TIMARU DISTRICT

SIGNIFICANT NATURAL AREAS SURVEY

PEEL FOREST ESTATE
CARR PROPERTY
Supplementary Report

Report prepared for Timaru District Council by Mike Harding
February 2021

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

SUPPLEMENTARY PROPERTY REPORT

PROPERTY DETAILS:

Owner: ..... Graham Carr and Ashley Carr
Valuation References: . 24640-04202
Address: ..... Peel Forest Estate, RD 22, Geraldine
Location: ..... Peel Forest, South Canterbury
Ecological District: ..... High Plains
TDC Land Types: ..... Plains
Land Environment: N3.1a

ADDITIONAL SIGNIFICANT AREAS ON THE PROPERTY:

The property was first surveyed in October 2015; three areas of significant indigenous vegetation/habitat (SNAs) were identified at that time (663a, 663b and 664b). This supplementary survey was prompted by a request for funds to assist with fencing of SNA 663a and likely future applications to fence individual trees in paddocks south and west of SNA 663a.

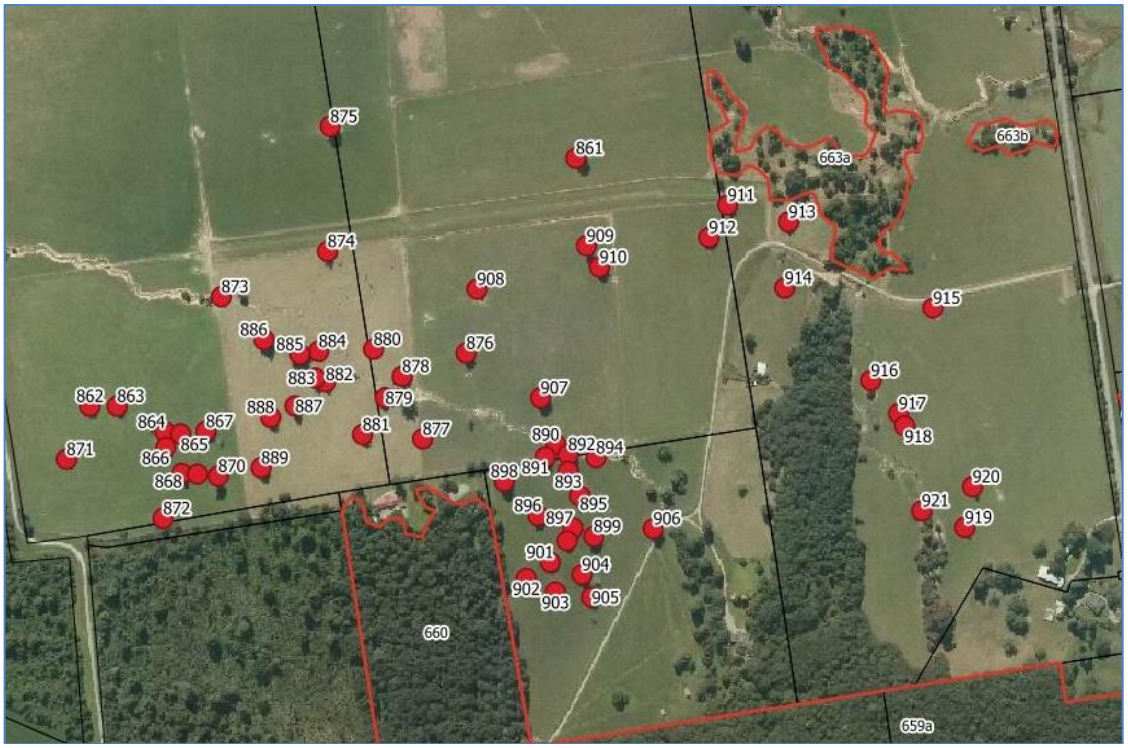
This report describes the scattered old trees in paddocks south and west of SNA 663a. The area between the trees is cultivated land (pasture). If the trees were mapped as one SNA it is likely that consent would be required for continued cultivation of that pasture under the proposed Timaru District Plan.

Instead, the sixty trees or small groups of trees are identified as individual SNAs in this report (SNAs 861 to 921). Each SNA is mapped as a point rather than a polygon, because it is difficult to draw a polygon at that scale. The extent of each SNA is the horizontal extent of the root zone of the tree.

The trees protected within these SNAs are kahikatea (*Dacrycarpus dacrydioides*), totara (*Podocarpus totara*), matai (*Prumnopits taxifolia*), pokaka (*Elaeocarpus hookerianus*), lowland ribbonwood (*Plagianthus regius*) and broadleaf (*Griselinia littoralis*). Most of the trees are almost certainly remnants of the original podocarp-dominated forest that occupied this part of the High Plains Ecological District. The larger trees are likely to be many hundreds of years old.

Not all trees were inspected closely. Several trees support healthy populations of white mistletoe (*Tupeia antarctica*), green mistletoe (*Ileostylis micranthus*) and leather-leaf fern (*Pyrrosia eleagnifolia*).

The location of each SNA is illustrated on the aerial image below, and listed in the following table. More detailed aerial images and photographs are appended to this report. For each site, it is noted whether the tree is already protected by a post and netting fence or wire mesh. And, the presence of epiphytic species is recorded.



Peel Forest Estates SNAs

SNA No.	Map reference	Tree Species	Fenced/ Meshed?	Epiphytic species
861	1459625E-5137377N	kahikatea	fenced	
862	1459129E-5137123N	kahikatea	fenced	
863	1459157E-5137124N	kahikatea	fenced	
864	1459206E-5137097N	totara	fenced	
865	1459221E-5137095N	totara	fenced	white mistletoe
866	1459207E-5137081N	totara	meshed	white mistletoe
867	1459247E-5137097N	kahikatea	fenced	
868	1459223E-5137055N	kahikatea	fenced	
869	1459239E-5137055N	kahikatea x2	fenced	
870	1459260E-5137052N	kahikatea	fenced	
871	1459105E-5137069N	pokaka	fenced	
872	1459205E-5137005N	kahikatea x2; totara x1; lowland ribbonwood x1	fenced	
873	1459263E-5137237N	matai	meshed	
874	1459372E-5137282N	totara	fenced	white mistletoe; leather-leaf fern
875	1459375E-5137412N	kahikatea	fenced	
876	1459513E-5137179N	kahikatea	fenced	
877	1459468E-5137091N	totara	fenced	green mistletoe
878	1459451E-5137152N	totara; broadleaf	fenced	
879	1459431E-5137133N	pokaka x2		white mistletoe
880	1459419E-5137182N	matai	meshed	
881	1459408E-5137096N	kahikatea	meshed	
882	1459370E-5137149N	matai	meshed	leather-leaf fern

883	1459359E-5137153N	totara	meshed	green mistletoe
884	1459363E-5137181N	matai		
885	1459344E-5137178N	totara		green mistletoe; leather leaf fern
886	1459307E-5137193N	totara		green mistletoe
887	1459339E-5137125N	kahikatea		
888	1459314E-5137113N	totara		
889	1459304E-5137062N	kahikatea x2	meshed	
890	1459605E-5137085N	kahikatea		
891	1459594E-5137073N	kahikatea		
892	1459617E-5137076N	kahikatea		
893	1459617E-5137058N	kahikatea		
894	1459646E-5137072N	kahikatea		
895	1459629E-5137034N	kahikatea; totara		
896	1459587E-5137013N	kahikatea; totara		
897	1459622E-5137000N	totara		
898	1459553E-5137048N	kahikatea; totara		
899	1459644E-5136991N	kahikatea		
900	1459616E-5136987N	kahikatea		
901	1459599E-5136965N	totara		
902	1459575E-5136949N	totara		
903	1459604E-5136935N	kahikatea		
904	1459632E-5136953N	kahikatea		
905	1459642E-5136930N	totara		
906	1459705E-5136999N	kahikatea		
907	1459590E-5137133N	kahikatea		
908	1459525E-5137244N	totara		green mistletoe
909	1459636E-5137289N	kahikatea		
910	1459650E-5137267N	kahikatea		
911	1459781E-5137330N	totara	fenced	
912	1459761E-5137297N	totara	fenced	
913	1459843E-5137313N	totara	fenced	
914	1459839E-5137245N	kahikatea	fenced	
915	1459990E-5137225N	totara	fenced	
916	1459926E-5137151N	kahikatea	meshed	
917	1459955E-5137117N	kahikatea	meshed	
918	1459961E-5137104N	kahikatea	meshed	
919	1460023E-5137000N	kahikatea	meshed	
920	1460030E-5137042N	totara	fenced	
921	1459986E-5136988N	totara; kahikatea		

Notable Flora, Fauna and Habitats:

Most of the trees within these SNAs are remnants of the podocarp forest that originally dominated this area; others are trees that presumably matured before the surrounding land was developed to pasture. Individually they are not representative of the original vegetation, but collectively they represent the canopy layer of that forest.

Lowland podocarp forest is one of the most depleted forest types in Canterbury, and is nationally rare. This is indicated by the listing of indigenous vegetation in this Level IV Land Environment (N3.1a) (Leathwick *et al*, 2003) as acutely threatened (depleted to less than 10% of its former extent nationally) (Cieraad *et al*, 2015).

Some of the trees support white mistletoe (*Tupeia antarctica*), which is an At Risk (declining) species (de Lange *et al*, 2018). Long-tailed bats (*Chalinolobus tuberculatus* "South Island") are present in the area, and are listed as a Threatened (nationally critical) species (O'Donnell et al, 2012). These tall old trees are likely to provide important roosting and nesting sites for forest birds and possibly long-tailed bats, and an important seasonal food resource for native birds.

Condition and Management

Most of the trees appear to be in good condition. The trunks of some trees have been damaged by deer and cattle, though the landowner is presently placing post and netting fences or wire mesh around unprotected trees. Tree roots that lie on or near the surface are affected by trampling. The root zones of some trees are protected by fences.

No invasive plant pests were observed, except for occasional trees of sycamore (*Acer pseudoplatanus*). Dense stands of sycamore are present nearby. These trees do not threaten these SNAs, but pose a significant threat to indigenous vegetation in the wider area. Animal pests were not surveyed. Possums are likely to be present, though the healthy condition of the mistletoe plants indicates that the possum population is presently low.

The most important management actions at this site are protection of the trees and their root zones from domestic stock (deer and cattle), and the maintenance of indigenous vegetation at the site over the long term. Ideally, netting (or wire mesh) fences should protect an area of sufficient size to protect the root zone of each tree. And, long-term, young trees should be planted, to provide for replacement of the existing trees when those trees eventually senesce and die.

ASSESSMENT AGAINST REGIONAL POLICY STATEMENT CRITERIA:

Criteria	Yes/No	Comments
Representativeness	**Yes**	Indigenous vegetation that is typical/characteristic of the natural diversity of the ecological district.
Rarity/Distinctiveness	**Yes**	Indigenous vegetation that has been reduced to less than 10% of its former extent in the ecological district and land environment. Supports an At Risk species (white mistletoe).
Diversity and Pattern	**No**	Species and habitat diversity is low.
Ecological Context	**Yes**	Part of a network of forest-bird habitat.

Discussion:
This site meets the Canterbury Regional Policy Statement criteria for a significant natural area. Important values are that it supports indigenous vegetation within an ecological district (and land environment) where indigenous vegetation is substantially depleted. It supports a healthy population of white mistletoe. The trees provide useful habitat for forest birds, and possibly long-tailed bats.

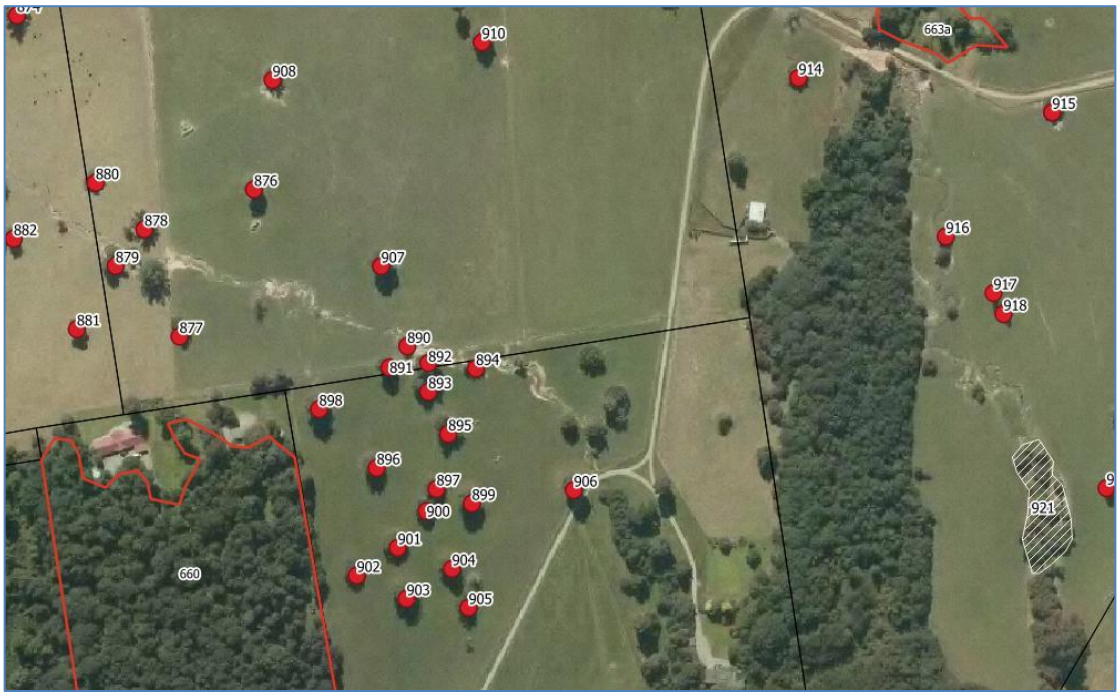
SNA 885 (centre), large totara; SNA 886 (left-rear), totara; SNA 884 (right), matai.

SNA 900 (centre), kahikatea; SNA 897 and SNA 899 (left), totara and kahikatea.

SNAs 901 to 905, totara and kahikatea, central area.

SNA 916, kahikatea at south-eastern part. Sycamore forest at rear.

Peel Forest Estates, north-western SNAs.



Peel Forest Estates, central SNAs.

Peel Forest Estates, north-eastern SNAs.

Peel Forest Estates, south-eastern SNAs.

REFERENCES CITED:

Cieraad, E.; Walker, S.; Price, R.; Barringer, J. 2015. An updated assessment of indigenous cover remaining and legal protection in New Zealand's land environments. *NZ Journal of Ecology 39*: 309-315.

de Lange, P.J; Rolfe, J.R; Barkla, J.W; Courtney, S.P; Champion, P.D; Perrie, L.R.; Beadel, S.M.; Ford, K.A.; Breitweiser, I.; Schönberger, I.; Hindmarsh-Walls, R.; Heenan, P.B; Ladley, K. 2018. *Conservation status of New Zealand indigenous vascular plants, 2017*. Department of Conservation, Wellington, New Zealand.

Leathwick, J.; Wilson, G.; Rutledge, D.; Wardle, P.; Morgan, F.; Johnston, K.; McLeod, M.; Kirkpatrick, R. 2003. *Land Environments of New Zealand*. David Bateman, Auckland. 184p.

O'Donnell, C.F.J.; Christie, J.E.; Lloyd, B.; Parsons, S.; Hitchmough, R.A. 2013. Conservation status of New Zealand bats 2012. *New Zealand Threat Classification Series 6*. Department of Conservation, Wellington.

SNA 876, kahikatea. Note exposed roots, well protected by post and netting fence.