

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

DIANA MUSGRAVE PROPERTY



Report prepared for the Timaru District Council by Mike Harding
February 2008

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Diana Musgrave
Valuation Reference: 24660/030.01
Address: Totara Road, Woodbury, RD 21, Geraldine
Location: East and north of Totara Road on the south side of the Waihi River, northwest of Woodbury.
Ecological District: Geraldine Ecological District
TDC Land Type: Plains
Land Environment: N2 (well drained plains)

ECOLOGICAL CONTEXT:

The property lies in the northern part of the Geraldine Ecological District, on the outwash plain of the Waihi River. The original vegetation of this area would have been predominantly podocarp-hardwood forest, dominated by totara. Other important canopy species at free-draining (drought-prone) sites were probably matai, narrow-leaved lacebark, lemonwood and five-finger. Damper sites would have supported kahikatea and lowland ribbonwood. Tall kanuka-kowhai forest and areas of matagouri-*Coprosma-Olearia* shrubland would probably have been present on disturbed surfaces, such as recent river flats and terrace scarps. 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 is predominantly strongly regenerating podocarp forest dominated by totara, most of which has probably grown since the original forests were logged in the 1850s. However, some individual indigenous trees may pre-date logging and are therefore representative of the original vegetation. Forest on the property is part of a more extensive area of scattered to dense totara-dominated forest which stretches from the foothills at Waihi Gorge to Waihi Bush near Woodbury. This forest is the most extensive area of totara forest remaining on the Canterbury Plains. One notable species is present on the property: the newly-discovered *Melicytus* "Waihi". The property provides habitat for two threatened bird species: kereru and rifleman (both 'gradual decline') and severally locally-rare plant species. The property lies within the existing range of the South Canterbury population of long-tailed bat (threat status: 'nationally-endangered').

SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during November 2007. Most parts of the property were visited and the main area of indigenous forest was surveyed. This forest is regarded as a Significant Natural Area (SNA) when assessed against the District Plan criteria.

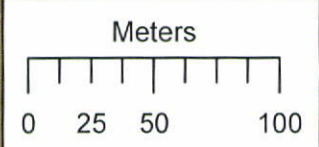
This SNA is illustrated on the attached aerial photograph and described in greater detail in this report. This area meets the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19) and is considered to be sustainable in the long term (criterion vii, page B19). SNAs are subject to confirmation by Council after regarding the matters listed under Final Considerations (pages B19-B20).

The implication of an area being listed as a SNA is that consent is required from Council for clearance by any means (including burning and spraying with herbicides) or over-planting. This does not normally prevent clearance to prevent shading of buildings or the maintenance of tracks and fences. To assist with the protection and management of any SNA, landowners can apply to Council for financial assistance. SNAs will eventually be listed in the District Plan. Any questions regarding the protection, management and use of SNAs should be directed to the District Planner.

Musgrave (Diana) Property
24660/030.01



581b



1:3,000

TIMARU DISTRICT SNA SURVEY

AREA 581b

Area Name: Waihi Bush South

Location (central map reference): J37: 655-855

Ecological District: Geraldine

Surveyors: Mike Harding

Property: Diana Musgrave

Nearest Locality: Woodbury

Area Size (ha): 10.92 **Altitude (m):** 220

Survey Time: 6 hours **Survey Date:** 8-11-07

General Description:

This SNA is located on the outwash plain of the Waihi River, just northwest of Woodbury and just southwest of the larger Waihi Bush forest remnant. It is part of a more extensive area of scattered patches of indigenous forest on the south side of the Waihi River between Woodbury and the foothills.

Plant Communities:

The main plant community present is totara-matai forest, comprising a mixture of dense patches and scattered trees with inter-planted poplar trees and gorse scrub. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

The forest canopy is dominated by totara, most of which has presumably regenerated since forests in this area were milled around 150 years ago. The trunk diameters (at breast height) of the canopy totara trees range mostly between 45 and 60cm. Matai is a common forest canopy species in the southern part of the forest and on the northern boundary, but much less common elsewhere in the SNA. Trunk diameters of the larger matai trees range between 45 and 65cm.

Other forest canopy or subcanopy species are narrow-leaved lacebark, matipo, lemonwood, cabbage tree, lancewood, five-finger, broadleaf, yellowwood, pokaka, fuchsia, pohuehue and *Clematis foetida*.

In most parts of the SNA the forest understorey is dominated by totara, *Coprosma crassifolia*, *C. rigida* and *Melicope simplex*. Other understorey species commonly present are lemonwood, mapou, weeping mapou, shrubby mahoe, *Coprosma rotundifolia*, pohuehue, *Clematis marata*, native jasmine, lawyer, bush lawyer, spindle tree*, barberry* and elderberry*. Occasionally present in the forest understorey are wineberry, matai, kowhai, *Coprosma rubra*, plum* and flowering currant*.

Ground-cover species present are bidibid, hairy pennywort, pennywort, male fern*, bittersweet*, Chilean flame creeper* and seedlings of native jasmine, narrow-leaved mahoe, mapou, five-finger, matipo, cabbage tree, narrow-leaved lacebark, totara and lemonwood. Occasionally present on the forest floor are prickly shield fern, necklace fern, hen and chickens fern, *Asplenium appendiculatum*, *Pellaea rotundifolia*, stinking iris* (plants removed), hookgrass, *Cardamine* sp., violet*, hedge woundwort*, blackberry*, foxglove*, wall lettuce* and seedlings of mahoe.

Plant species present on the forest margins are *Coprosma rigida*, *C. propinqua*, bush lawyer, *Calystegia tuguriorum*, Chilean flame creeper*, and occasionally scrub pohuehue, Khasia berry*, *Hypolepis ambigua*, bracken and mistletoe (on totara).

Species observed only in the southern part of the forest were *Raukaua anomalus*, holly*, ash*, rowan*, periwinkle*, columbine* and one Himalayan lily*. Most of these species were observed at or near the southern boundary of the property.

Species observed only in the northern part of the forest were kaikomako, horopito, *Lophomyrtus obcordata*, *Neomyrtus pedunculata*, korokio, lowland ribbonwood saplings, one kanuka tree, a small patch of young kahikatea trees, *Polystichum richardii*, leather-leaf fern, *Asplenium hookerianum*, *Blechnum penna-marina*, hound's tongue fern, *Lagenifera petiolata*, gooseberry* and on the northwest boundary a few sycamore* seedlings. One kowhai tree and clumps of dwarf mistletoe (on *Melicope simplex*) were observed on the northern boundary.

Present in the northern part of the forest and on the western boundary alongside Totara Road are plants of the newly-discovered *Melicytus* "Waihi". Several scattered plants two to three metres tall are present on the

margins of the northern part of the forest, and younger plants and seedlings are particularly common at the northern boundary of the forest.

The forest openings, between the denser stands of totara, are dominated by pasture grasses, gorse*, blackberry*, broom* and planted poplar trees.

Two patches of old man's beard* were observed, one on the southern boundary and one on the northwest boundary.

Birds/Fauna Observed:

Native birds observed during this brief inspection were grey warbler, kereru, bellbird, shining cuckoo, fantail and, on the forest margin, harrier and paradise shelduck. Rifleman and silvereye have been observed on adjoining properties and are likely to be present.

Notable Flora, Fauna and Habitats:

This area of forest is one of the few sizeable areas of indigenous forest on an alluvial surface in the Geraldine Ecological District. Notable features of this area are the dominance of totara, the presence of matai and kahikatea, the diversity of plant species, the presence of a good population of the newly discovered *Melicytus* "Waihi", the habitat the area provides for threatened species (kereru, rifleman and possibly long-tailed bat), the presence of several locally uncommon species (*Coprosma rubra*, korokio, scrub pohuehue, dwarf mistletoe and *Raukawa anomalus*), the size of the area and the contribution the forest makes to fauna habitat in the area.

Notable Plant and Animal Pests:

A number of significant plant pests are present, though most are either confined in distribution or unlikely to have a major long-term effect. The most important of these are old man's beard (confined to two patches), Chilean flame creeper, ash, holly, rowan, plum, barberry, elderberry and sycamore. Old man's beard, ash, holly, rowan, plum and sycamore could be removed or contained relatively easily. Chilean flame creeper is very difficult to control. Barberry and elderberry are present throughout though not dominant. Of the herbaceous weeds, hedge woundwort and violet pose the greatest threats.

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

The area of forest, including the intervening open areas with planted poplars, is fenced and has not been grazed recently. The forest is to some extent buffered by its size. The area adjoins other stands of totara-matai forest to the south (Area 581d) and to the west across Totara Road (Area 581a). It also lies close to (within 200m of) a relatively intact and regionally-important remnant of indigenous forest to the northeast (Waihi Bush). All these areas of indigenous forest are linked to the foothills by other scattered patches of totara-matai forest, forming a regionally-important area of lowland indigenous forest.

Condition and Management Issues:

The forest canopy is in good condition. It is affected in places by the native climber, pohuehue, and at two locations by old man's beard. The forest understorey is also in good condition, reflecting the absence of grazing, though is affected by woody and herbaceous weeds. The most important management issue is the control or removal of the more aggressive weeds, notably old man's beard, ash, holly, rowan, plum, barberry, sycamore and elderberry. Ash, holly, rowan, plum and sycamore are localised and rare. Monitoring of the spread of herbaceous weeds, notably hedge woundwort and violet, is also important. Himalayan lily, columbine and periwinkle are rare and confined to the southern boundary; they could be easily removed. Other important management issues are the continued protection of the area from grazing, control of wild animals (especially possum) and the future management of the inter-planted poplar trees.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	H	One of the best examples of indigenous forest typical of this part of the ecological district, and generally representative of the original forest.
Rarity	M/H	Supports a good population of <i>Melicytus</i> "Waihi", provides habitat for threatened species: kereru and rifleman (threat status: gradual decline), and supports several locally uncommon species. May provide habitat for long-tailed bat.
Diversity and pattern	M	Species and habitat diversity is reduced from that originally present.
Distinctiveness/special features	M/H	The dominance of podocarps (totara, matai and rare kahikatea), the range of lowland species present and the location of the area on a fertile alluvial surface are special features.
Other Criteria		
Size/shape	H	A large (>10ha) area for the ecological district, especially for an alluvial surface, with a good shape.
Connectivity	H	A regionally-important and ecologically-viable link between other areas of indigenous forest.
Long-term Sustainability	M	Continued management (notably weed control) will be required to maintain the ecological values of the area in the long term.

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

This area has been informally protected by the landowner. It is an attractive area of forest which adds considerable amenity value to the property, though its protection precludes development of the area for farming. The area is threatened by plant and animal pests, as are most low-altitude forest remnants. However, these threats are manageable. With some management, the forest health and species diversity should continue to improve. The forest makes a very important contribution to the indigenous forest and habitat in the Woodbury-Waihi area.

Discussion:

This area very easily meets the District Plan criteria for a Significant Natural Area. It is one of the most valuable indigenous forest remnants in this part of Timaru District. Notable features of the area are the dominance of totara, the presence of matai and kahikatea, the diversity of plant species, the presence of a good population of the newly discovered *Melicytus* "Waihi", the habitat the area provides for threatened species (kereru, rifleman and possibly long-tailed bat), the presence of several locally uncommon species (*Coprosma rubra*, korokio, scrub pohuehue, dwarf mistletoe and *Raukaua anomalus*), the size of the area and the contribution the forest makes to fauna habitat in the area.

Scientific names of species cited by common name

Common Name	Scientific name
(* = naturalised species)	
ash*	<i>Fraxinus excelsior</i>
barberry*	<i>Berberis glaucocarpa</i>
bidibid	<i>Acaena</i> sp.
bittersweet*	<i>Solanum dulcamara</i>
blackberry*	<i>Rubus fruticosus</i>
bracken	<i>Pteridium esculentum</i>
broadleaf	<i>Griselinia littoralis</i>
broom*	<i>Cytisus scoparius</i>
bush lawyer	<i>Rubus cissoides</i>
cabbage tree/ti rakau	<i>Cordyline australis</i>
Chilean flame creeper*	<i>Tropaeolum speciosum</i>
columbine (granny's bonnet)*	<i>Aquilegia vulgaris</i>
dwarf mistletoe	<i>Korthalsella lindsayi</i>
elderberry*	<i>Sambucus nigra</i>
five-finger	<i>Pseudopanax arboreus</i>
flowering currant*	<i>Ribes sanguineum</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia	<i>Fuchsia excorticata</i>
gooseberry*	<i>Ribes uva-crispa</i>
gorse*	<i>Ulex europaeus</i>
hairy pennywort	<i>Hydrocotyle moschata</i>
hedge woundwort*	<i>Stachys sylvatica</i>
hen and chickens fern	<i>Asplenium bulbiferum</i>
Himalayan lily*	?
holly*	<i>Ilex aquifolium</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>
Khasia berry*	<i>Cotoneaster simonsii</i>
korokio	<i>Corokia cotoneaster</i>
kowhai	<i>Sophora microphylla</i>
lancewood	<i>Pseudopanax crassifolius</i>
lawyer	<i>Rubus schmidelioides</i>
leather-leaf fern	<i>Pyrrhosia eleagnifolia</i>
lemonwood	<i>Pittosporum eugenioides</i>
lowland ribbonwood	<i>Plagianthus regius</i>
mahoe/whiteywood	<i>Melicytus ramiflorus</i>
male fern*	<i>Dryopteris filix-mas</i>
mapou	<i>Myrsine australis</i>
matagouri	<i>Discaria toumatou</i>
matai/black pine	<i>Prumnopitys taxifolia</i>
matipo/kohuhu	<i>Pittosporum tenuifolium</i>
mistletoe	<i>Ileostylis micranthus</i>
narrow-leaved facebark	<i>Hoheria angustifolia</i>
narrow-leaved mahoe	<i>Melicytus lanceolatus</i>
native jasmine	<i>Parsonsia</i> sp.
necklace fern	<i>Asplenium flabellifolium</i>
old man's beard*	<i>Clematis vitalba</i>
pennywort	<i>Hydrocotyle</i> sp.
periwinkle*	<i>Vinca major</i>
plum*	<i>Prunus</i> sp.

pohuehue	<i>Muehlenbeckia australis</i>
pokaka	<i>Elaeocarpus hookerianus</i>
poplar*	<i>Populus</i> sp.
prickly shield fern	<i>Polystichum vestitum</i>
rowan*	<i>Sorbus aucuparia</i>
scrub pohuehue	<i>Muehlenbeckia complexa</i>
shrubby mahoe	<i>Melicytus micranthus</i>
spindle tree*	<i>Euonymus europaeus</i>
stinking iris*	<i>Iris foetidissima</i>
sycamore*	<i>Acer pseudoplatanus</i>
totara	<i>Podocarpus totara</i>
violet*	<i>Viola odorata</i>
wall lettuce*	<i>Mycelis muralis</i>
weeping mapou	<i>Myrsine divaricata</i>
wineberry	<i>Aristotelia serrata</i>
yellowwood	<i>Coprosma linariifolia</i>