

TIMARU DISTRICT COUNCIL
SIGNIFICANT NATURAL AREAS
SURVEY
FOUR PEAKS ROAD PROPERTY



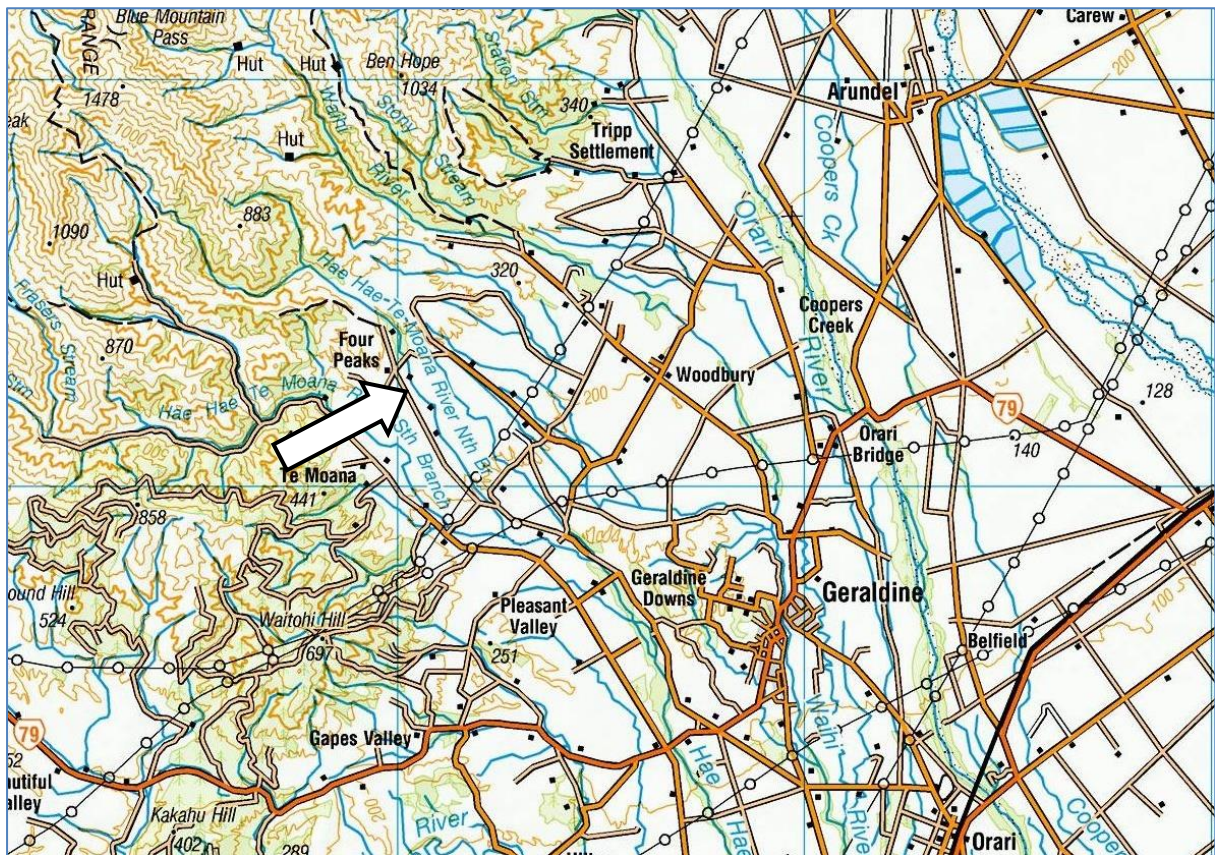
Report prepared for Timaru District Council
Mike Harding
July 2021
(review of 2007 report)

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY PROPERTY REPORT

PROPERTY DETAILS:

Owner: Simon Rutherford
Valuation Reference: 24660-17100
Location:..... 414 Four Peaks Road
Ecological District:..... Geraldine (on boundary of Orari Ecological District)
Level IV Land Environment:..... N2.1d

LOCATION AND DESCRIPTION:



The Rutherford property is located on Four Peaks Road north-west of Geraldine. It lies on the high plains, at an altitude of approximately 260m. Underlying geology is weathered gravel, sand, silt and mud of alluvial origin (Middle Quaternary alluvium and colluvium)¹. The property is on the floodplain of the Hae Hae Te Moana River North Branch.

ECOLOGICAL CONTEXT:

The property lies in Geraldine Ecological District, though near to the boundary of Orari Ecological District², and within the N2.1d Level IV Land Environment³.

¹ GNS Geological Map of New Zealand.

² McEwen, 1987.

³ Leathwick *et al*, 2003.

It is likely that the original vegetation of this area was predominantly podocarp-broadleaved forest, dominated by matai, totara, kahikatea, lowland ribbonwood, kowhai, broadleaf and other broadleaved trees. Kanuka-kowhai forest would have been present at recently disturbed sites.

Today the original forest cover in this part of Geraldine Ecological District is largely confined to remnants in gullies or on steep slopes associated with limestone scarps. Otherwise, the indigenous vegetation of the ecological district is substantially depleted or modified. Forest remnants on alluvial surfaces are rare. The indigenous fauna would have originally been significantly more numerous and diverse, with a greater range of birds, lizards and invertebrates than is presently found in the area.

SURVEY METHOD AND COVERAGE:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during March 2007. This reviewed property report is based on an inspection undertaken over one hour on 10 July 2021. The focus of this field inspection was to determine the extent of planted and naturally-occurring vegetation, and to more accurately define the presence and extent of significant indigenous vegetation and significant habitats of indigenous fauna.

Observations of indigenous fauna were recorded; otherwise fauna was not surveyed. Fauna surveys require specialized techniques, flexibility with timing (weather and season), greater survey effort, and knowledge or survey of surrounding areas (e.g. for assessments of habitat use by birds). Therefore, it is possible that some fauna values are not documented by this assessment.

Names of indigenous plant species cited in this report are as listed on the Ngā Tipu o Aotearoa-New Zealand Plants database (Manaaki Whenua-Landcare Research). The threat status of indigenous species is as listed in the most recent publications of the Department of Conservation, referenced in this report.

SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

Three areas, totalling approximately 2.62 hectares were identified and documented in the 2007 property report. This July 2021 survey divides one of those areas into three separate SNAs, creating five SNAs with a total area of approximately 1.19ha. These areas are listed in the table below and illustrated on the following image.

SNA	Central map reference (NZTM)	Size (ha)	Vegetation Type
394	1450262E-5122516N	0.32	kowhai treeland ⁴
396a	1450182E-5122818N	0.47	podocarp-broadleaved forest
396b	1450134E-5122914N	0.14	podocarp-broadleaved treeland
396c	1450210E-5122937N	0.07	podocarp-broadleaved treeland
396d	1450069E-5123005N	0.19	podocarp treeland

⁴ Plant community names follow the method proposed by Atkinson, 1985



Four Peaks Road SNAs (*white hatched areas*).

TIMARU DISTRICT SNA SURVEY

SNAs 394 and 396

Ecological District: Geraldine	Nearest Locality: Geraldine	
Map ref. (NZTM): see Table	Size (ha): 1.19	Altitude (m): 260
Surveyor/Assessor: Mike Harding	Survey Time: 3 hours	Survey Dates: 22-10-20 and 10-07-21

GENERAL DESCRIPTION:

These five SNAs comprise an area of podocarp-broadleaved forest and nearby areas of podocarp-broadleaved treeland. They lie on a terrace of the Hae Hae Te Moana River (North Branch) and are remnants of forest that was formerly widespread in the area.

VEGETATION/HABITAT TYPES:**Vegetation**

Two plant communities are present at these SNAs: podocarp-broadleaved forest (SNA 396a); and podocarp-broadleaved treeland (SNAs 394, 396b, 396c and 396d). These plant communities are described below. Naturalized (exotic) species are indicated by an asterisk*. Species that are presumed to have been planted are indicated by a hatch#.

Podocarp-broadleaved forest (SNA 396a):

This area of forest covers the terrace scarp and parts of a terrace adjacent to and part of the formal gardens of Four Peaks Lodge. The forest canopy is dominated by kowhai (*Sophora microphylla*), totara (*Podocarpus totara*), lowland ribbonwood (*Plagianthus regius*), narrow-leaved lacebark (*Hoberia angustifolia*), broadleaf (*Griselinia littoralis*) and lemonwood (*Pittosporum eugenioides*).

Other canopy species present are cabbage tree (*Cordyline australis*), matai (*Prumnopitys taxifolia*), rimu# (*Dacrydium cupressinum*), silver beech# (*Lophozonia menziesii*), hard beech# (*Fuscospora truncata*), miro# (*Prumnopitys ferruginea*), kahikatea (*Dacrycarpus dacrydioides*), kauri# (*Agathis australis*), five-finger (*Pseudopanax arboreus*), matipo (*Myrsine australis*), mahoe (*Melicytus ramiflorus*), kanuka (*Kunzea ericoides* agg.), cedar# and walnut# (*Juglans regia*). One old lowland ribbonwood tree is large: its two trunks each have diameters (at breast height) of c.65 cm.

Important understorey species are mahoe, matipo, fuchsia (*Fuchsia excorticata*), *Lophomyrtus obcordata*, *Coprosma rotundifolia* and Himalayan lily* (*Cardiocrinum giganteum*). Other understorey species present are sycamore* (*Acer pseudoplatanus*), southern rata# (*Metrosideros umbellata*), rhododendron#, elderberry* (*Sambucus nigra*), hawthorn* (*Crataegus monogyna*), mapou, soft tree fern (*Cyathea smithii*), silver fern/ponga (*Cyathea dealbata*), *Coprosma propinqua*, mistletoe (*Ileostylis micranthus*) (on rhododendron), native jasmine (*Parsonsia heterophylla*), climbing rata (*Metrosideros diffusa*), *Calystegia tuguriorum* and Chilean flame creeper* (*Tropaeolum speciosum*).

Important ground-cover species are prickly shield fern (*Polystichum vestitum*), bush lily (*Astelia fragrans*), violet* (*Viola odorata*) and pennywort (*Hydrocotyle* sp). Other ground-cover species are bittersweet* (*Solanum dulcamara*), blackberry* (*Rubus fruticosus* agg.), *Asplenium oblongifolium*#, male fern* (*Dryopteris filix-mas*), hound's tongue fern (*Microsorium pustulatum*), hen and chickens fern (*Asplenium gracillimum*), bracken (*Pteridium esculentum*), *Blechnum chambersii* and kowhai seedlings.

It is possible that species such as kahikatea, soft tree fern and silver fern are planted (introduced) rather than naturally occurring. However, these species are present elsewhere in the ecological district.

Podocarp-broadleaved treeland:

This plant community is present as four distinct patches, within grazed pasture.

SNA 394 supports a small patch of kowhai trees on a terrace riser and four larger isolated kowhai trees on the adjacent terrace. The area between the trees is grazed pasture, and includes a small ephemeral pond.

SNA 396b comprises two totara trees, three kowhai trees, two broadleaf trees, two cabbage trees and three walnut[#] trees, with the native climber pohuehue (*Muehlenbeckia australis*).

SNA 396c comprises two totara trees, three kowhai trees and one broadleaf tree. One of the kowhai trees is fenced.

SNA 396d comprises three totara trees and a single kowhai tree (at the road edge). Two of the totara trees are fenced.

Habitats of Indigenous Fauna

Native bird species observed during this brief survey were bellbird (*Anthornis melanura*), kereru/NZ pigeon (*Hemiphaga novaeseelandiae*) and fantail (*Rhipidura fuliginosa*). Additional bird species observed during the previous (2007) survey were grey warbler (*Gerygone igata*), silvereye (*Zosterops lateralis*) and rifleman (*Acanthisitta chloris*). It is possible that taller trees in this area provide roost habitat for long-tailed bat (*Chalinolobus tuberculatus* “South Island”).

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The SNAs lie within a Level IV Land Environment (N2.1d) in which less than 10% of indigenous cover remains nationally⁵.

The following naturally-occurring plant species listed as ‘threatened’⁶ are present at the site:

- *Kunzea ericoides* agg. (kanuka)nationally vulnerable
- *Lophomyrtus obcordata* (rohutu)nationally critical
- *Metrosideros diffusa* (climbing rata).....nationally vulnerable

However, the listings for these species result from the threat posed by myrtle rust, and have the qualifiers DP (data poor) and De (taxon that does not fit within the criteria; designated to most appropriate listing).

Long-tailed bat are listed as a ‘threatened’ (nationally critical) species⁷.

⁵ Cieraad *et al*, 2015.

⁶ de Lange *et al*, 2018.

⁷ O’Donnell *et al*, 2013.

ASSESSMENT OF SIGNIFICANT NATURAL AREAS:

Significant Natural Areas (SNAs) are determined by assessing indigenous vegetation and habitats of indigenous fauna against the criteria in Appendix 3 of the Canterbury Regional Policy Statement (RPS), with reference to the guidelines for application of these criteria⁸.

Selecting boundaries for SNAs can be problematic, as vegetation boundaries are not precise (plant communities frequently grade from one type to another) and habitats of indigenous fauna are not easily determined through brief site surveys. In this assessment SNA boundaries have been drawn to include the main areas of podocarp-broadleaved forest and treeland. These boundaries include some planted vegetation and, for the treeland SNAs, areas of grazed pasture.

ASSESSMENT AGAINST CANTERBURY RPS CRITERIA:

Criteria	Yes/No	Comments
Representativeness	Yes	1. Indigenous vegetation/habitat that is typical or characteristic of the natural diversity of the ecological district.
Rarity/Distinctiveness	Yes	3. Supports indigenous vegetation/habitat that has been depleted to less than 20% of its former extent in the ecological district and land environment.
Diversity and Pattern	No	Plant species diversity is relatively low.
Ecological Context	Maybe	8. Indigenous vegetation that may be part of a network of habitat for forest birds in an area where such habitat is substantially depleted.

Comments/Reasons:

Although woody plant communities at this site are depleted, they are typical and characteristic of the indigenous vegetation remaining on alluvial surfaces in this part of the ecological district. The forest comprises naturally-occurring and introduced vegetation that provides good habitat for native birds, and suitable/potential habitat for long-tailed bat. The areas of treeland also provide useful forest bird habitat. These SNAs lie close to more extensive areas of indigenous vegetation in the nearby foothills and are part of a network of forest-bird habitat in the wider area.

PLANT AND ANIMAL PESTS:

Sycamore and Himalayan lily are the most important plant pests in the forest. Sycamore has the potential to become a dominant component of the forest canopy, and Himalayan lily has the potential to dominate the forest understorey. Other important plant pests in the forest are elderberry and hawthorn. Elderberry and hawthorn, with their bird-dispersed fruits, pose a threat to other areas of indigenous vegetation in the area. Walnut seedlings may also pose a threat.

Animal pests were not surveyed, though brush-tailed possums are present.

⁸ Wildlands, 2013.

SITE CONDITION:

These forest and treeland sites are in relatively good condition. Continued weed control will be necessary to protect the ecological values of the forest. In the long-term the treeland will disappear as the trees progressively senesce and die, unless replacement trees are established. A number of native trees, notably silver beech and hard beech, have been planted in the forest. These species are not indigenous to the area, though add interest to the forest and pose little or no threat to other areas of indigenous vegetation. The present landowner has put considerable effort into weed control, fencing and further planting.

MANAGEMENT ISSUES AND PRIORITIES:

The most important management issues at this site are management of the forest and the long-term viability of the areas of treeland.

The forest (SNA 396a) comprises remnant indigenous trees, within which a number of indigenous and exotic species have been planted over many years, in the manner of a formal garden. Therefore, some of the vegetation is ‘naturally occurring’ and some is introduced. The most important ecological value of the forest is the habitat it provides for native bird species. The most important management priorities are removal or containment of any invasive woody plants (such as sycamore and hawthorn) and continued possum control.

Ongoing management of the planted species (such as rhododendrons) does not pose a significant threat to the ecological values of the forest. However, it is important that potentially weedy species, including native species such as North Island kowhai (*Sophora tetrapetala*) and lacebark (*Hoberia sexstylosa*), are not introduced. Ideally, all new species introduced to the forest should be indigenous species propagated from vegetation that occurs naturally in the Geraldine Ecological District.

The treeland areas (SNAs 394, 396b, 396c and 396d) comprise trees surrounded by pasture. The main threat to these trees is rubbing or chewing of the trunks and bark, and trampling of the roots, by cattle. Also, the trees will eventually senesce and die. The main management priorities are protection of the tree trunks and root systems, and provision for the eventual replacement of these trees. This could be achieved by fencing to exclude stock from the tree trunks and roots (i.e. the extent of the crown of the tree) and planting of replacement trees (of the same species).

REFERENCES CITED:

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Broadleaf and cabbage tree within SNA 396b.



SNA 396c.



Totara trees at SNA 396b.