

**TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY**

**RICHARDSON
PEEL FOREST**



**Report prepared for Timaru District Council by Mike Harding
February 2011**

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Alan and Carol Richardson
Valuation References: 24640/031.00
Address: Bushman Road, Peel Forest
Location:..... Adjacent to Peel Forest Park Scenic Reserve.
Ecological District:..... Orari Ecological District.
TDC Land Type:..... Hard rock hills and downs
Land Environment: Q2 (southeast hill country and mountains).

ECOLOGICAL CONTEXT:

The property lies on gentle lower spur and terrace with small stream gullies adjacent to Peel Forest Park Scenic Reserve at Peel Forest. It lies at the boundary of Geraldine, Orari and High Plains ecological districts, though has characteristics most representative of lower altitude parts of Orari Ecological District. The original vegetation of this area would have been predominantly podocarp-hardwood forest, with localized areas of kowhai-kanuka forest and shrubland alongside active stream channels. The indigenous fauna would have been significantly more numerous and diverse, with a greater range of birds, lizards and invertebrates than is presently found in the area.

Indigenous vegetation on the property comprises podocarp-hardwood forest. This vegetation is adjacent to other indigenous vegetation protected within the regionally-important Peel Forest Park Scenic Reserve. The property lies within the known distribution of the South Canterbury population of long-tailed bat (a nationally endangered species).

SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during November 2010. One area, comprising most of the property and totalling approximately 2.6 hectares, is regarded as a Significant Natural Area (SNA) when assessed against the District Plan criteria.

This SNA is illustrated on the attached aerial photograph and described in greater detail on the SNA Survey Form in this report. Note that the boundaries of the SNA are indicative, rather than precise. The boundaries have been drawn to exclude areas occupied by the house, access drive, proposed pond and planted trees and shrubs.

This area meets the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19) and is considered to be sustainable with appropriate management (criterion vii, page B19). SNAs are subject to confirmation by Council after regarding the matters listed in the District Plan (pages B19-B20). It is expected that SNAs will eventually be listed in the District Plan by way of a notified plan change.

At present, consent is required from Council for clearance of areas of indigenous vegetation or habitat which meet the Interim Definitions in the District Plan. Clearance includes burning, spraying with herbicides and over-planting. SNAs encompass most, but not necessarily all, areas of vegetation and habitat which meet the Interim Definitions.

To assist with the protection and management of any SNA, landowners can apply to Council for financial assistance. Any questions regarding the protection, management and use of SNAs should be directed to the District Planner.

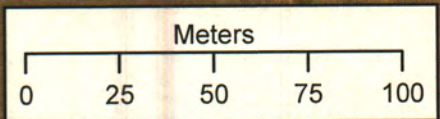




Richardson Property
24640/031.00



1:2,000



Area Name:	Property: Richardson
Location (central map reference): J37: 692-996	Nearest Locality: Peel Forest
Ecological District: Orari	Area Size (ha): 2.6 Altitude (m): 340-360
Surveyors: Mike Harding	Survey Time: 2½ hours Survey Date: 19-11-10

General Description:

This SNA lies on a small spur and an adjacent gently-sloping terrace at the foot of the Mt Peel Range, adjacent to Peel Forest Park Scenic Reserve. It lies on the boundary of the Orari, Geraldine and High Plains ecological districts, though has characteristics most typical of lower-altitude parts of Orari Ecological District. Indigenous vegetation covers all the property except for cleared and planted areas around the house at the centre of the property and along the access drive.

Plant Communities:

Two main plant communities are present: hill-slope forest and terrace forest. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk*.

Hill-slope forest:

The canopy of this area of forest, at the northwest part of the property, is dominated by mahoe, with emergent trees of pokaka, kanuka, kahikatea and totara. Trunk diameters (cm at breast height) of the larger trees are: pokaka, 53-100; kanuka, 25-40; kahikatea, 70-218; and totara, 210. Other canopy species are broadleaf, lemonwood, five-finger, fuchsia, pate, lancewood, mapou, wheki-ponga, cabbage tree, narrow-leaved lacebark, lowland ribbonwood, pohuehue, bush lawyer and native jasmine.

The forest understorey is relatively open. Understorey species are mahoe, mapou, wineberry, *Coprosma rotundifolia*, *Coprosma rhamnoides*, *Coprosma areolata* (rare), horopito, pokaka, turepo, poataniwha, matipo, *Neomyrtus pedunculata*, wheki-ponga, silver fern, soft tree fern, supplejack (rare), pohuehue, bush lawyer, saplings of matai, kahikatea and totara, and, on tree trunks, white climbing rata, leather-leaf fern, hound's tongue fern and hanging spleenwort.

The forest floor is dominated by crown fern and, in places, prickly shield fern. Other ground-cover species are hen and chickens fern, hound's tongue fern, *Leptopteris hymenophylloides*, white climbing rata, bush lily and seedlings of five-finger, mahoe, horopito, lancewood, pokaka, fuchsia, pohuehue, native jasmine and *Coprosma* species.

Additional species in forest openings are *Cardamine debilis*, foxglove*, thousand-leaved fern, water fern and *Carex forsteri*. A number of planted and naturalized species are present at the forest margin, including Chilean flame creeper*, ground ivy*, spikemoss*, periwinkle* and Himalayan lily*.

Terrace forest:

This forest occupies the gently-sloping terrace and associated small stream gullies at the southern and eastern parts of the property. The forest canopy comprises kahikatea, lemonwood, mahoe, five-finger, lancewood, kanuka, broadleaf, fuchsia, mapou, wineberry, native jasmine, bush lawyer and pohuehue, with emergent trees of kahikatea.

The understorey is dominated by *Neomyrtus pedunculata* and pokaka. Other understorey species are weeping mapou, wheki-ponga, soft tree fern, horopito, mapou, *Coprosma rhamnoides*, shrubby mahoe (rare), turepo, poataniwha, *Raukaua simplex* (rare), bush lawyer, saplings of kahikatea and totara and, on tree trunks, white climbing rata, hound's tongue fern, hanging spleenwort and leather-leaf fern.

The forest floor is dominated in most places by bush rice grass and/or crown fern. Other ground-cover species are bush lily, hookgrass, white climbing rata, hound's tongue fern, mountain kiokio, prickly shield fern and seedlings of kahikatea, pate and *Coprosma* species.

Additional species present in or adjacent to the small stream gullies are kaikomako, marbleleaf, *Raukaua anomalus*, elderberry*, clematis, *Leptopteris hymenophylloides*, filmy fern (*Hymenophyllum demissum*),

Lastreopsis glabellum, water fern, *Hypolepis ambigua*, *Blechnum fluviatile*, *Blechnum chambersii*, hen and chickens fern and, on tree trunks, *Tmesipteris tannensis* and the ferns *Hymenophyllum demissum* and *Trichomanes venosum*.

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, rifleman, fantail, shining cuckoo, silvereye, grey warbler and kereru. Brown creeper and tomtit are also likely to be present.

Notable Flora, Fauna and Habitats:

Important features of this area are the presence of relatively intact indigenous forest with old (original) and regenerating podocarps (especially kahikatea), locally uncommon plant species (*Raukaua simplex*, silver fern, *Tmesipteris tannensis*, *Trichomanes venosum*, filmy fern and bush rice grass), the habitat the area provides for forest birds including an 'at risk' species (rifleman) and the location of the area adjacent to a regionally important protected area (Peel Forest Park Scenic Reserve).

Notable Plant and Animal Pests:

The main area of forest is largely free of invasive plant pests. A large number of planted and naturalized species are present at the margins of the SNA, along the drive and around the house. Potentially invasive species include ground ivy, periwinkle, Himalayan lily and spikemoss. Animal pests were not surveyed. However, the presence and effects of deer were very obvious, including browsing, trampling and stripping of bark from tree trunks, notably five-finger. Possum sign was also observed.

Boundaries (buffering, fencing, adjoining plant communities and habitats):

This SNA comprises indigenous forest that is contiguous on two boundaries with that in the adjacent Peel Forest Park Scenic Reserve. It adjoins and is fenced from grazed pasture on the other boundaries. The proposed SNA boundary has been drawn to exclude the house, gardens, access drive and areas of planted or naturalized vegetation.



Forest interior, SNA 664a

Condition and Management Issues:

The forest canopy is in relatively good condition. Old stumps indicate the removal of larger trees many years ago, but there are still some large old original trees, notably a large kahikatea tree (with a trunk diameter of 218 cm) and a large totara tree (210 cm). The forest understorey and ground-cover are at present affected by the presence of deer. Many vines and small stems have been cut within the forest. The benefits or otherwise of this management are difficult to determine on a single visit. The most pressing management issue is deer control. The next most important issue is containment of invasive plants, such as ground ivy.

Property Owner Comment:

The property owners have checked and endorsed the indicative SNA boundary and noted a proposal to construct a small pond at the southeast corner of the property. They say that it is their intention to maintain the flora and fauna in its original condition and to also manage the various rodents, plants and other pests that are usually associated with a forest area such as this, as noted in this report.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	H	A good example of forest that is highly representative of the original vegetation of the area, despite the loss of some large trees and present depletion of the understorey vegetation.
Rarity	M	Provides good habitat for an 'at risk' bird species (rifleman) and supports several locally uncommon plant species.
Diversity and pattern	M/H	A relatively diverse area of forest, comprising two main habitats: hill-slope forest and terrace/gully forest.
Distinctiveness/special features	M	The presence of large podocarp trees is a special feature.
Other Criteria		
Size/shape	M/H	A small to moderate sized area with a good shape and relatively well buffered.
Connectivity	M/H	Adjoins a protected area along approximately half its boundary.
Long-term Sustainability	M/H	Some animal pest control (and maybe plant pest control) will probably be necessary to maintain the ecological values in the long term.

Final Consideration (of other matters: Section D, page B-19 of Timaru District Plan):

The forest within this SNA has been retained and managed by the landowner. It has limited potential for farm development and much greater potential as an attractive forested surrounding for a residence. The proposed SNA boundary has been drawn to exclude the areas that have been modified by the access drive, gardens and tree planting.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of relatively intact indigenous forest with old (original) and regenerating podocarps (especially kahikatea), locally uncommon plant species, the habitat the area provides for forest birds including an 'at risk' species (rifleman) and the location of the area adjacent to a regionally important protected area (Peel Forest Park Scenic Reserve).

Scientific names of species cited by common name in this report

(Note: this is not a complete species list; it is a list only of species cited by common name in this report)

Common Name	Scientific name
(* = naturalised species)	
broadleaf	<i>Griselinia littoralis</i>
bush lawyer	<i>Rubus cissoides</i>
bush lily.....	<i>Astelia fragrans</i>
bush rice grass.....	<i>Microlaena avenacea</i>
cabbage tree/ti rakau	<i>Cordyline australis</i>
Chilean flame creeper*	<i>Tropaeolum speciosum</i>
clematis	<i>Clematis paniculata</i>
crown fern	<i>Blechnum discolor</i>
elderberry*	<i>Sambucus nigra</i>
five-finger	<i>Pseudopanax arboreus</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia.....	<i>Fuchsia excorticata</i>
ground ivy*	<i>Glechoma hederacea</i>
hanging spleenwort	<i>Asplenium flaccidum</i>
hen and chickens fern.....	<i>Asplenium gracillimum</i>
hookgrass	<i>Uncinia</i> sp.
horopito/pepperwood	<i>Pseudowintera colorata</i>
hound's tongue fern	<i>Microsorium pustulatum</i>
kahikatea/white pine	<i>Dacrycarpus dacrydioides</i>
kaikomako.....	<i>Pennantia corymbosa</i>
kanuka.....	<i>Kunzea ericoides</i>
kowhai.....	<i>Sophora microphylla</i>
lancewood	<i>Pseudopanax crassifolius</i>
leather-leaf fern.....	<i>Pyrrosia eleagnifolia</i>
lemonwood.....	<i>Pittosporum eugenioides</i>
lowland ribbonwood	<i>Plagianthus regius</i>
mahoe/whiteywood	<i>Melicytus ramiflorus</i>
mapou	<i>Myrsine australis</i>
marbleleaf/putaputaweta	<i>Carpodetus serratus</i>
matai/black pine	<i>Prumnopitys taxifolia</i>
matipo/kohuhu	<i>Pittosporum tenuifolium</i>
mountain kiokio	<i>Blechnum montanum</i>
narrow-leaved lacebark.....	<i>Hoheria angustifolia</i>
native jasmine	<i>Parsonsia heterophylla</i>
pate.....	<i>Schefflera digitata</i>
periwinkle*	<i>Vinca major</i>
poataniwha.....	<i>Melicope simplex</i>
pohuehue.....	<i>Muehlenbeckia australis</i>
pokaka.....	<i>Elaeocarpus hookerianus</i>
prickly shield fern	<i>Polystichum vestitum</i>
shrubby mahoe.....	<i>Melicytus micranthus</i>
silver fern/ponga	<i>Cyathea dealbata</i>
soft tree fern	<i>Cyathea smithii</i>
spikemoss*	<i>Selaginella kraussiana</i>
supplejack	<i>Ripogonum scandens</i>
thousand-leaved fern.....	<i>Hypolepis millefolium</i>
totara	<i>Podocarpus totara</i>
turepo	<i>Streblus heterophyllus</i>
water fern	<i>Histiopteris incisa</i>
weeping mapou.....	<i>Myrsine divaricata</i>
wheki-ponga.....	<i>Dicksonia fibrosa</i>
white climbing rata	<i>Metrosideros diffusa</i>
wineberry	<i>Aristotelia serrata</i>