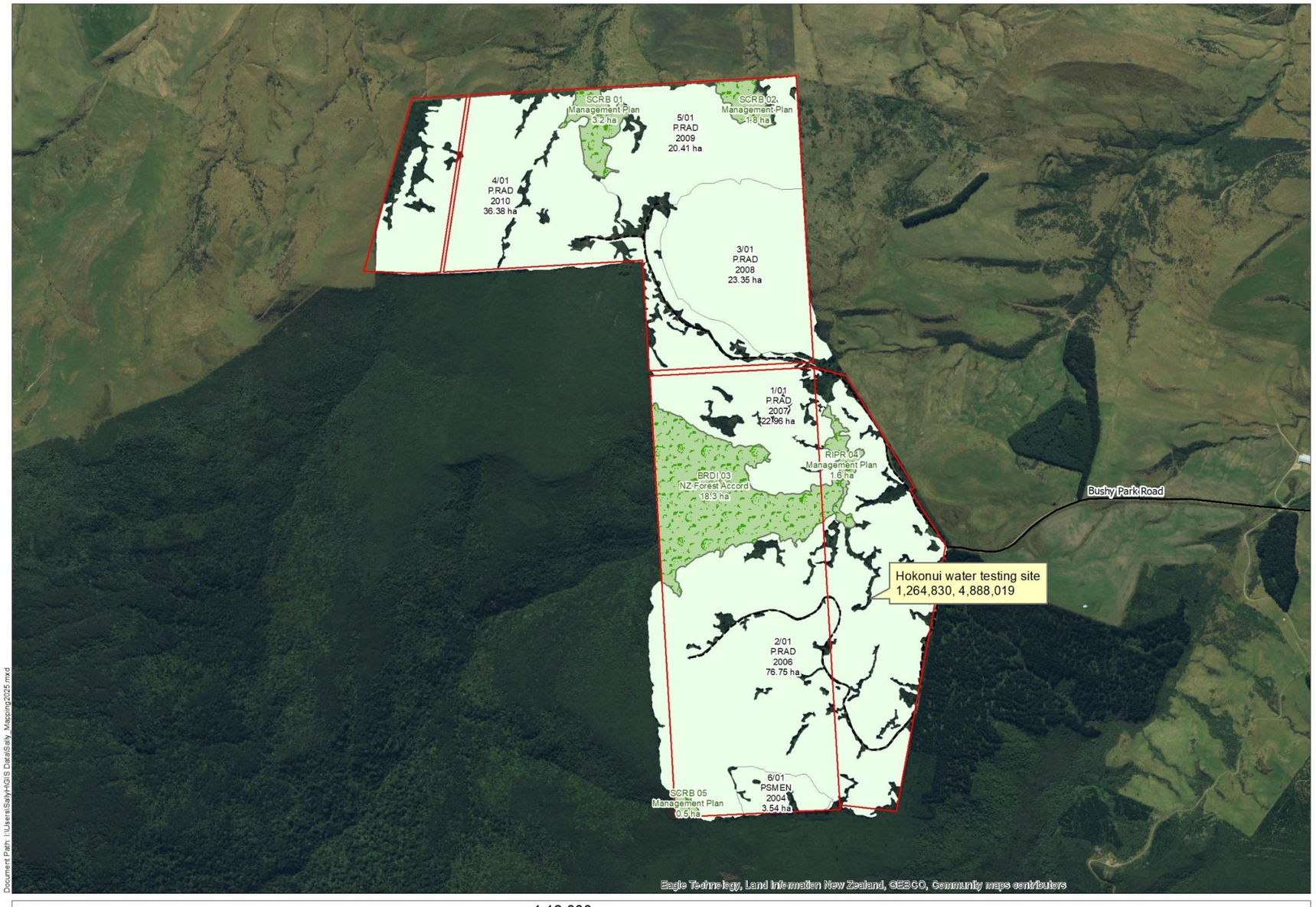
Water Quality Monitoring Site

Hokonui Forest

Ponga Silva Ltd



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Patches

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- NZ Property Titles

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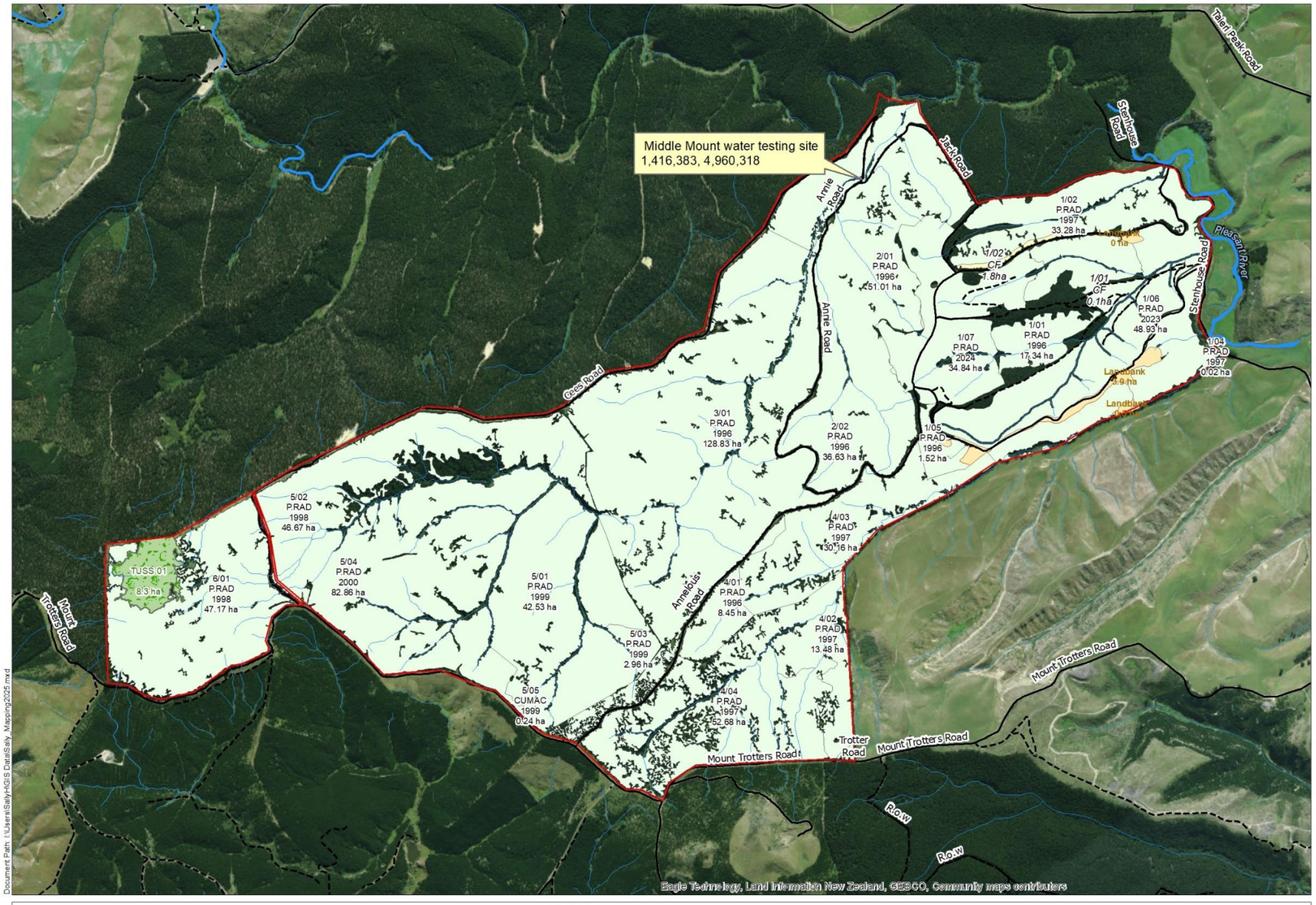
Water Quality Monitoring Site

Middle Mount Forest

Ponga Silva Ltd



LEGEND

Patches

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Transport

Type

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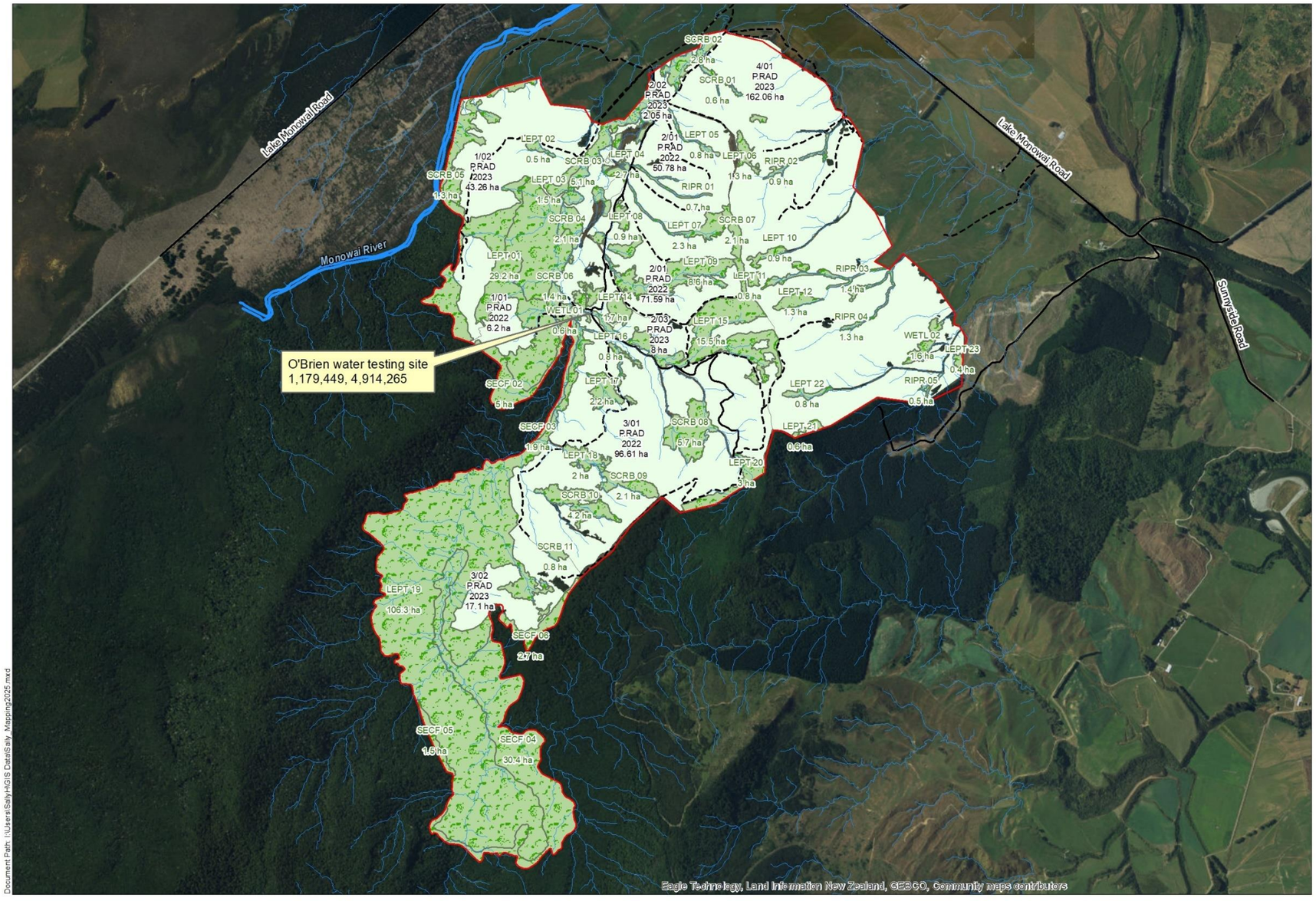
Water Quality Monitoring Site

O'Brien Forest

Ponga Silva Ltd



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Transport

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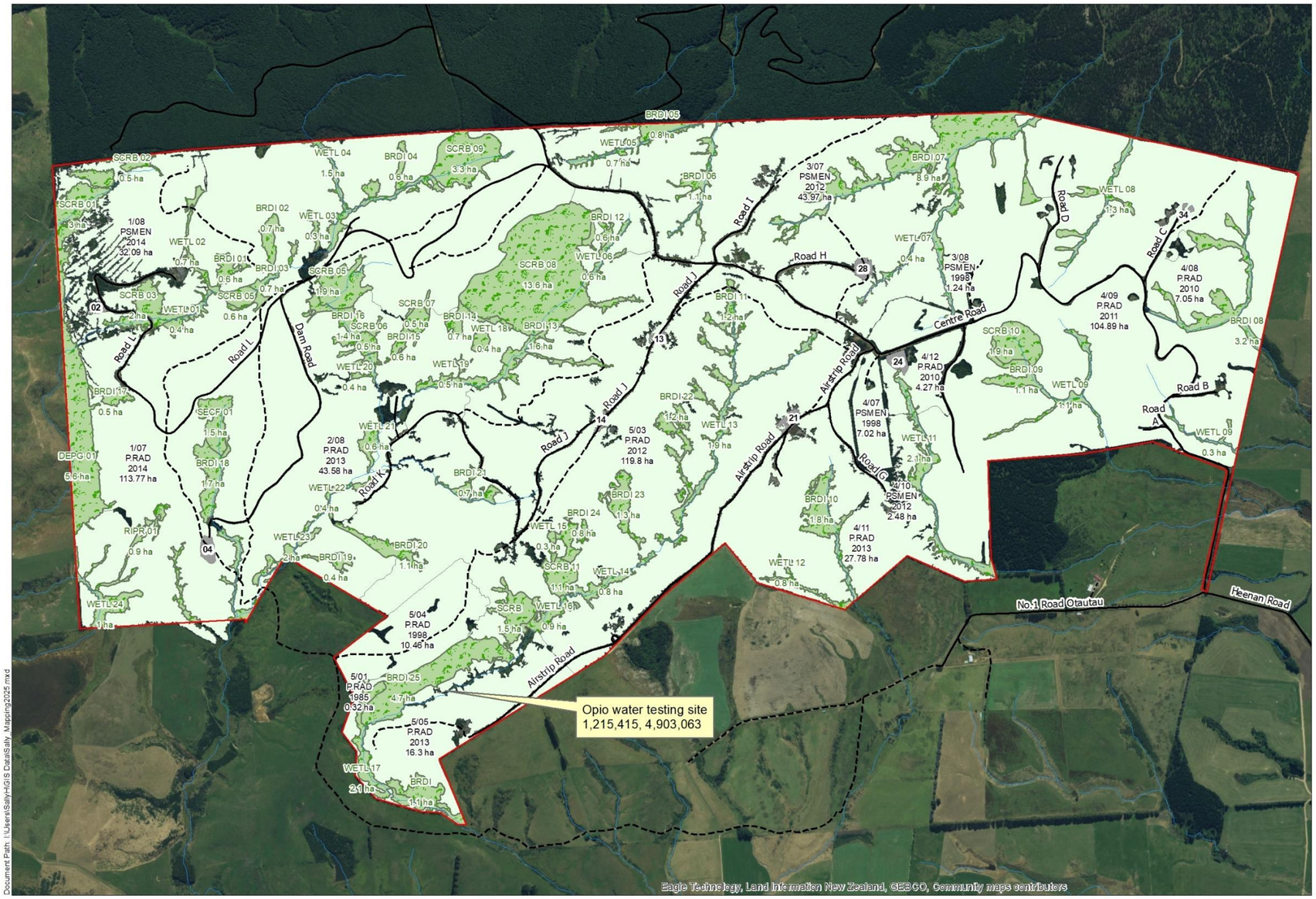
Water Quality Monitoring Site

Opio Forest

Ponga Silva Ltd



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- Skid
- Protected EcoSystem

Transport

Type

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- NZ Property Titles

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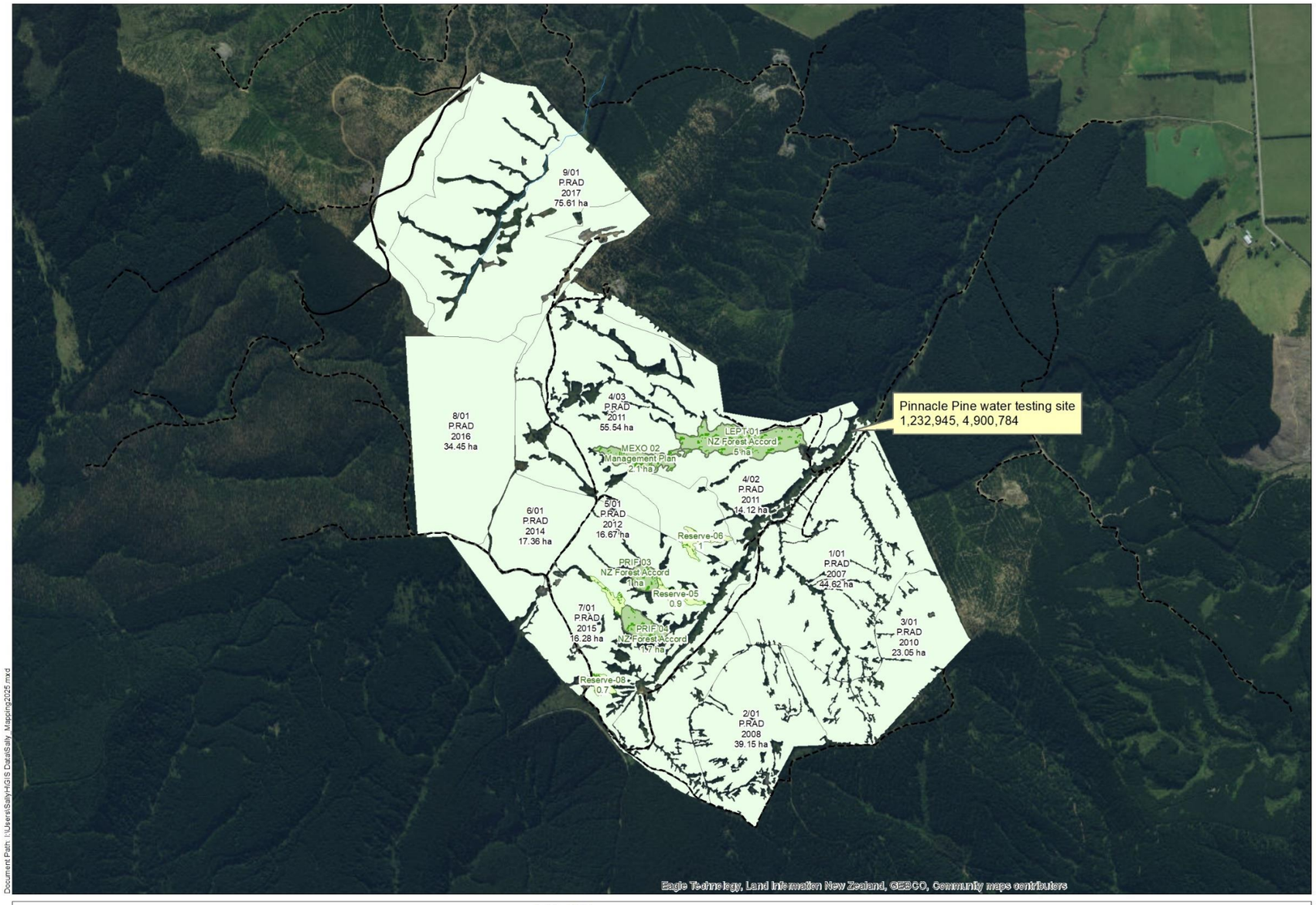
Water Quality Monitoring Site

Pinnacle Pine Forest

Ponga Silva Ltd



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Patches

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- Reserve
- Protected EcoSystem

Transport

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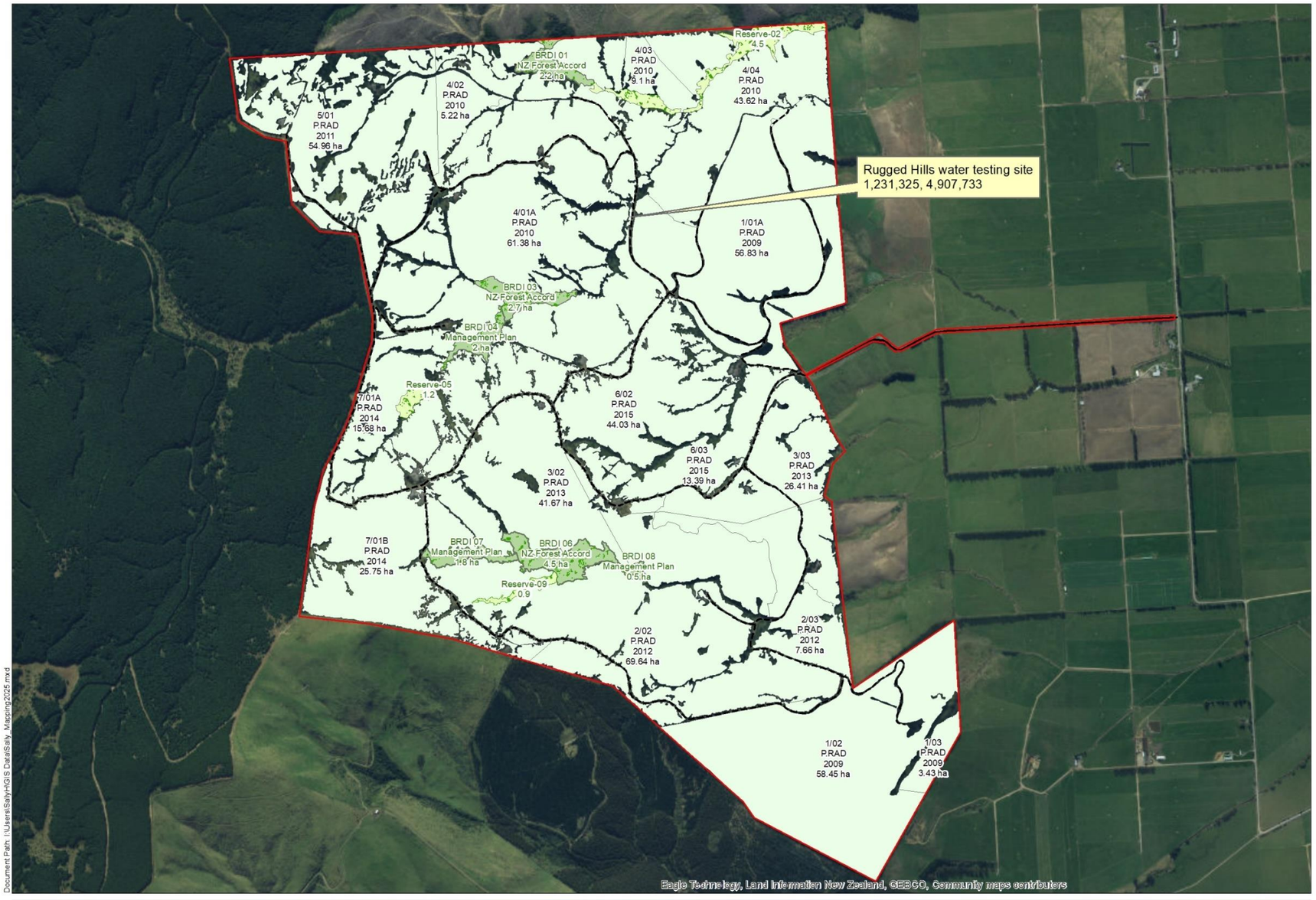
Water Quality Monitoring Site

Rugged Hills Forest

Ponga Silva Ltd



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Patches

PatchClass, PatchType

- Planted - Commercial
- Reserve
- Protected EcoSystem

Transport

Type

- Road
- Track
- NZ Property Titles

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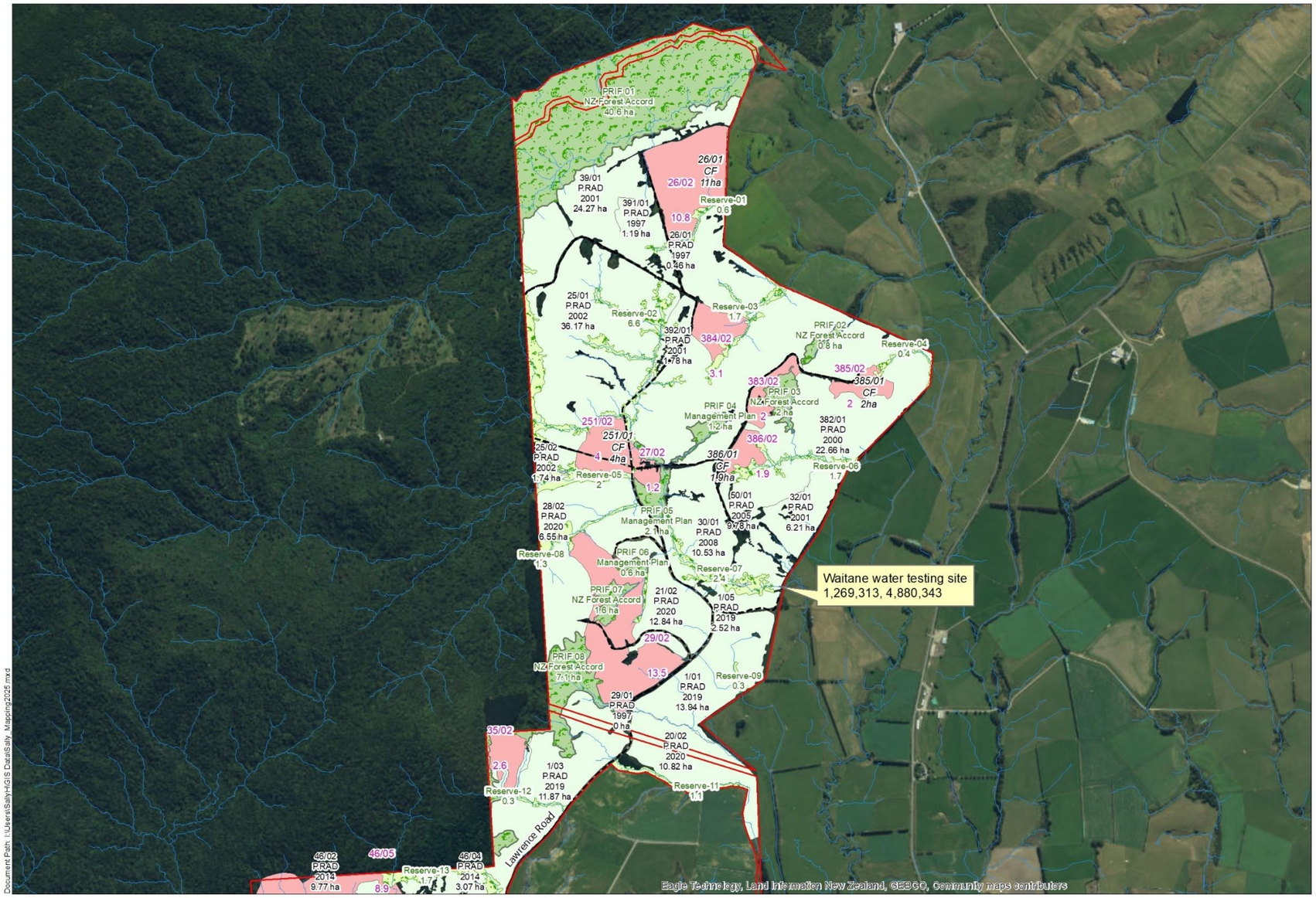
Water Quality Monitoring Site

Waitane Forest (pt. northern)

Ponga Silva Ltd



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- Reserve
- Protected EcoSystem

Transport

Type

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- Track
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- NZ Property Titles
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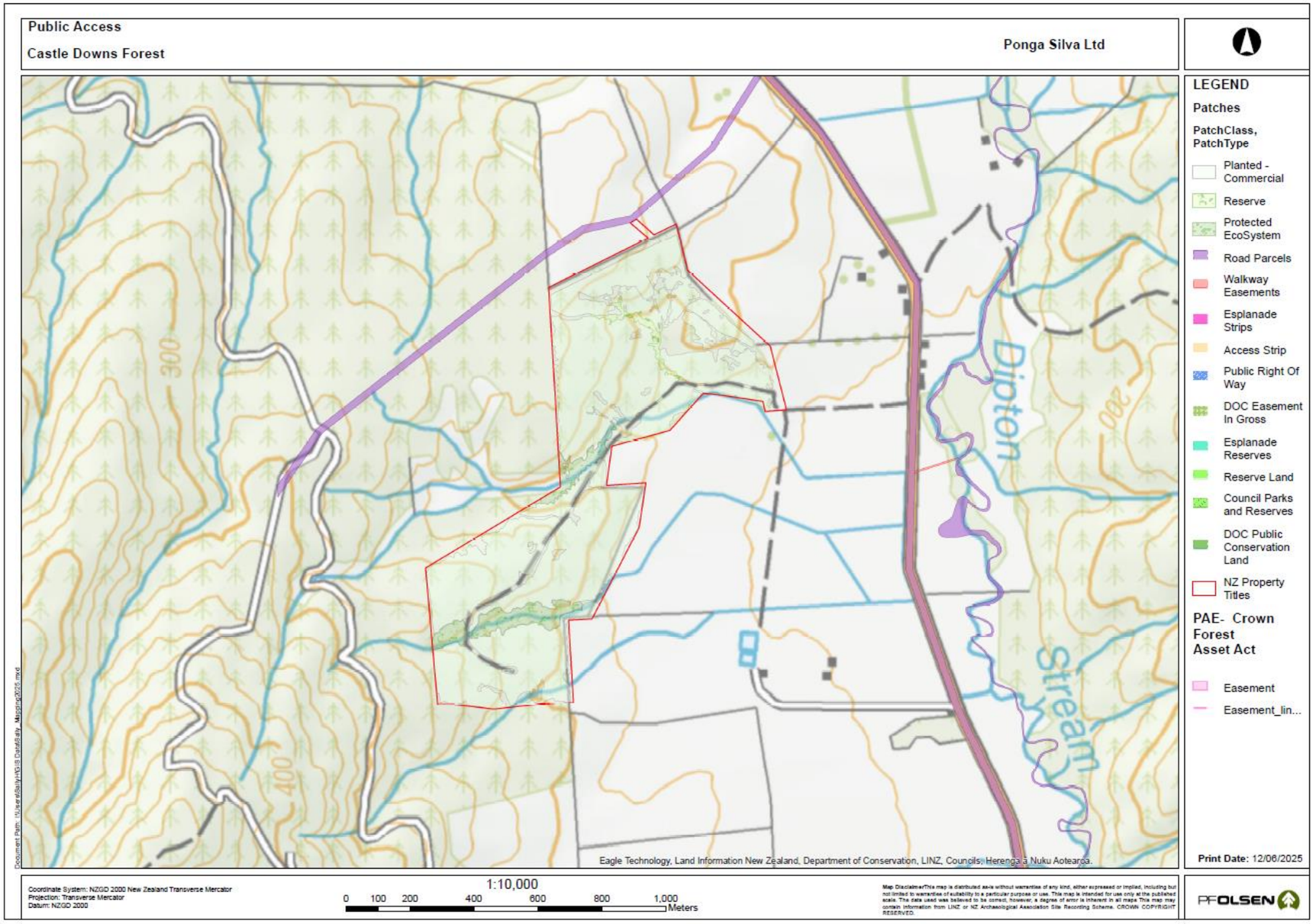
Appendix 8: Public Access Maps

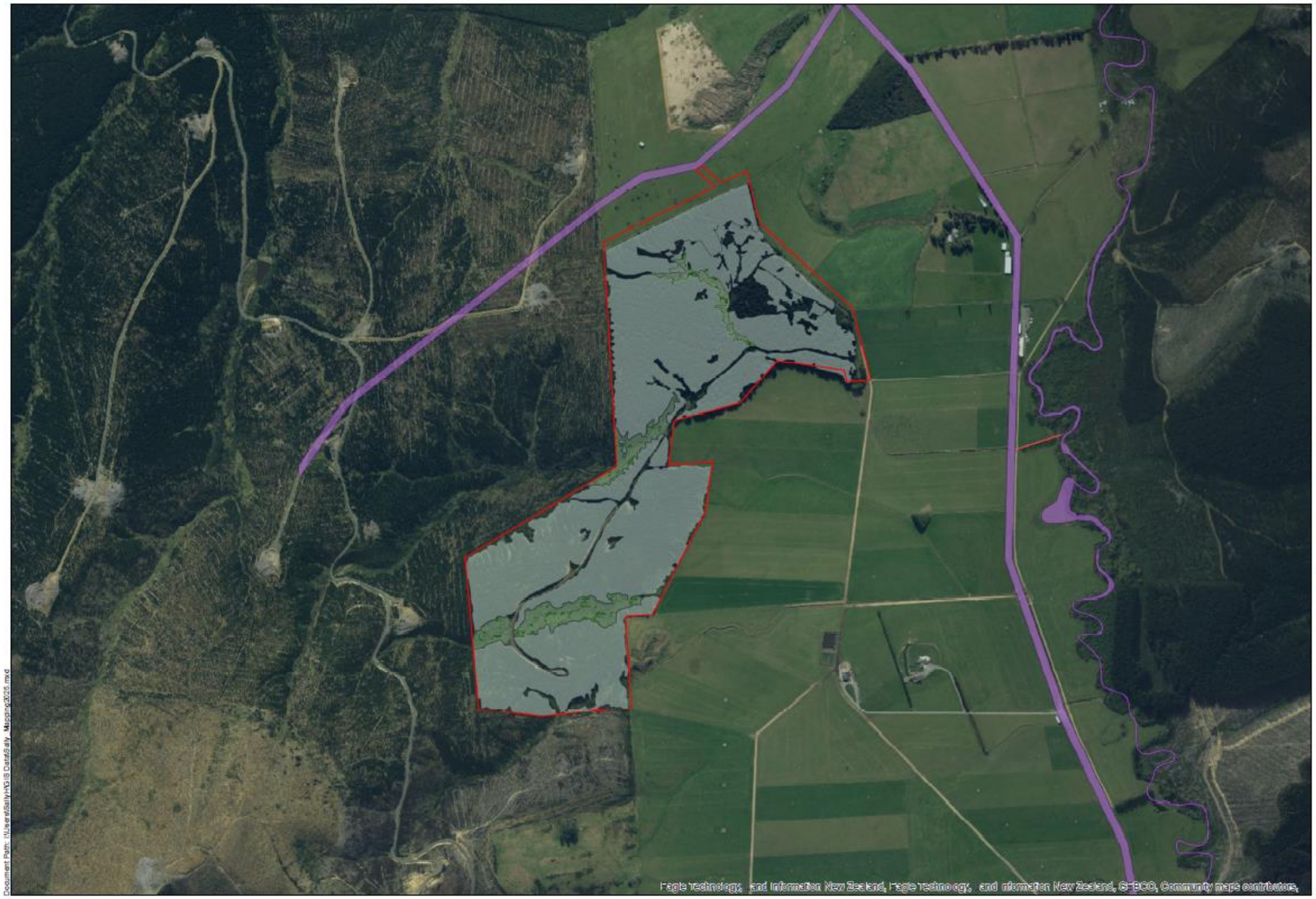
Forest locations are also available online via the PF Olsen interactive web map: FSC® Certified Forests



Public Access

Castle Downs Forest

Ponga Silva Ltd



LEGEND

Patches

PatchClass, PatchType

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- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
- Esplanade Reserves
- Reserve Land
- Council Parks and Reserves
- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

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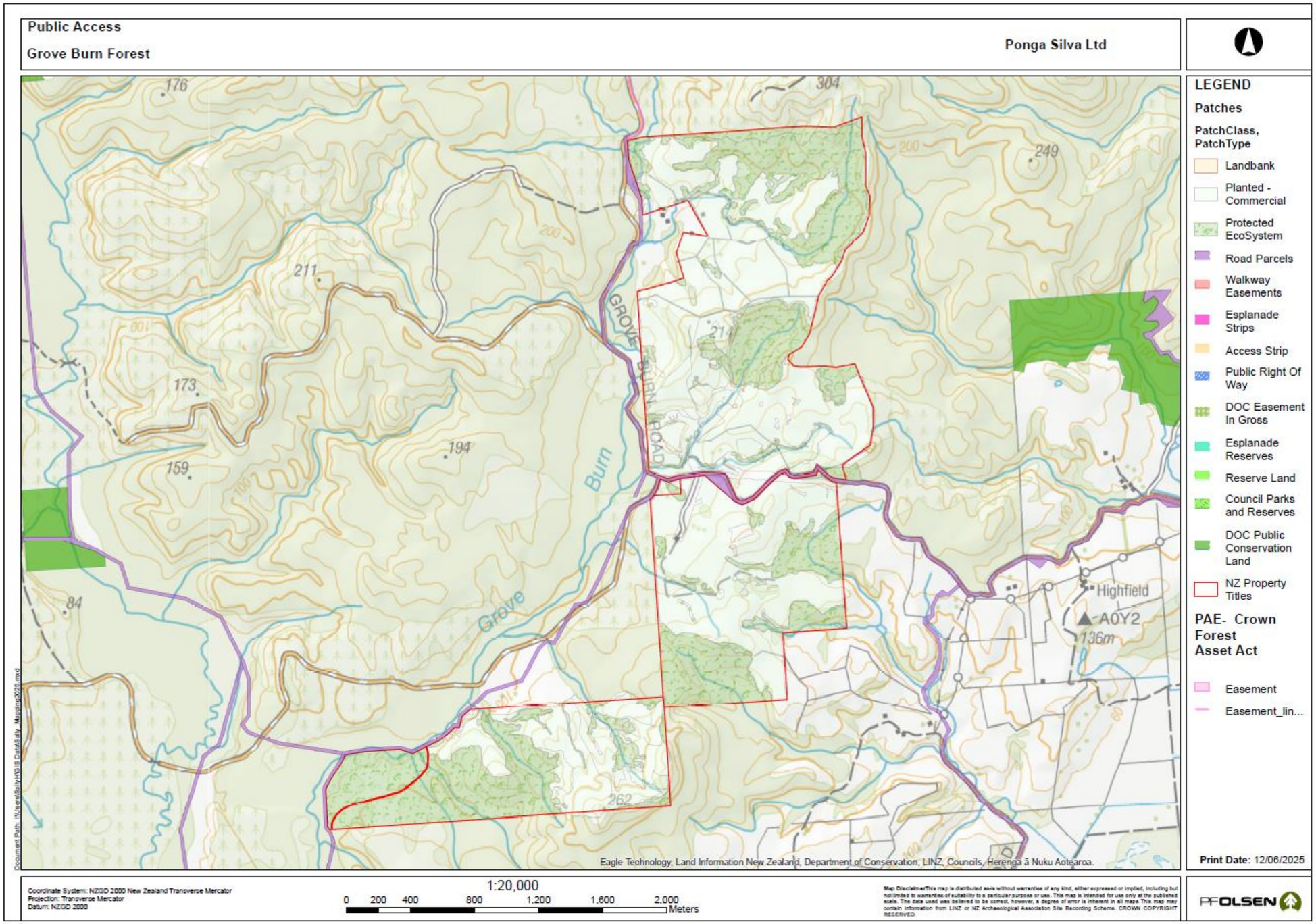
Public Access
Grove Burn Forest
Ponga Silva Ltd
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Road Parcels
Walkway Easements
Esplanade Strips
Access Strip
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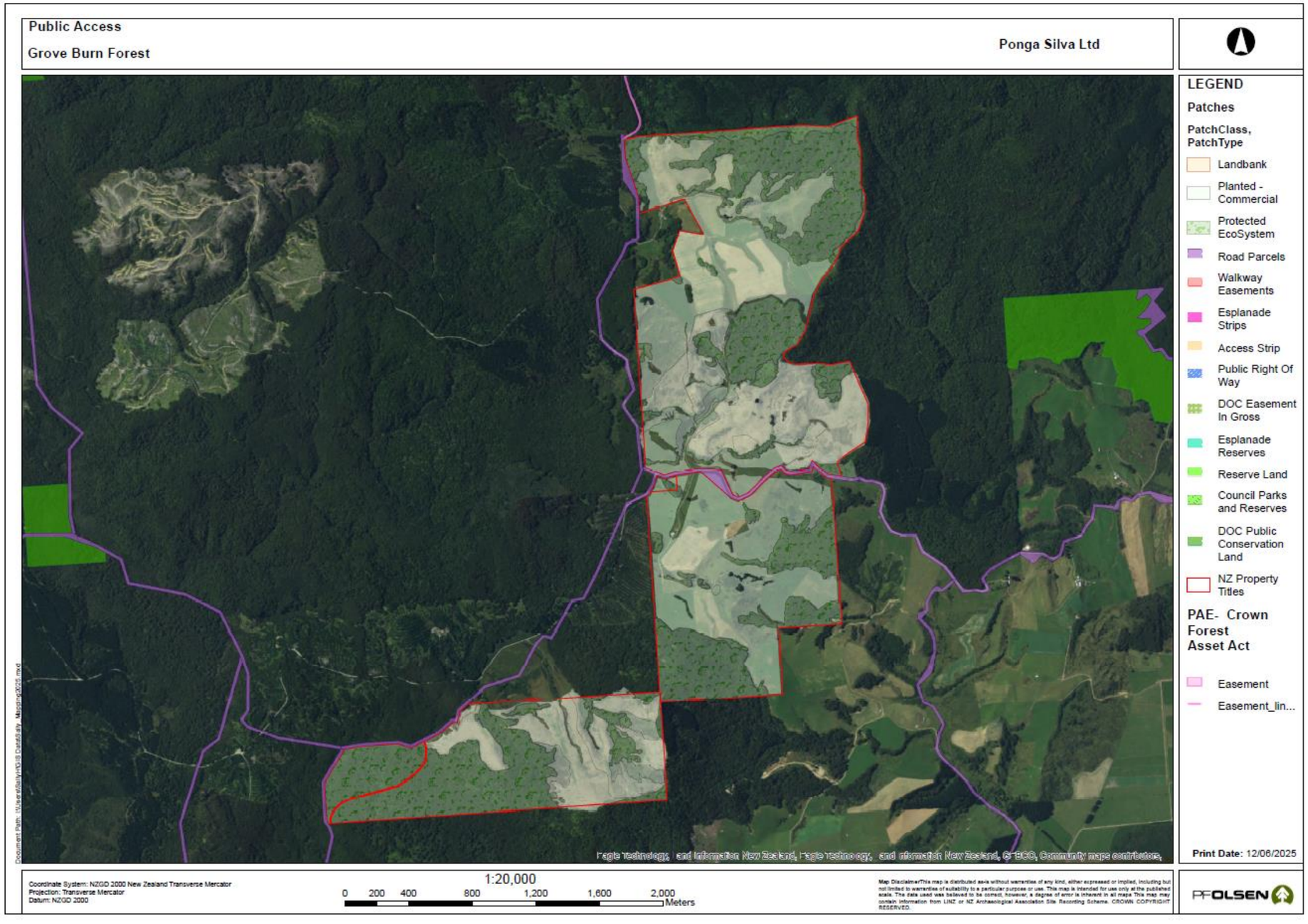
Public Access
Grove Burn Forest
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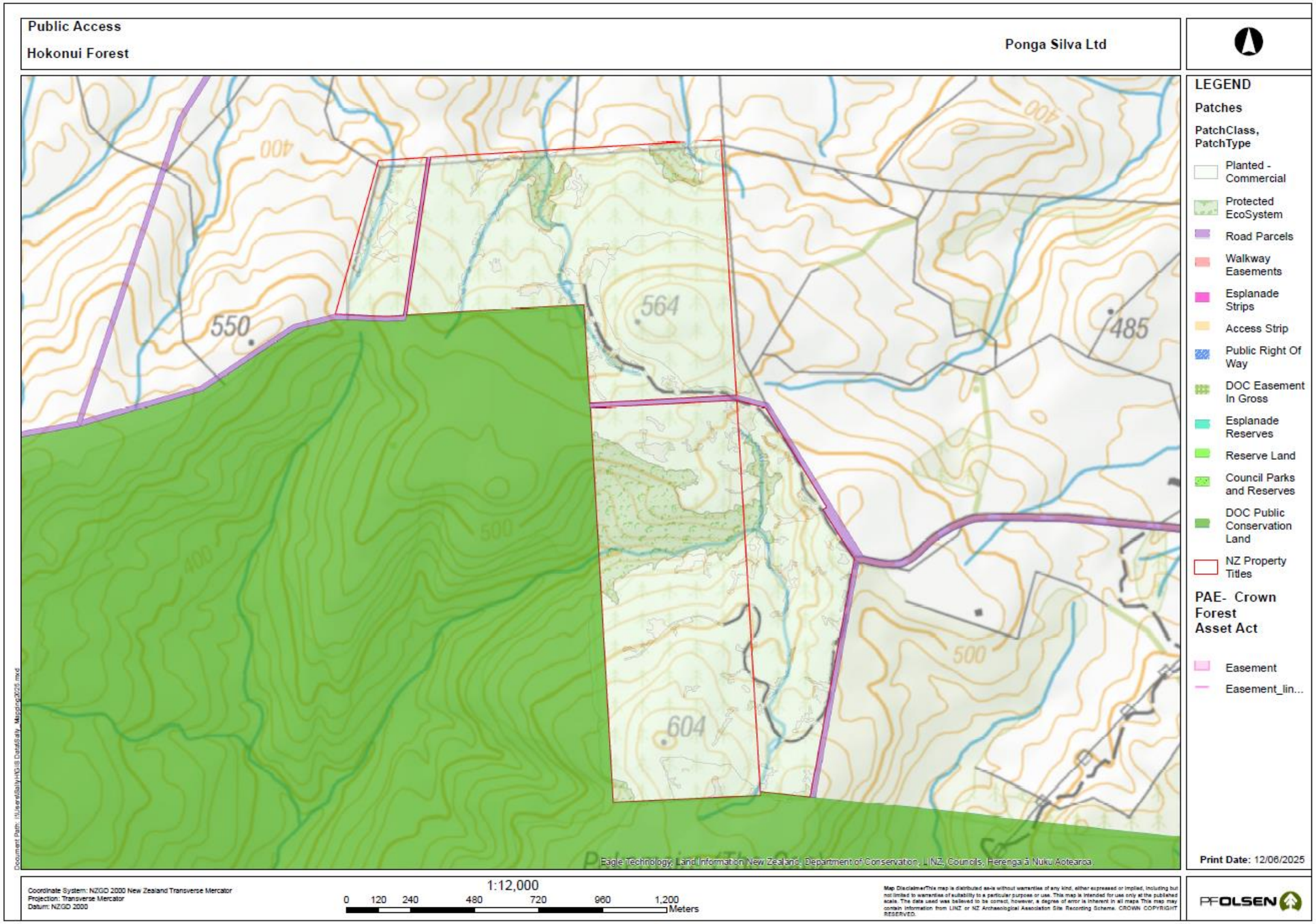
Public Access
Hokonui Forest
Ponga Silva Ltd
LEGEND
Patches
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Planted - Commercial
Protected EcoSystem
Road Parcels
Walkway Easements
Esplanade Strips
Access Strip
Public Right Of Way
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Esplanade Reserves
Reserve Land
Council Parks and Reserves
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Print Date: 12/06/2025
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Eagle Technology, Land Information New Zealand, Department of Conservation, LINZ, Councils, Heretaunga ā Nuku Aotearoa
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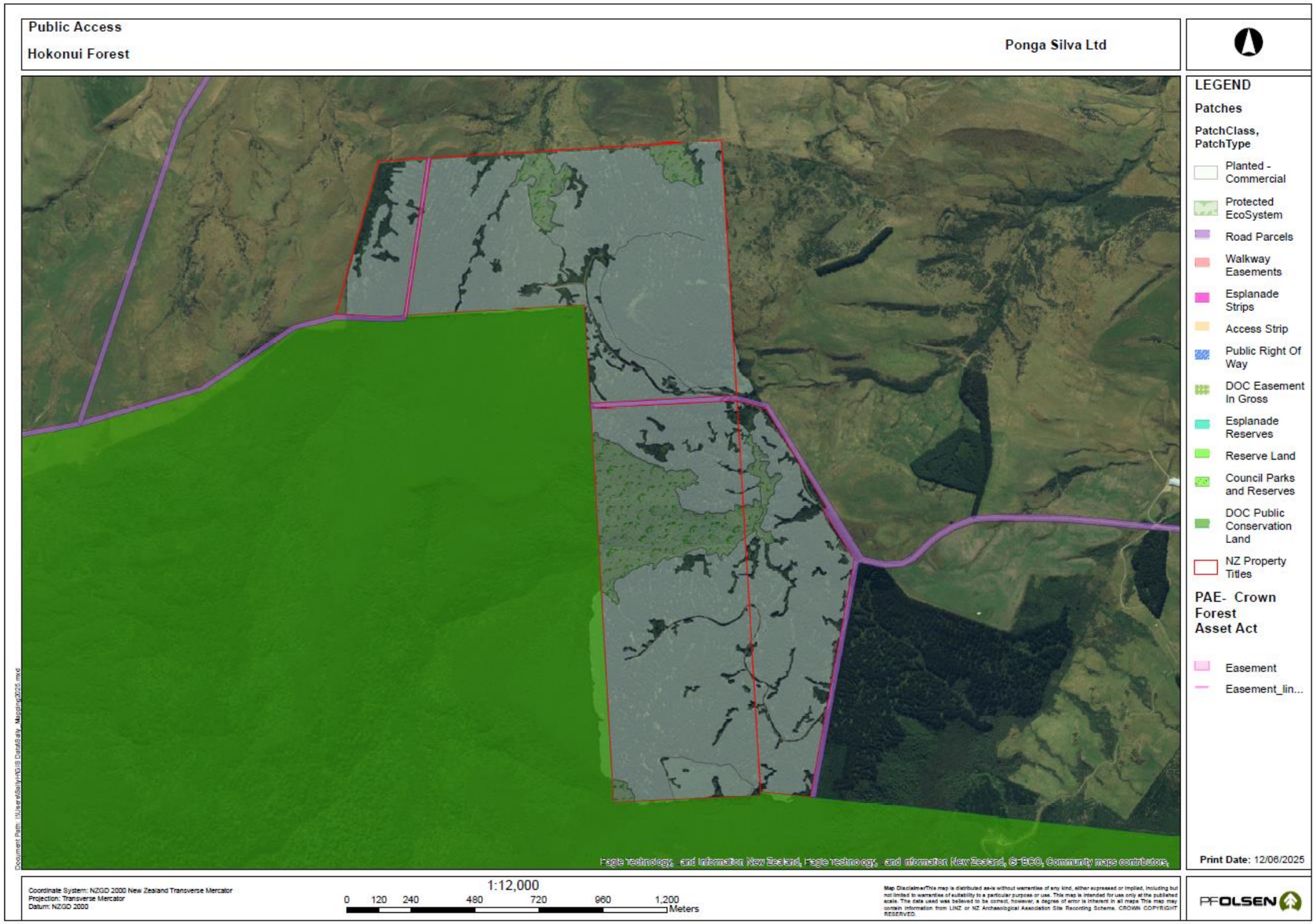
Public Access
Hokonui Forest
Ponga Silva Ltd
LEGEND
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Planted - Commercial
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Road Parcels
Walkway Easements
Esplanade Strips
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Public Right Of Way
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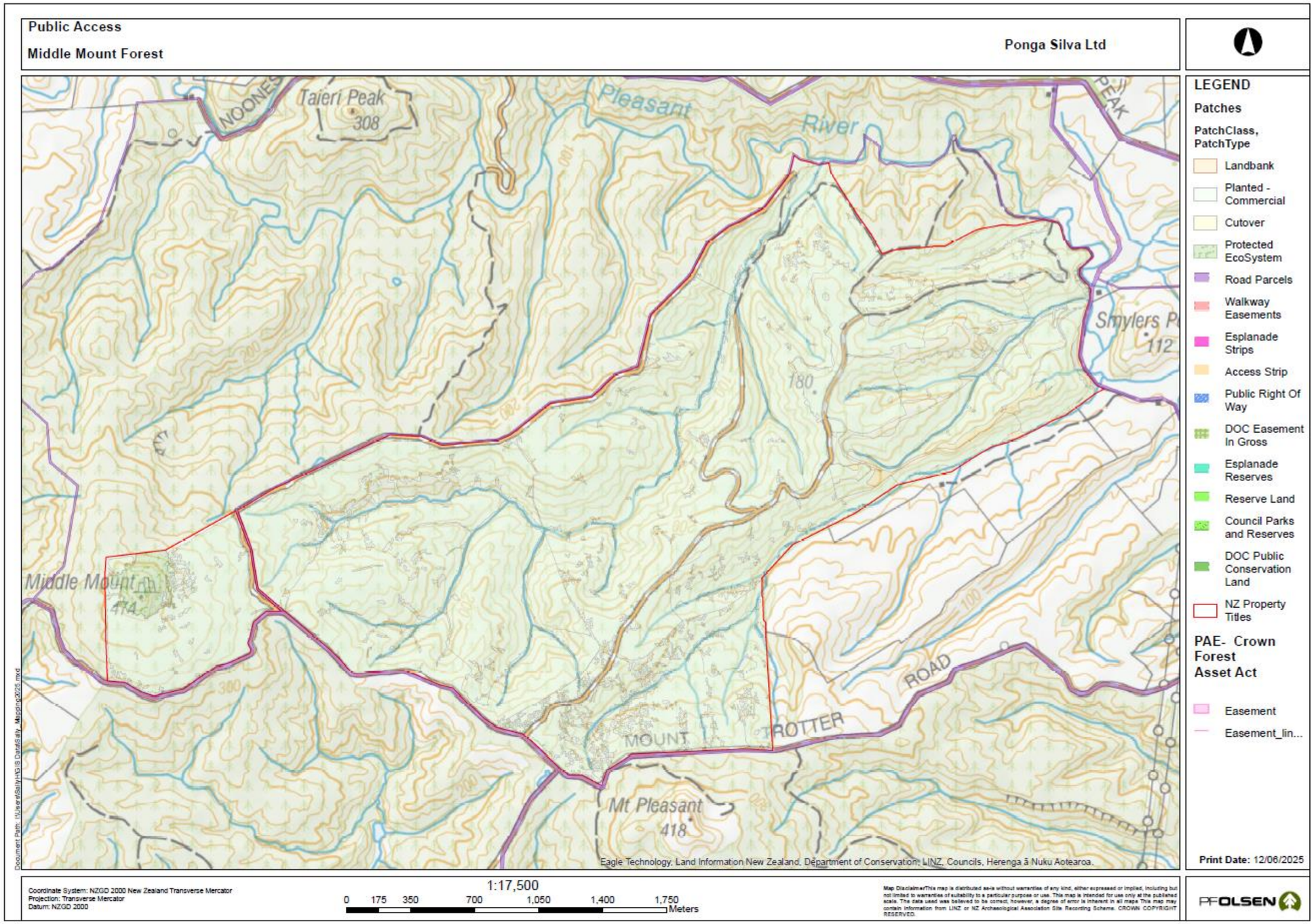
Public Access
Middle Mount Forest
Ponga Silva Ltd
Taieri Peak
308
Pleasant
River
Middle Mount
414
180
MOUNT
TROTTER
ROAD
Mt Pleasant
418
Eagle Technology, Land Information New Zealand, Department of Conservation, LINZ, Councils, Herenga ā Nuku Aotearoa.
LEGEND
Patches
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Planted - Commercial
Cutover
Protected EcoSystem
Road Parcels
Walkway Easements
Esplanade Strips
Access Strip
Public Right Of Way
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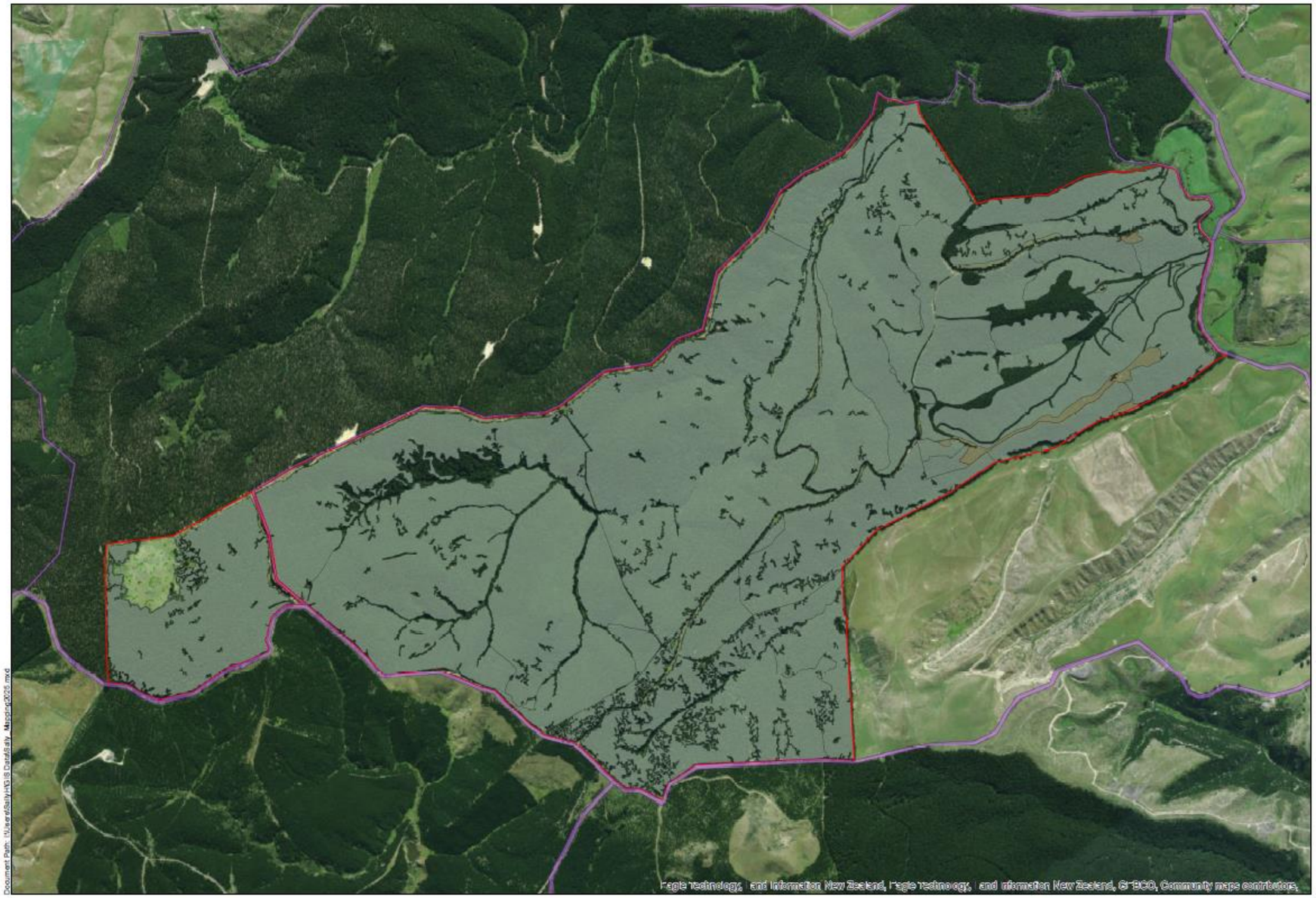
Public Access

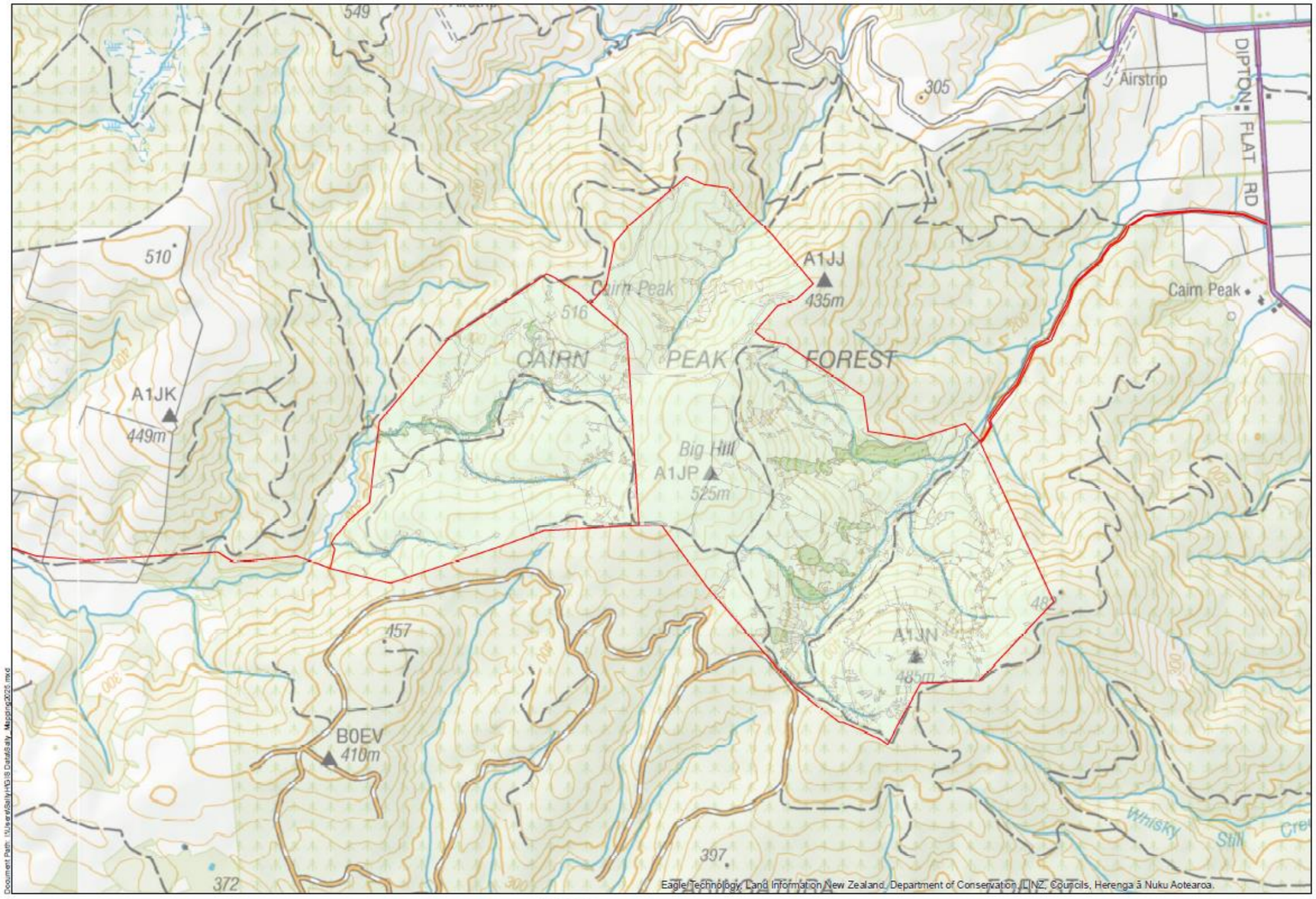
Middle Mount Forest

Ponga Silva Ltd



Public Access

Pinnacle Pine and Monavae Forest — **Ponga Silva Ltd**



LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
- Esplanade Reserves
- Reserve Land
- Council Parks and Reserves
- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

- Easement
- Easement_lin...

Print Date: 12/06/2025

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Projection: Transverse Mercator
Datum: NZGD 2000

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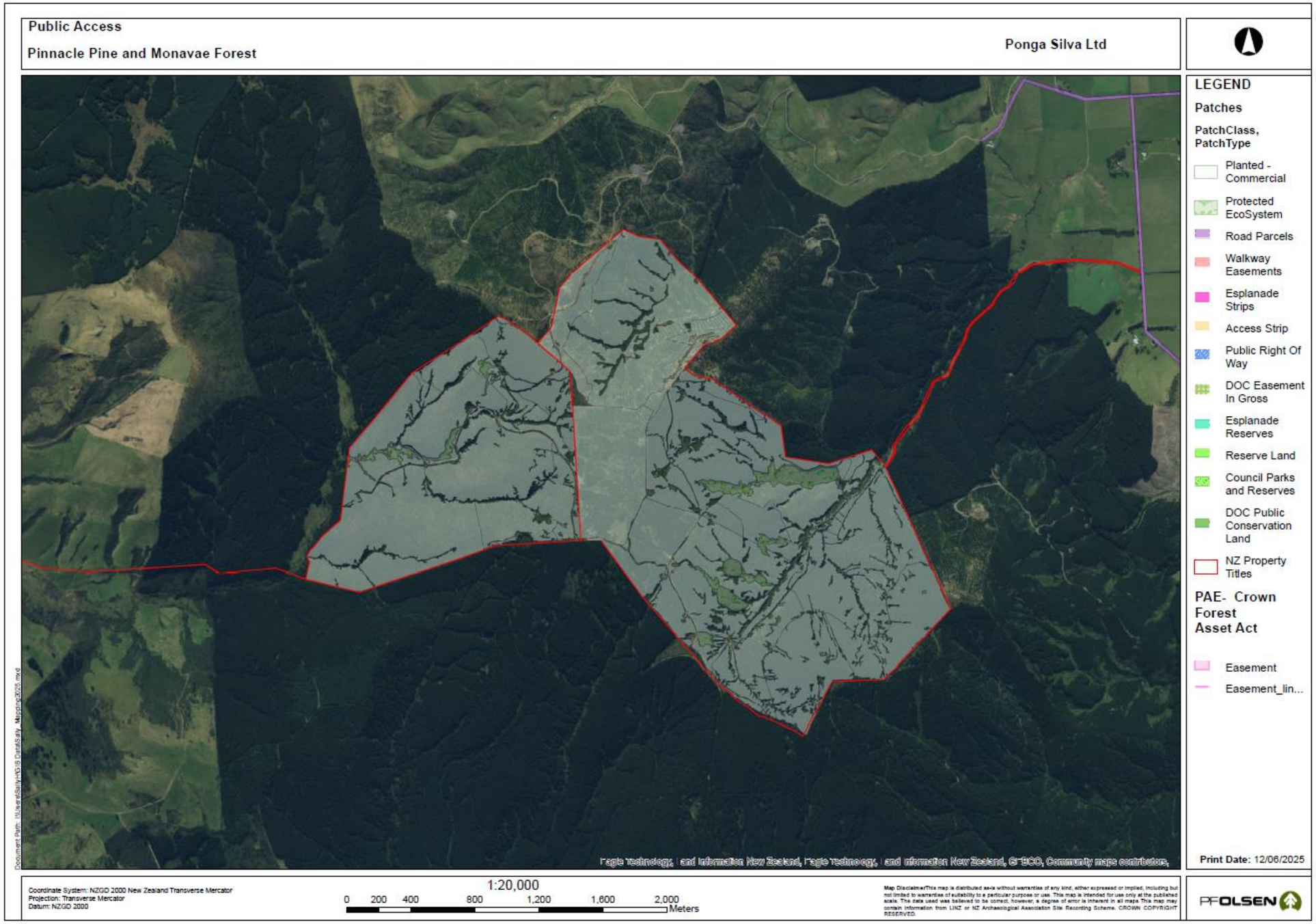
Public Access
Pinnacle Pine and Monavae Forest
Ponga Silva Ltd
LEGEND
Patches
PatchClass, PatchType
Planted - Commercial
Protected EcoSystem
Road Parcels
Walkway Easements
Esplanade Strips
Access Strip
Public Right Of Way
DOC Easement In Gross
Esplanade Reserves
Reserve Land
Council Parks and Reserves
DOC Public Conservation Land
NZ Property Titles
PAE- Crown Forest Asset Act
Easement
Easement_lin...
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Projection: Transverse Mercator
Datum: NZGD 2000
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Meters
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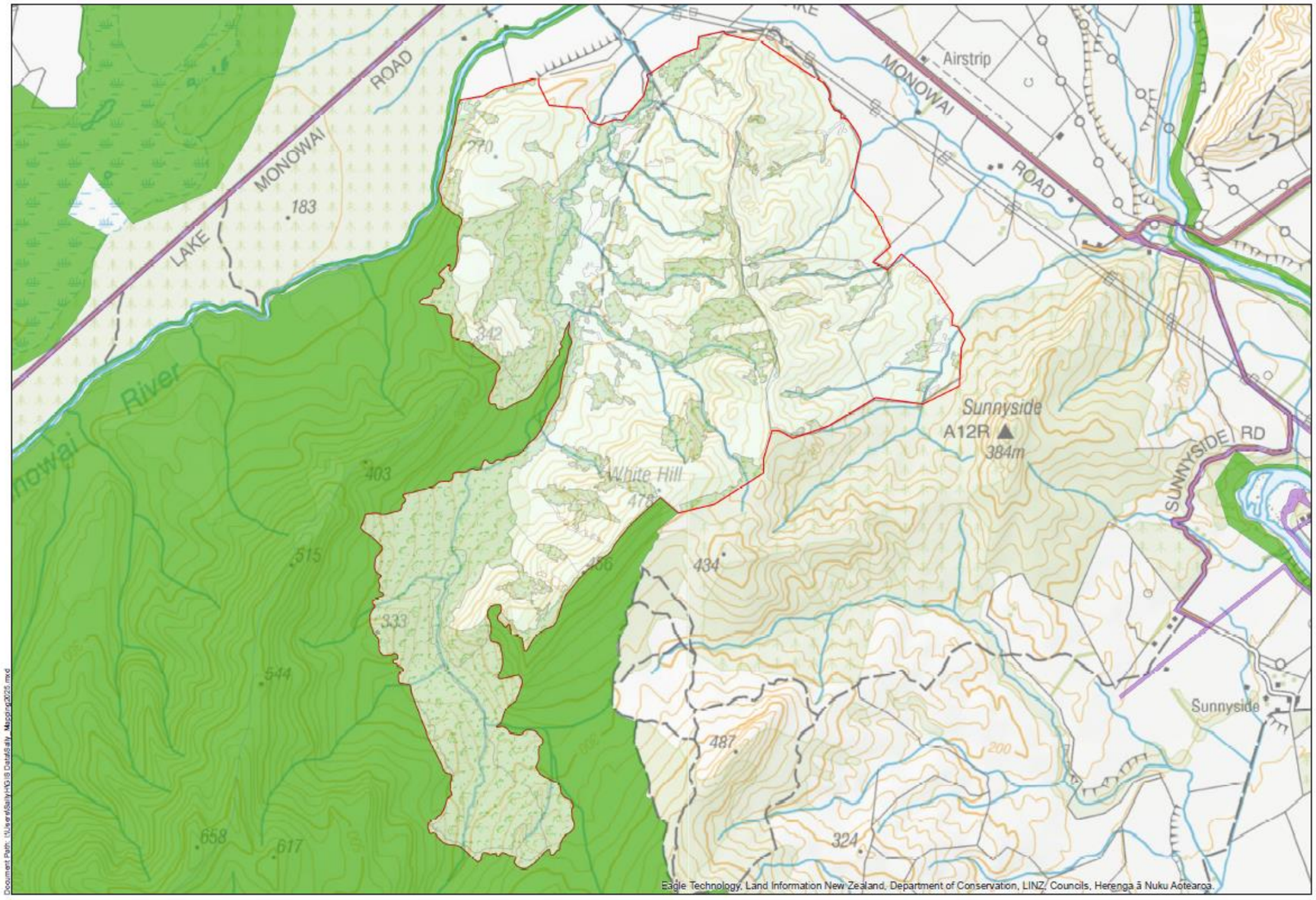
Public Access

O'Brien Forest

Ponga Silva Ltd



LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
- Esplanade Reserves
- Reserve Land
- Council Parks and Reserves
- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

- Easement
- Easement_lin...

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Projection: Transverse Mercator
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Public Access

O'Brien Forest

Ponga Silva Ltd

LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
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- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

- Easement
- Easement_lin...

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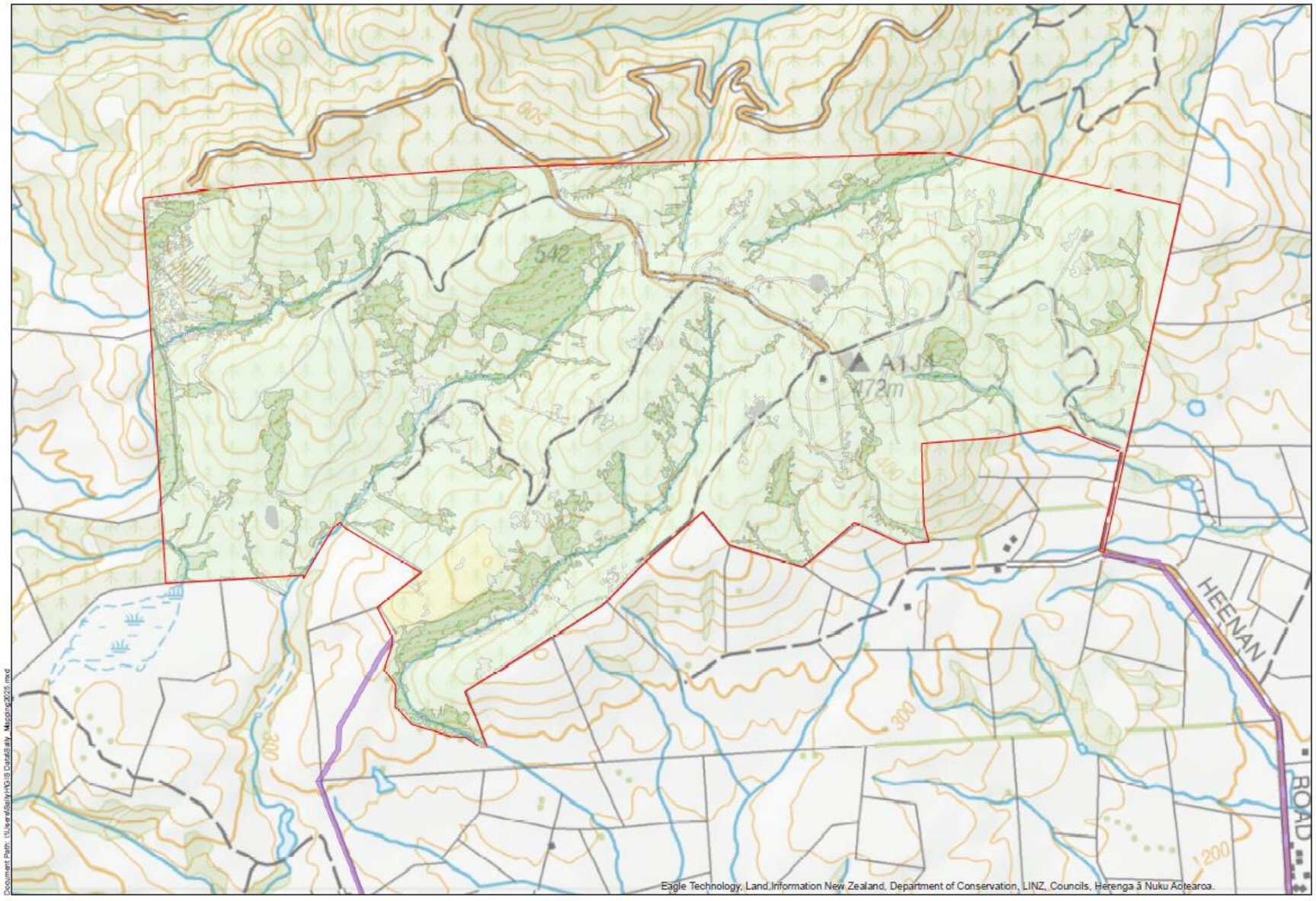
Public Access

Opio Forest

Ponga Silva Ltd



LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Cutover
- Skid
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
- Esplanade Reserves
- Reserve Land
- Council Parks and Reserves
- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

- Easement
- Easement_lin...

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Coordinate System: NZGD 2000 New Zealand Transverse Mercator
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Datum: NZGD 2000

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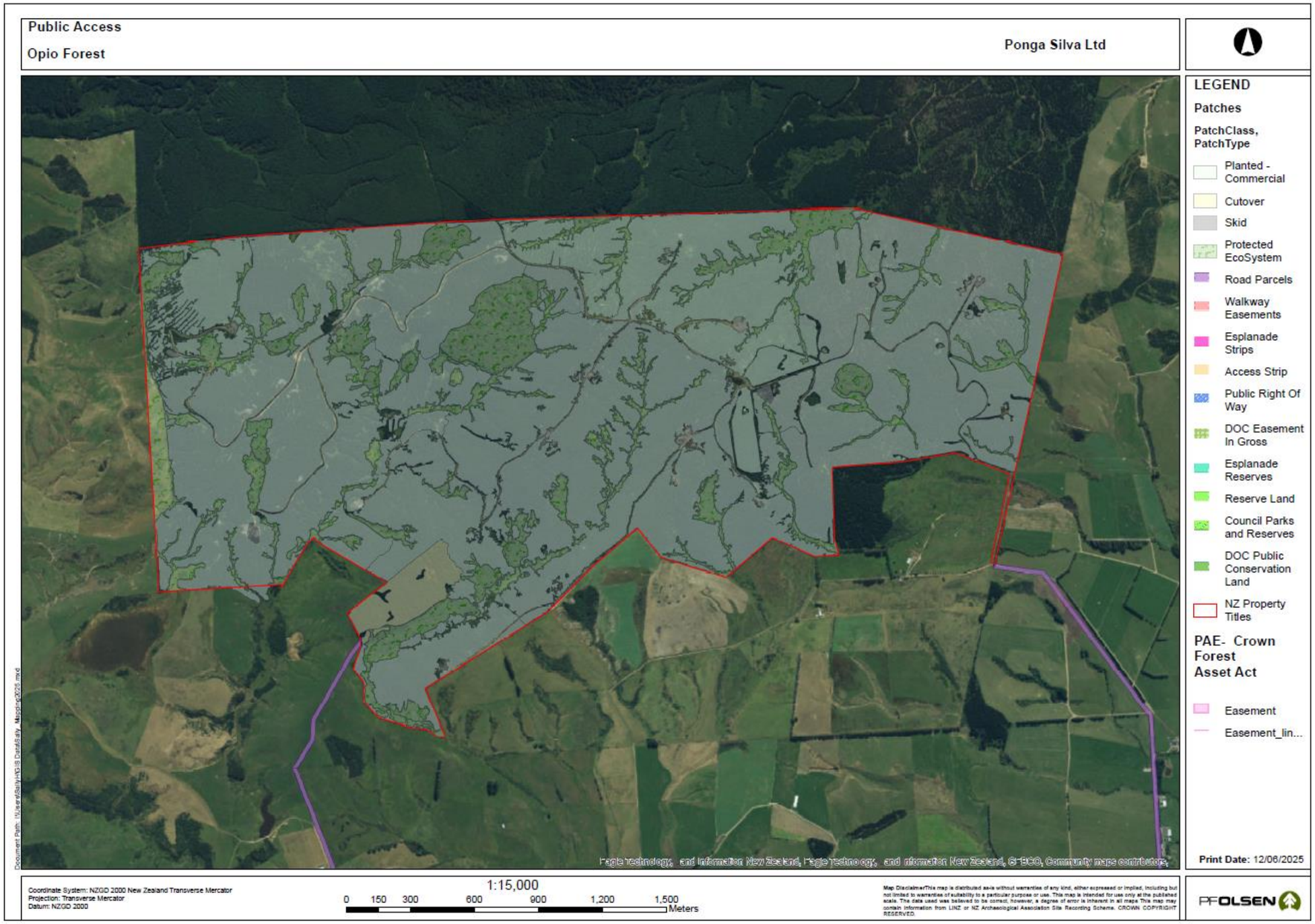
Public Access
Opio Forest
Ponga Silva Ltd
LEGEND
Patches
PatchClass, PatchType
Planted - Commercial
Cutover
Skid
Protected EcoSystem
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Projection: Transverse Mercator
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Meters
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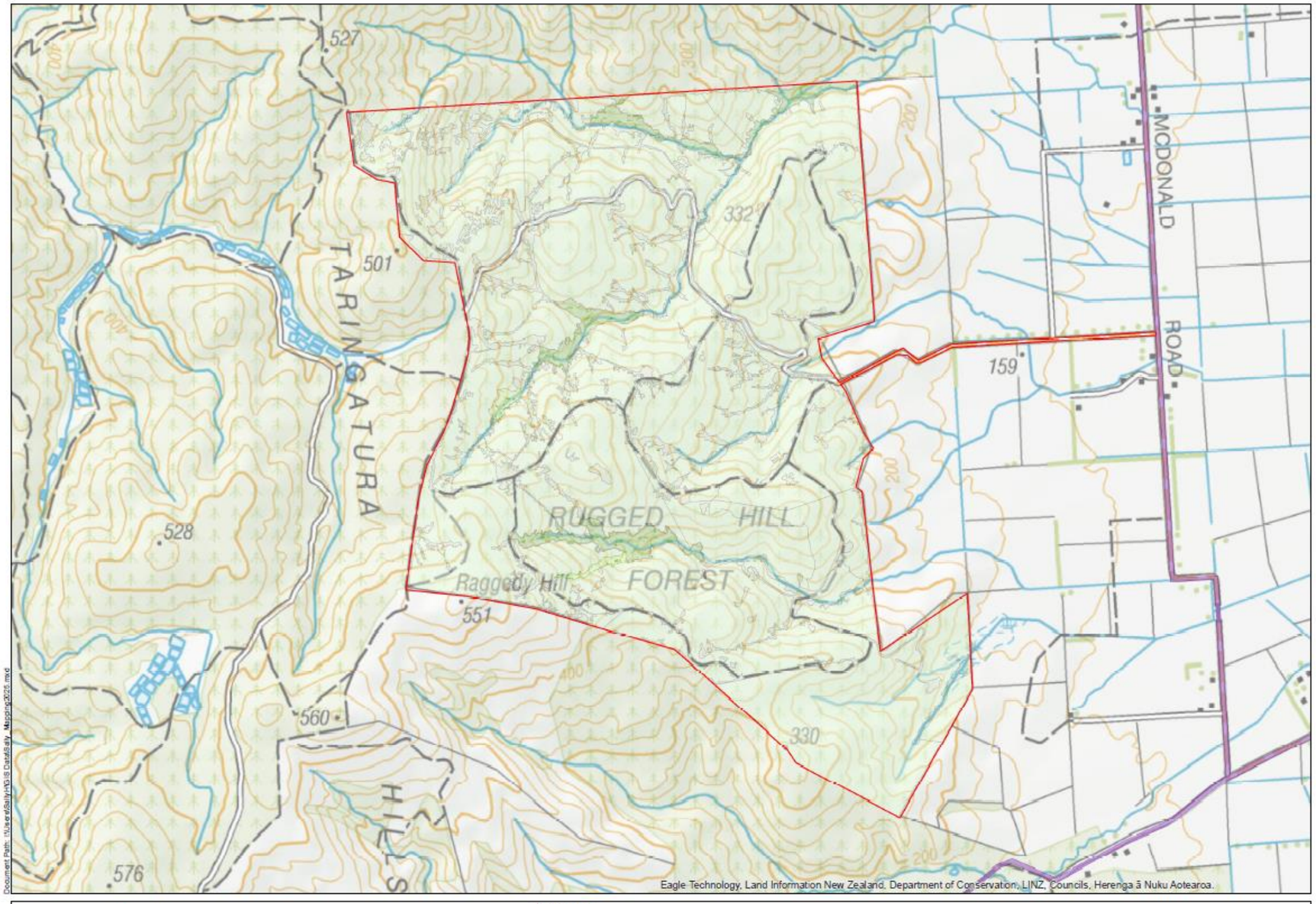
Rugged Hills Forest **Ponga Silva Ltd**



LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Reserve
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
- Esplanade Reserves
- Reserve Land
- Council Parks and Reserves
- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

- Easement
- Easement_lin...

Print Date: 12/06/2025

Coordinate System: NZGD 2000 New Zealand Transverse Mercator
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Datum: NZGD 2000

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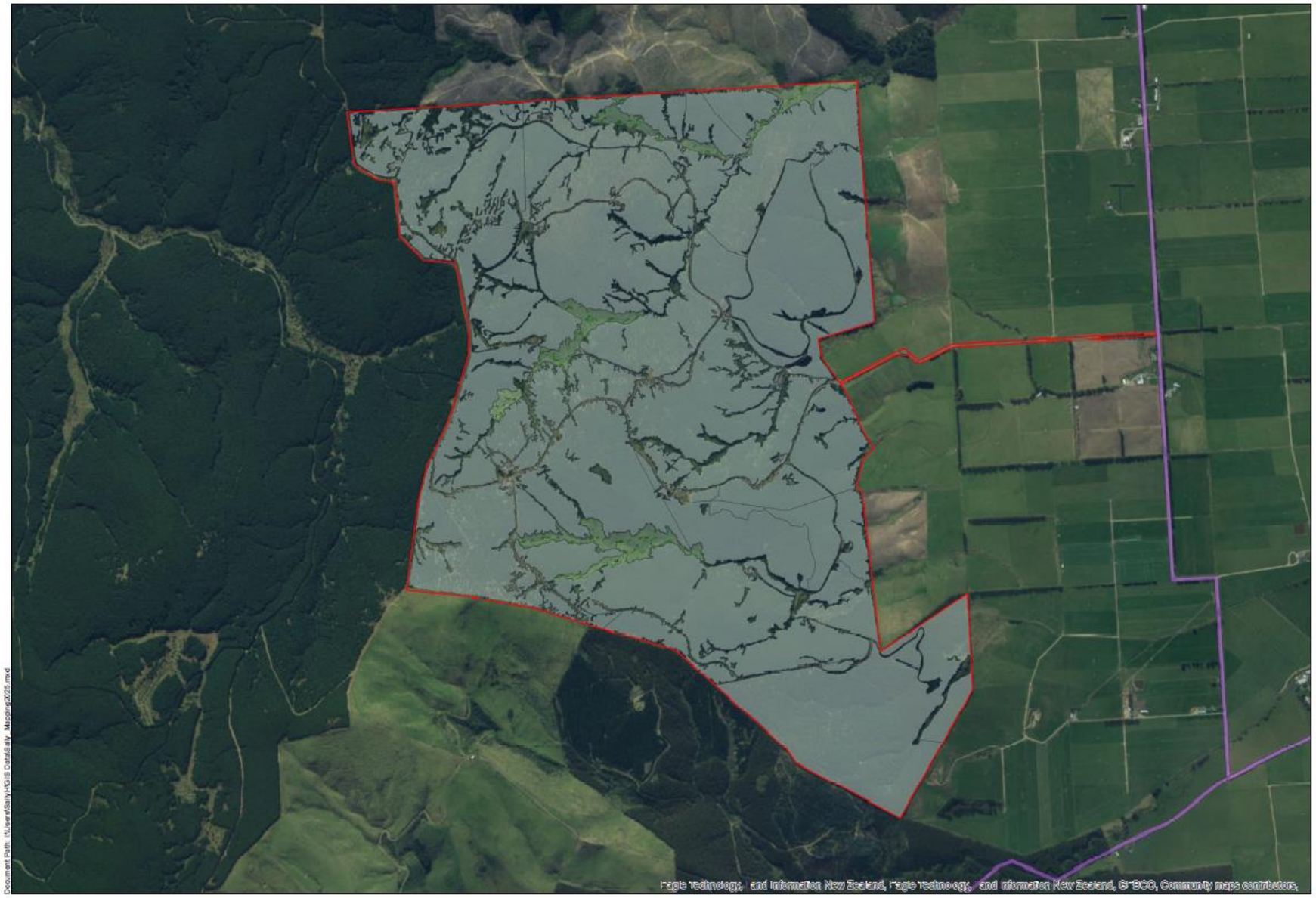
Rugged Hills Forest

Ponga Silva Ltd



LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Reserve
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
- Esplanade Reserves
- Reserve Land
- Council Parks and Reserves
- DOC Public Conservation Land
- NZ Property Titles

PAE- Crown Forest Asset Act

- Easement
- Easement_lin...

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Coordinate System: NZGD 2000 New Zealand Transverse Mercator
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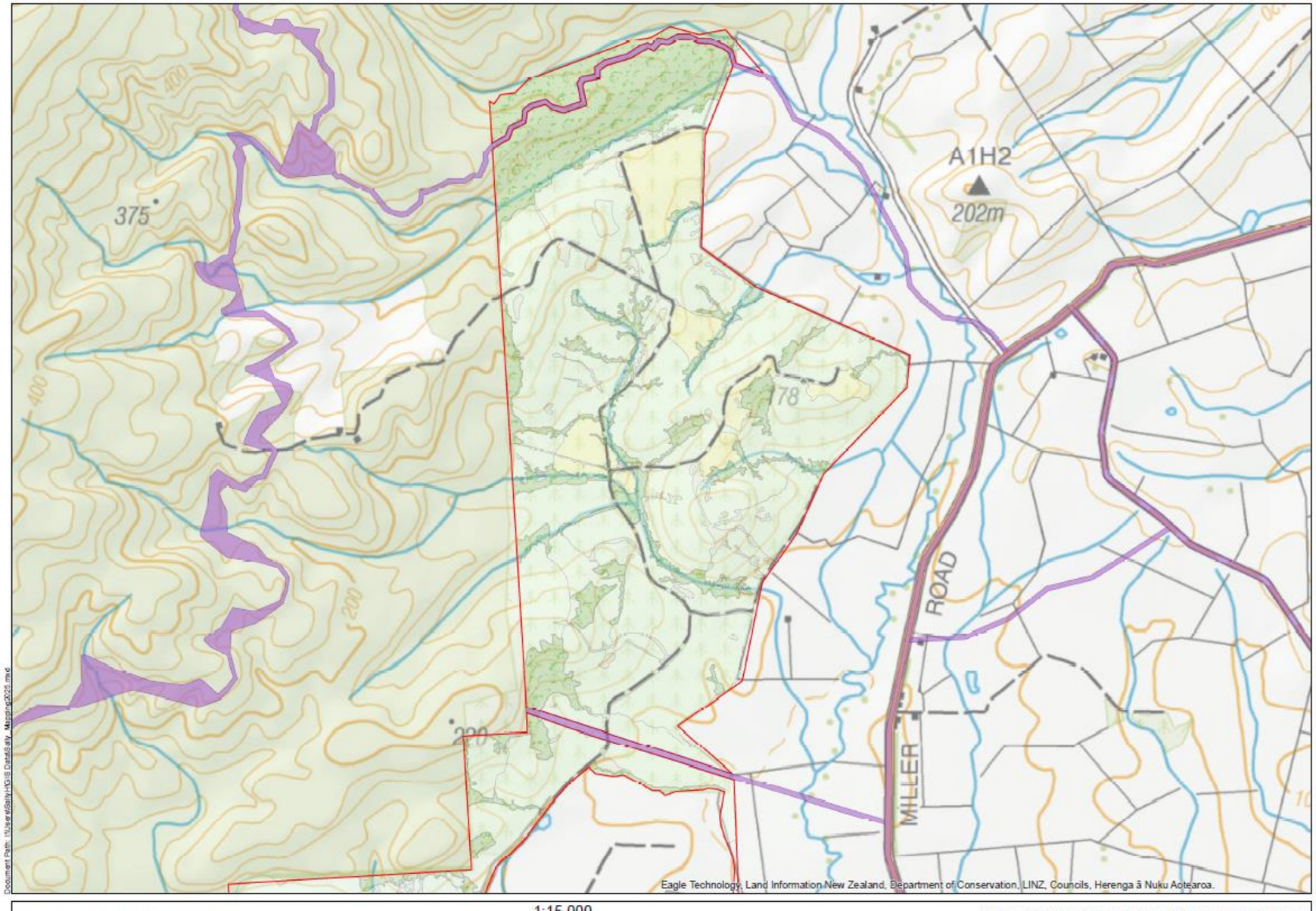
Public Access

Waitane Forest (pt north)

Ponga Silva Ltd



LEGEND

Patches

PatchClass, PatchType

- Planted - Commercial
- Cutover
- Protected EcoSystem
- Road Parcels
- Walkway Easements
- Esplanade Strips
- Access Strip
- Public Right Of Way
- DOC Easement In Gross
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Print Date: 12/06/2025

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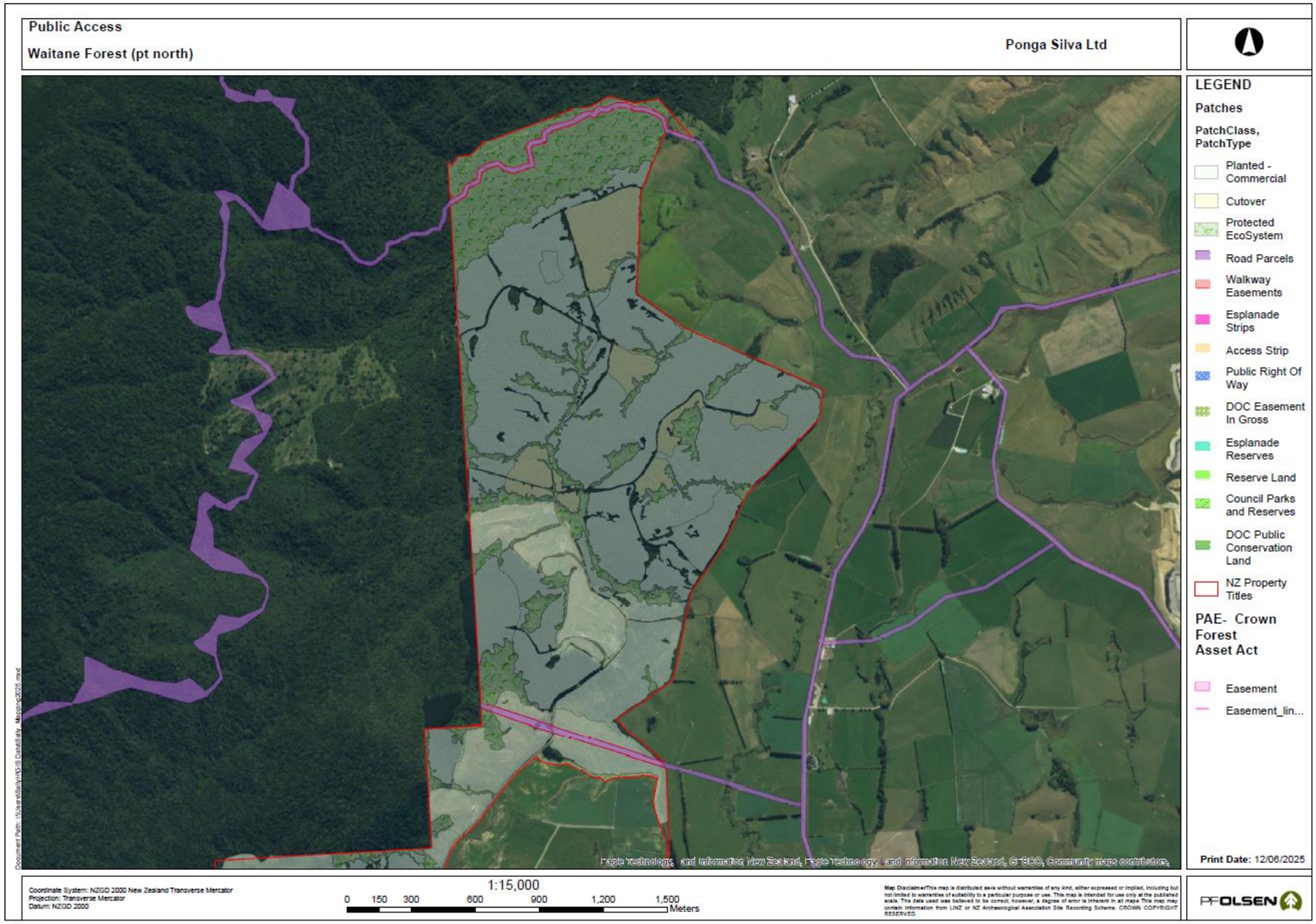
Public Access
Waitane Forest (pt north)
Ponga Silva Ltd
LEGEND
Patches
PatchClass, PatchType
Planted - Commercial
Cutover
Protected EcoSystem
Road Parcels
Walkway Easements
Esplanade Strips
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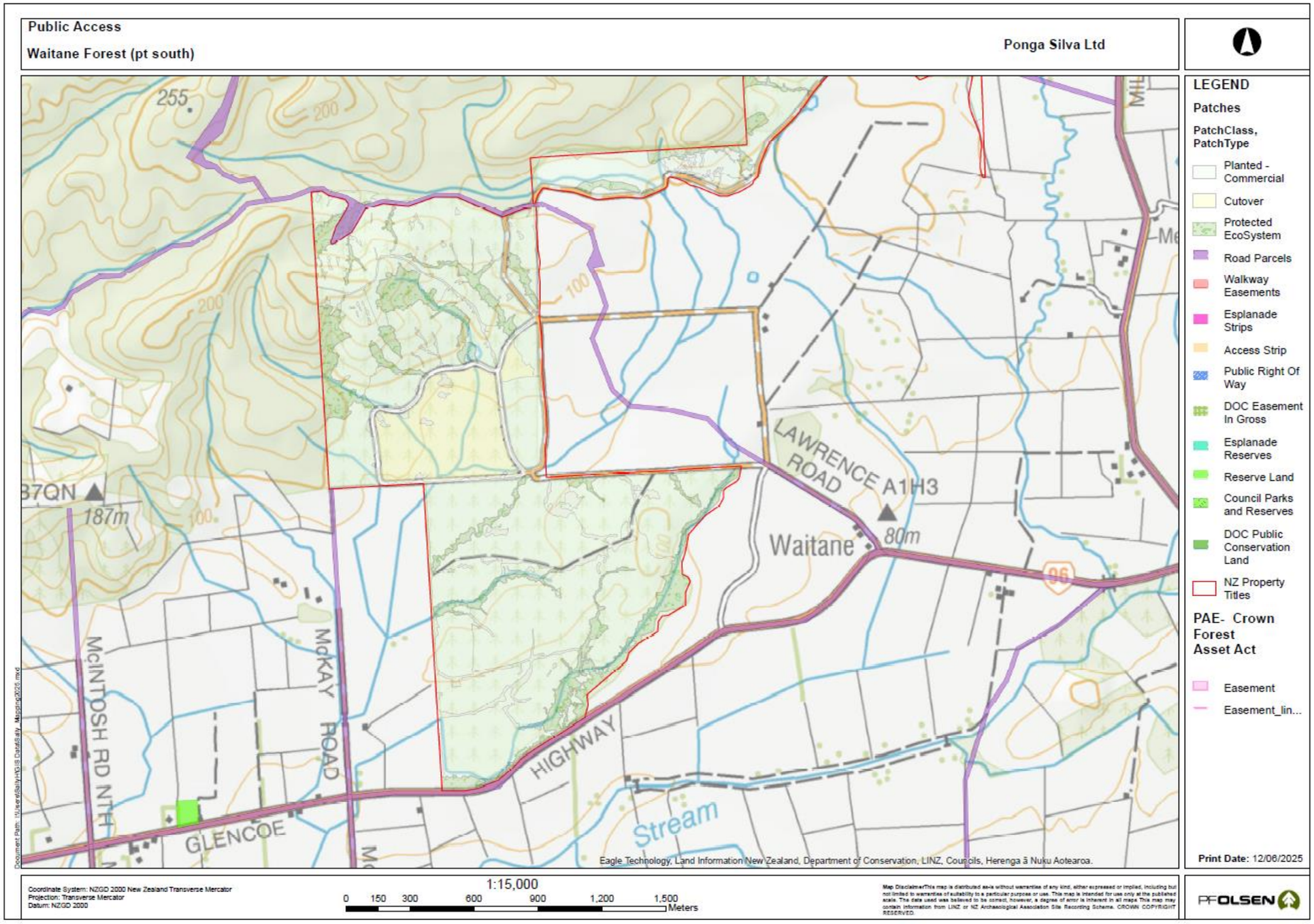
Public Access
Waitane Forest (pt south)
Ponga Silva Ltd
LEGEND
Patches
PatchClass, PatchType
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Cutover
Protected EcoSystem
Road Parcels
Walkway Easements
Esplanade Strips
Access Strip
Public Right Of Way
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Council Parks and Reserves
DOC Public Conservation Land
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Print Date: 12/06/2025
255
200
100
LAWRENCE ROAD
A1H3
80m
Waitane
96
187m
McINTOSH RD NTH
McKAY ROAD
HIGHWAY
GLENCOE
Stream
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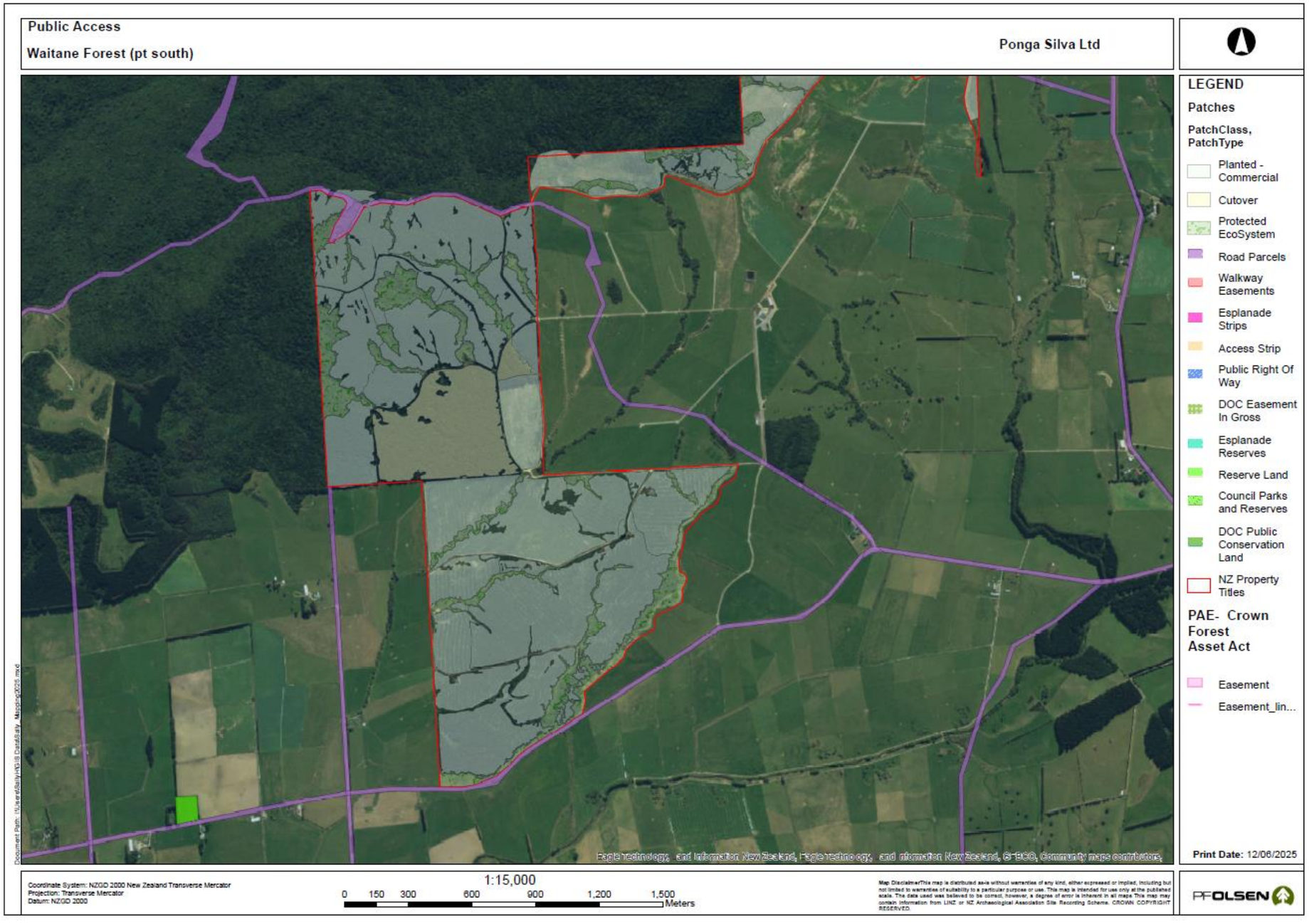
Public Access
Waitane Forest (pt south)
Ponga Silva Ltd
LEGEND
Patches
PatchClass, PatchType
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Meters
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