

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

CHRISTEY PROPERTY



Report prepared for Timaru District Council by Mike Harding
December 2014

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Ken and Molly Christey
Valuation Reference: ...24670/041.00
Address: Carrig Road
Location: Lower northeast slopes of Waitohi Hill
Ecological Districts: Boundary of Orari and Geraldine
TDC Land Type: 'Southeast hill country and mountains'
Land Environments: Q2.1a

ECOLOGICAL CONTEXT:

The property lies on the lower northeast slopes of the Waitohi Hill in Pleasant Valley, Te Moana. It lies on the boundary of Geraldine and Orari ecological districts (McEwen, 1987). The property lies in the Q2.1a Level IV Land Environment as defined by Leathwick *et al* (2003).

It is likely that the original vegetation of this area was predominantly podocarp-hardwood forest, dominated by kahikatea, matai, totara, kowhai, broadleaf, lemonwood, narrow-leaved lacebark and other hardwood trees. Kanuka and manuka low-forest/shrubland may have occupied disturbed sites. Sedgeland and rushland (wetland) vegetation would have been present at poorly drained valley-floor sites.

Today the original forest cover in this part of the Geraldine and Orari ecological districts is largely confined to remnants in gullies or on steep slopes. Otherwise, the indigenous vegetation of the ecological district is substantially depleted or modified. 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. The property lies at the edge of the known range of long-tailed bat (at nationally threatened species), though it is possible that bats are no longer present in the area.

SIGNIFICANT AREAS ON THE PROPERTY:

Indigenous vegetation on the property comprises remnant podocarp forest, regenerating podocarp-hardwood forest and kanuka forest. Indigenous vegetation on the property adjoins other areas of indigenous forest in Geraldine Forest (Blakely Pacific) and contributes to the network of fauna habitat in the wider area.

The property was surveyed as part of the District-wide survey of Significant Natural Areas during November 2014. Two areas, comprising approximately 27 hectares, are regarded as Significant Natural Areas (SNAs) when assessed against the District Plan criteria. These SNAs are listed in the table below.

| Area No. | Area Name | Map reference (NZTM) | Aprox. size (ha) | Vegetation/habitat type |
|----------|--------------------|----------------------|------------------|--------------------------|
| 39a | Carrig Road Forest | 1450440E-5117515N | c.11.5 | Hardwood-kanuka forest |
| 39b | Maori Gully South | 1450085E-5118000N | c.15.8 | Podocarp hardwood forest |

The boundaries of these SNAs are illustrated on the aerial photograph and the values described on the SNA Forms in this report. Note that the boundaries of the SNAs are indicative, rather than precise. These areas meet the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19) and are considered to be sustainable in the long term, or 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, track construction, spraying with herbicides and over-planting.

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.

Christey
24670/041.00



Top Road

Grub Road

39b

39a



1:5,000

Area Name: Christey Carrig Road Forest
Central map ref (NZTM): 1450440E-5117515N
Ecological District: Orari
Surveyors: Mike Harding and Ken Christey

Property: Ken Christey
Nearest Locality: Pleasant Valley
Area Size (ha): c.11.5 **Altitude (m):** 280-420
Survey Time: 3 hours **Survey Date:** 05-11-14

General Description:

This SNA lies on moderately steep slopes on the lower northeast flank of Waitohi Hill. It lies within a larger area of regenerating indigenous forest which is bordered to the west and south by Blakely Pacific's plantation forest, to the north by other indigenous forest and to the east by open farmland.

Plant Communities:

Two main plant communities are present: regenerating hardwood forest and kanuka forest. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

Hardwood Forest

At most parts of the area the forest canopy is dominated by mahoe, matipo and lemonwood. Other canopy species are mapou, lancewood, broadleaf, cabbage tree, kanuka, five-finger, wineberry, fuchsia, clematis, native jasmine, pohuehue and bush lawyer. A single young totara tree was observed beside the stream in the upper part of the main gully, and a single kowhai tree in the lower valley.

Species commonly present in the forest understorey are mapou, mahoe, matipo, lemonwood, *Coprosma rhamnoides*, *Coprosma rotundifolia* and native jasmine. Other less common understorey species are lancewood, pate, *Coprosma propinqua*, marbleleaf, wineberry, native bindweed and occasional saplings of kahikatea and totara.



The upper (southwest) part of SNA 39a

Ground-cover species are hen and chickens fern, *Asplenium bookerianum*, prickly shield fern, *Blechnum chambersii*, *Blechnum fluviale*, mountain kiokio, crown fern, *Blechnum procerum*, *Hypolepis ambigua*, *Leptopteris hymenophylloides*, button fern, hound's tongue fern, bush lily, hookgrass, *Carex forsteri*, nettle, buttercup, velvety nightshade* and seedlings of mahoe, five-finger, matipo, lemonwood, lancewood, cabbage tree, broadleaf, pate and *Coprosma* species.

Species commonly present on the forest margin or in forest openings are gorse*, Himalayan honeysuckle*, radiata pine*, Spanish heath*, elderberry*, *Coprosma dumosa*, *Coprosma propinqua*, manuka,

native bindweed, pohuehue, *Hypolepis ambigua*, *Hypolepis millefolium*, hard fern, foxglove*, burdock* (uncommon) and, at one location, matagouri.

Kanuka Forest

Kanuka forest is present at the upper forest margins on the main spurs and on the lower spur between the two main gullies. The forest canopy is dominated by kanuka, with some native jasmine, pohuehue and bush lawyer.

The understorey of the younger stands of kanuka forest is mostly open. Older stands have a denser understorey of mahoe, lemonwood, matipo, *Coprosma rhamnoides* and occasionally *Coprosma crassifolia* and mapou.



Kanuka forest, SNA 39a

The forest floor is also relatively open, with bare ground and mosses, notably the native *Hypnum cupressiforme*. Seedlings of canopy species are common: mahoe, matipo, lemonwood, lancewood, five-finger, mapou and occasionally broadleaf. Additional ground cover species (not recorded in the hardwood forest) are necklace fern, *Galium perpusillum*, pennywort and bidibid.

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, rifleman, grey warbler, brown creeper, and fantail. Other native species likely to be present are silvereye, kereru (NZ pigeon), shining cuckoo and possibly tomtit and karearea (NZ falcon).

Notable Flora, Fauna and Habitats:

Important features of this area are the size of the forest area, the presence of podocarp (totara and kahikatea) saplings and young trees, the healthy forest regeneration and the habitat the area provides for forest birds.

Notable Plant and Animal Pests:

The forest is largely free of invasive plant pests and those that are present are uncommon or confined to the forest margins: Spanish heath, gorse, elderberry, burdock and Himalayan honeysuckle. Species present within the forest will soon be over-topped by the regenerating native species. Animal pests were not surveyed though possum and feral pig sign was observed.

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

This regenerating indigenous forest grades at its margins to younger forest and/or gorse scrub with scattered indigenous woody species. The boundary depicted for this SNA is the approximate location of the transition from taller indigenous woody vegetation to lower indigenous vegetation or gorse scrub. The SNA lies close to other areas of indigenous forest in nearby valleys.

Condition and Management Issues:

The forest in this area is in relatively good condition. It supports a good range of understorey species and there is little evidence of grazing/browsing. The forest should continue to regenerate and improve under the existing management regime. The main management issue is continued control of wild animals, especially possums and feral pigs.

Property Owner Comment:

Mt Christey has no intention of clearing vegetation on these steeper slopes. He would like to clear the younger lower vegetation (mostly gorse) on the gentler spurs at some future time.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

| Primary Criteria | Rank | Notes |
|----------------------------------|-------------|---|
| Representativeness | M/H | Regenerating forest that is typical of the ecological district and contains species (notably totara and kahikatea) that are representative of the original forest canopy. |
| Rarity | L | No rare species or communities are present. |
| Diversity and pattern | M | Moderate species diversity, typical of regenerating forest. |
| Distinctiveness/special features | L/M | Provides good habitat for forest birds. |
| <hr/> Other Criteria | | |
| Size/shape | H | A moderate sized area with a good shape and well buffered. |
| Connectivity | M | Is connected to other indigenous forest by scrub, and lies close to other significant areas. |
| Long-term Sustainability | M/H | Healthy regenerating forest. Continued animal pest control may be necessary to maintain ecological values in the long term. |

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

This area has been deliberately set aside by the present and previous owners as it is too steep to easily develop for farmland. The forest at this site helps protect the small streams in the upper gullies.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the size of the forest area, the presence of podocarp (totara and kahikatea) saplings and young trees, the healthy forest regeneration and the habitat the area provides for forest birds.

Area Name: Maori Gully South**Central map ref (NZTM):** 1450085E-5118000N**Ecological District:** Orari**Surveyors:** Mike Harding**Property:** Christey**Nearest Locality:** Pleasant Valley**Area Size (ha):** 15.8**Altitude (m):** 260-350**Survey Time:** 2 hours**Survey Date:** 11-11-14

General Description:

This SNA lies on moderately steep north-facing slopes above Maori Gully, at the north edge of the property. It is part of a much larger area of forest that extends onto adjacent properties (SNA 42). Forest on upper slopes is young regenerating forest. Taller older trees are present near the valley floor at the northern corner of the site and areas of tall kanuka forest are present at the east part of the site.

Plant Communities:

Two main plant communities are present: kanuka forest and regenerating podocarp-hardwood forest. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk*.

Regenerating podocarp-hardwood forest:

The forest canopy over most parts of the SNA is dominated by five-finger, broadleaf, mahoe, cabbage tree, matipo, lancewood, lemonwood, young totara and occasional emergent radiata pine* trees. Other canopy species present on lower slopes are kahikatea, totara, kowhai, marbleleaf, kanuka and rohutu.

The main understorey species are mahoe, lemonwood, mapou, lancewood, *Coprosma rhamnoides*, *Coprosma crassifolia* and native jasmine. Other understorey species present in taller forest on lower slopes are *Coprosma rotundifolia*, yellowwood, horopito, pate, rohutu, *Neomyrtus pedunculata*, poataniwha, kowhai, bush lawyer, native bindweed, supplejack (uncommon) and saplings of kahikatea, totara and occasionally matai.



Strongly regenerating indigenous forest in SNA 39b

Ground-cover species are hound's tongue fern, hen and chickens fern, *Asplenium hookerianum*, prickly shield fern, hookgrass and seedlings of five-finger, marbleleaf, *Coprosma rhamnoides* and native jasmine. Additional ground-cover species present on lower slopes are *Blechnum chambersii*, *Blechnum fluviatile*, mountain kiokio, button fern, common shield fern, *Asplenium richardii*, *Hypolepis ambigua*, bush lily, *Carex forsteri*, nettle and seedlings of kahikatea, totara, matai, kaikomako, kowhai, mapou, lemonwood, lancewood, horopito, clematis and *Coprosma rotundifolia*.

Species present in forest openings or on the forest margin are *Coprosma propinqua*, matipo, Himalayan honeysuckle*, gorse*, Khasia berry*, toatoa, bracken, leafless lawyer (uncommon), pohuehue and native bindweed.

Kanuka forest:

Kanuka is the dominant canopy tree. Other canopy species are mahoe, lancewood, native jasmine, bush lawyer and pohuehue. The forest understorey is dominated by *Coprosma rhamnoides*, *Coprosma crassifolia* and mahoe. Other understorey species are broadleaf, five-finger, mapou, matipo, lancewood, marbleleaf, lemonwood, totara, *Coprosma rotundifolia*, clematis and native jasmine.

Ground-cover species are hound's tongue fern, *Blechnum fluviatile*, swamp kiokio, *Hypolepis ambigua*, prickly shield fern, bush lily, hookgrass, bidibid, *Dichondra repens* and seedlings of broadleaf, mapou, mahoe, lancewood, totara and *Coprosma* species. A small population of green-hooded orchid (*Pterostylis* sp.) was observed at one location.



green-hooded orchid

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, shining cuckoo, fantail, grey warbler, brown creeper, kereru (NZ pigeon), rifleman and tomtit. Also likely to be present are silvereye and possibly karearea (NZ falcon).

Notable Flora, Fauna and Habitats:

Important features of this area are the size of the forest area, the presence of podocarp (kahikatea, totara and matai) saplings and young trees, the presence of locally uncommon plant species (rohutu, *Dichondra repens* and leafless lawyer), the healthy forest regeneration and the habitat the area provides for forest birds.

Notable Plant and Animal Pests:

The forest is largely free of invasive plant pests and those that are present are uncommon or confined to the forest margins: gorse, Khasia berry and Himalayan honeysuckle. Rapid regeneration of native species will largely exclude opportunities for invasive plant pests to become established. Animal pests were not surveyed though possum sign was observed.

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

The regenerating indigenous forest grades at its upper margins to younger forest and/or gorse scrub with scattered indigenous woody species and grades with older forest on lower slopes. The boundary depicted for this SNA is the approximate location of the transition from taller indigenous woody vegetation to lower indigenous vegetation or gorse scrub. The SNA is part of a much larger area of indigenous forest in Maori Gully.

Condition and Management Issues:

The forest in this area is in good condition. It supports a good range of understorey species and there is little evidence of grazing/browsing. The forest should continue to regenerate and improve under the existing management regime. The main management issue is continued control of wild animals, especially possums and feral pigs.

Property Owner Comment:

Mt Christey has no intention of clearing vegetation on these steeper slopes. He would like to clear the younger lower vegetation (mostly gorse) on the gentler upper spurs at some future time.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

| Primary Criteria | Rank | Notes |
|----------------------------------|-------------|--|
| Representativeness | M/H | Regenerating forest that is typical of the ecological district and contains species (notably totara, kahikatea and matai) that are representative of the original forest canopy. |
| Rarity | L/M | Supports populations of three locally-uncommon plant species. |
| Diversity and pattern | M | Moderate species diversity, typical of regenerating forest. |
| Distinctiveness/special features | L/M | Provides good habitat for forest birds. |
| Other Criteria | | |
| Size/shape | H | A moderate sized area with a good shape and well buffered. |
| Connectivity | M/H | Adjoins other indigenous forest and lies close to other significant natural areas. |
| Long-term Sustainability | M/H | Healthy regenerating forest. Continued animal pest control may be necessary to maintain ecological values in the long term. |

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

This area has been deliberately set aside by the present and previous owners as it is too steep to easily develop for farmland. The forest at this site helps buffer other areas of forest in the Maori Gully catchment.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the size of the forest area, the presence of podocarp (kahikatea, totara and matai) saplings and young trees, the presence of three locally uncommon plant species, the healthy forest regeneration, the habitat the area provides for forest birds, and that it is part of a larger area of forest.

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) | |
| bidibid | <i>Acaena</i> sp. |
| bracken | <i>Pteridium esculentum</i> |
| broadleaf | <i>Griselinia littoralis</i> |
| burdock* | <i>Arctium minus</i> |
| bush lawyer | <i>Rubus cissoides</i> |
| bush lily | <i>Astelia fragrans</i> |
| clematis | <i>Clematis paniculata</i> |
| cotoneaster* | <i>Cotoneaster</i> sp. |
| 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> |
| gorse* | <i>Ulex europaeus</i> |
| hard fern | <i>Paesia scaberula</i> |
| hen and chickens fern | <i>Asplenium gracillimum</i> |
| Himalayan honeysuckle* | <i>Leycesteria formosa</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> |
| Khasia berry* | <i>Cotoneaster simonsii</i> |
| kowhai | <i>Sophora microphylla</i> |
| lancewood | <i>Pseudopanax crassifolius</i> |
| leafless lawyer | <i>Rubus squarrosus</i> |
| lemonwood | <i>Pittosporum eugenioides</i> |
| mahoe/whiteywood | <i>Melicytus ramiflorus</i> |
| manuka | <i>Leptospermum scoparium</i> |
| mapou | <i>Myrsine australis</i> |
| marbleleaf/putaputaweta | <i>Carpodetus serratus</i> |
| matagouri | <i>Discaria toumatou</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 bindweed | <i>Calystegia tuguriorum</i> |
| native jasmine | <i>Parsonsia heterophylla</i> |
| necklace fern | <i>Asplenium flabellifolium</i> |
| nettle | <i>Urtica incisa</i> |
| pate | <i>Schefflera digitata</i> |
| pennywort | <i>Hydrocotyle novae-zelandiae</i> |
| poataniwha | <i>Melicope simplex</i> |
| pohuehue | <i>Muehlenbeckia australis</i> |
| prickly shield fern | <i>Polystichum vestitum</i> |
| radiata pine* | <i>Pinus radiata</i> |
| rohutu | <i>Lophomyrtus obcordata</i> |
| Spanish heath* | <i>Erica lusitanica</i> |
| supplejack | <i>Ripogonum scandens</i> |
| swamp kiokio | <i>Blechnum minus</i> |
| toatoa | <i>Haloragis erecta</i> |
| totara | <i>Podocarpus totara</i> |
| velvety nightshade* | <i>Solanum chenopodioides</i> |

| | |
|-----------------|------------------------------|
| wineberry | <i>Aristotelia serrata</i> |
| yellowwood..... | <i>Coprosma linariifolia</i> |

References Cited

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

McEwen, WM (editor). 1987. Ecological regions and districts of New Zealand, third revised edition (Sheet 4). *New Zealand Biological Resources Centre Publication No. 5*. Department of Conservation, Wellington, 1987.