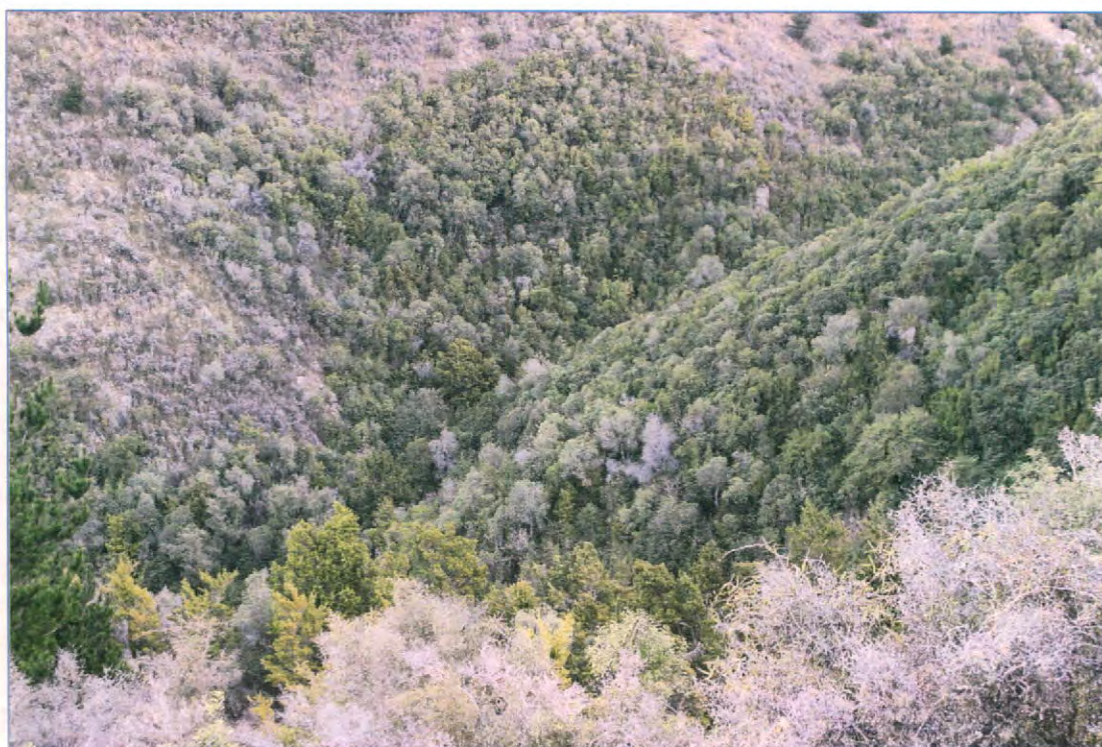


**TIMARU DISTRICT**  
**SIGNIFICANT NATURAL AREAS SURVEY**

**CHRISTIE**  
**MATAHIWI**



Report prepared for the Timaru District Council by Mike Harding  
July 2015

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### PROPERTY DETAILS:

**Owner:** .....Christie  
**Valuation Reference:** ...24670/003.00 and 24670/004.00  
**Address:** .....Beautiful Valley, RD 21, Geraldine  
**Location:** .....Beautiful Valley and Opuha River Gorge, South Canterbury.  
**Ecological Districts:** .....Orari Ecological District.  
**TDC Land Types:**.....Hard Rock Hills and Downs.  
**Land Environments:**..... Q2 (south-eastern hill country).

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### ECOLOGICAL CONTEXT:

This property lies in the foothills of the Four Peaks Range in South Canterbury. The Significant Natural Areas (SNAs) described in this report are areas of indigenous forest on steeper slopes in side valleys of the Opuha River. The property lies within the Orari Ecological District and comprises moderately-steep slopes from an altitude of approximately 200m on the valley floor to over 700m on higher slopes.

The original vegetation of this area would have been predominantly hardwood forest with emergent podocarps (totara and matai). 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 one of a number of small forest remnants and regenerating forest in this part of the ecological district. Eastern falcon/karearea, an 'at risk' species, is present in the area.

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### SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas during June 2015. Two separate areas are regarded as significant when assessed against the District Plan criteria.

Area No.	Area Name	Map ref. (NZTM)	Aprox. size(ha)	Vegetation/habitat type
323	Rocky Knob	1437980E-5119090N	33	hardwood forest with podocarps
324	Streakers Creek	1439130E-5118410N	35	hardwood forest

These SNAs are illustrated on the aerial photograph below and described in greater detail on the SNA Survey 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 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 that 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, such as fencing or pest control, 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.

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#### **OTHER AREAS INSPECTED ON THE PROPERTY:**

Other areas of indigenous vegetation and habitat on the property were inspected but are not regarded as significant when assessed against the criteria on pages B18-B20 of the Timaru District Plan. These are generally smaller or younger areas of indigenous vegetation.

Failure of an area to meet the significance criteria does not necessarily mean that it is not important for nature conservation or the protection of indigenous biodiversity; it simply means that the area (as assessed at this time) does not meet the criteria in the Timaru District Plan. Some of these areas have considerable potential value and, if left alone, may eventually become significant.

Christie  
Matahiwi  
24670/003.00  
24670/004.00

323

324

Summit Road

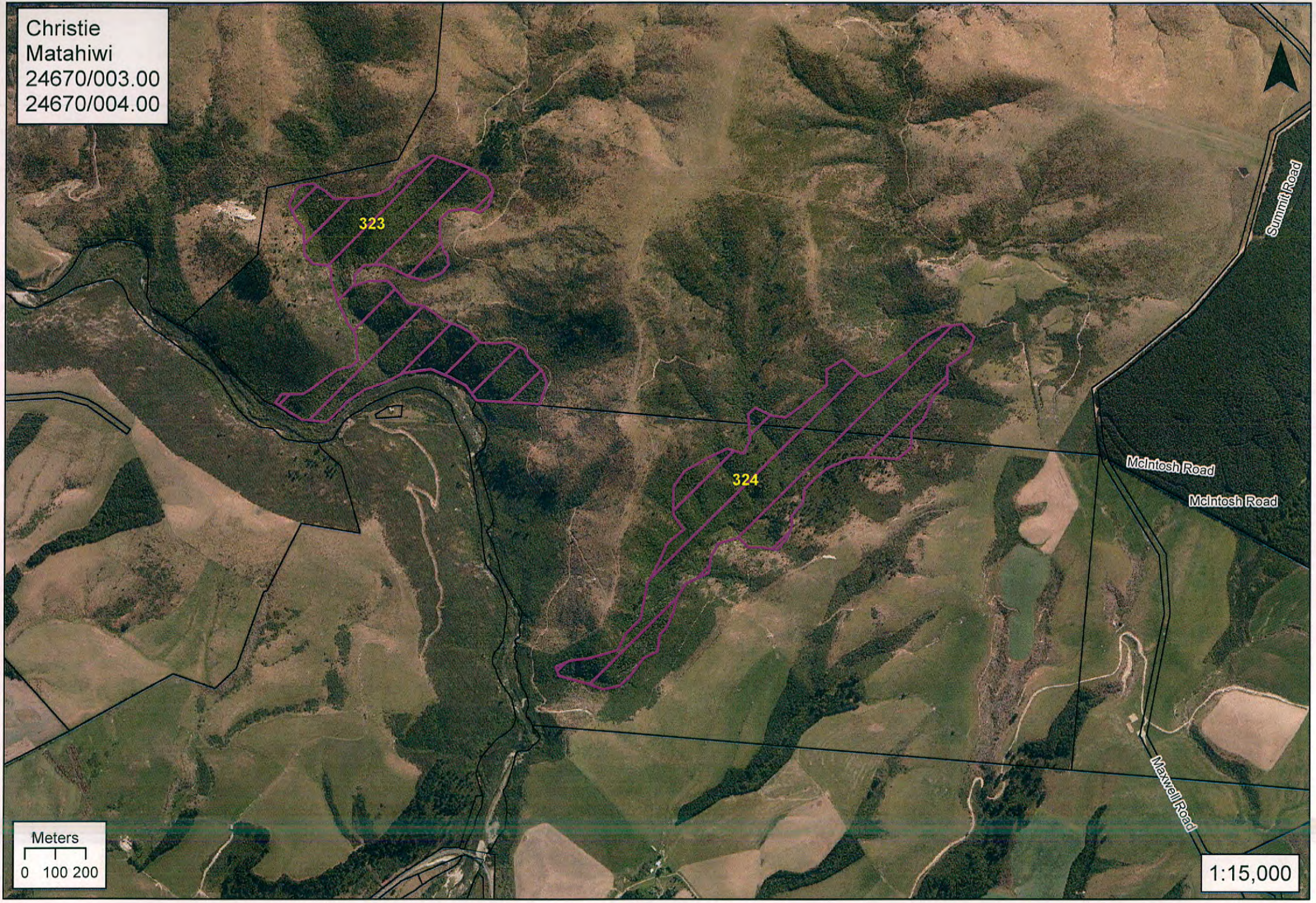
McIntosh Road

McIntosh Road

Maxwell Road

Meters  
0 100 200

1:15,000



**Area Name:** Rocky Knob  
**Ecological District:** Orari  
**Central map ref. (NZTM):** 1437980E-5119090N  
**Surveyors:** Mike Harding

**Property:** Matahiwi (Christie)  
**Nearest Locality:** Beautiful Valley  
**Area Size (ha):** 33.3      **Altitude (m):** 250-450  
**Survey Time:** 3 hours      **Survey Date:** 10-06-15

### General Description:

This site covers steep slopes on the north side of the Opuha River and lower parts of a large side-valley. It is at the western edge of the property and at the boundary of Timaru District. The site boundaries have been drawn to include the larger areas of older regenerating forest, though this forest grades to younger forest and scrub. The site lies close to similar areas of vegetation in the adjacent valley (SNA 324) and on the adjoining property (within Mackenzie District).

### Plant Communities:

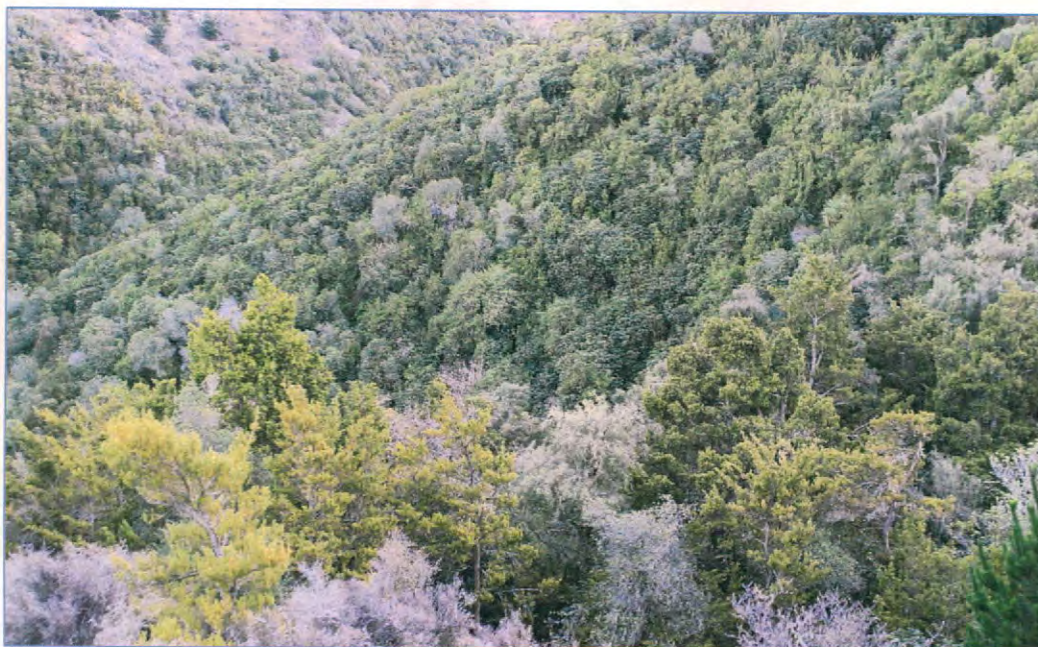
The main plant communities present are low forest and scrub. These communities are described below. Naturalized (exotic) species are indicated with an asterisk\*. Scientific names of plant species are listed at the end of this report.

#### Forest:

The forest canopy at most parts of the site is dominated by matipo, five-finger, broadleaf and lancewood. Other canopy species are kowhai, cabbage tree, mapou, yellowwood, pohuehue and bush lawyer. Additional species at damper sites are marbleleaf, wineberry, fuchsia and (rarely) elderberry\*. Forest in the upper valley has a large patch of totara, comprising several old trees and a substantial area of younger trees. Large trees of kowhai and broadleaf are also common here. There are few radiata pine\* trees emergent from the forest canopy at the edges of the site.

The forest understorey is relatively open in most places, in part due to the rocky ground. Understorey species are five-finger, matipo, mingimingi, *Coprosma crassifolia*, *Coprosma dumosa*, yellowwood, korokio, bush snowberry, bush lawyer and, within the totara forest, *Coprosma rhamnoides*, poataniwha, pate and saplings of totara.

The forest floor is mostly dominated by common shield fern or hound's tongue fern. Other ground cover species are prickly shield fern, necklace fern, hen and chickens fern, *Asplenium appendiculatum*, *Asplenium hookerianum*, *Asplenium richardii*, hanging spleenwort, *Blechnum penna-marina*, male fern\*, *Libertia ixioides*, *Carex forsteri*, bidibid, hairy pennywort and seedlings of five-finger, broadleaf, matipo, mountain akeake, lancewood, korokio, mapou, koromiko, kowhai, clematis, totara, native jasmine and *Coprosma* species. Additional species present at damper sites are *Blechnum fluviatile*, swamp kiokio, *Blechnum chambersii*, *Hypolepis ambigua*, bittersweet\* and bush lily. Plant species present at forest openings and on the forest margin are the same as those present in scrub (described below).



*Forest at the upper valley part of SNA 323; totara in foreground.*

### Scrub:

Areas of scrub and shrubland are dominated by mingimingi and in places manuka. Other common species are matagouri, korokio, *Coprosma dumosa*, tauhinu, weeping mapou, lawyer, native bindweed, scrub pohuehue, bracken and tutu. Less commonly present are mistletoe (on mingimingi and korokio), scrambling fuchsia, lancewood, five-finger, mapou, *Coprosma crassifolia*, Khasia berry\*, barberry\*, broom\*, gorse\*, Spanish heath\*, sweet brier\*, bush snowberry, native broom, hybrid wineberry, porcupine shrub, mountain flax, foxglove\*, silver tussock, fescue tussock, blue tussock, narrow-leaved snow-tussock and golden speargrass. At some locations the scrub community adjoins patches of Spanish heath\*, gorse\* or broom\*.



*Steep faces above the Opuha River at the southern part of SNA 323.*

### **Birds/Fauna Observed:**

Native birds observed during this brief survey were bellbird, grey warbler, tomtit, fantail and silvereye. A falcon (probably the same bird) was observed at two locations: the south edge of the site (chasing a harrier) and at the centre of the site.

### **Notable Flora, Fauna and Habitats:**

Notable features of this site are the presence of totara, including healthy regeneration, the diversity of plant species present (67 vascular species were observed), the habitat it provides for forest birds, and the size of the area.

### **Notable Plant and Animal Pests:**

There are several important plant pests present at or adjacent to the site: Spanish heath, gorse, broom, Khasia berry (*Cotoneaster simonsii*), barberry and wilding pines. Less commonly present are elderberry, sweet brier, male fern and bittersweet. Most of these species do not pose a significant threat to areas of intact forest, though do threaten open forest and scrub. Species that pose the greatest threat to forest at the site are wilding pines, as they can overtop the native forest canopy, and Khasia berry, as its bird-dispersed seeds can establish within forest. Animal pests were not surveyed, though sign of possum and feral pig was observed.

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

The site boundaries have been drawn to include areas of older indigenous forest and some areas of denser native scrub at the edge of forest. These boundaries are somewhat arbitrary, as it is difficult to precisely define the extent of forest or scrub in some places. The site lies close to similar areas of vegetation in the adjacent valley (SNA 324) and on an adjoining property (within Mackenzie District).

## Condition and Management

The forest canopy over most parts of the site is in good condition. This is presumably due to ongoing possum control, as one of the main canopy species (five-finger) is very susceptible to possum browse. The presence of abundant totara regeneration suggests that the core of the site has been relatively undisturbed in recent years. The forest understorey is affected by feral pigs, though the scarcity of understorey plants is partly due to the rocky substrate. Forest edges are affected by invasive plant pests, notably gorse, broom, Khasia berry and Spanish heath. The most important management issues are ongoing control of wild animals (possums and feral pigs) and containment of plant pests. Fencing to restrict access by cattle would also benefit the site.

## ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	A good example of young forest that is moderately representative of the original vegetation, contains podocarp (totara) regeneration and is typical of that remaining in the ecological district.
Rarity	M	No rare or threatened plant species were observed, but the site is likely to provide some habitat for an 'at risk' species (falcon).
Diversity and pattern	M/H	Plant species diversity is relatively high (67 indigenous vascular species).
Distinctiveness/special features	M	The extent and vigour of podocarp (totara) regeneration at the site is notable.
Other Criteria		
Size/shape	M/H	A moderate-sized site with a good shape.
Connectivity	M	Lies close to other areas of regenerating indigenous forest.
Long-term Sustainability	M/H	Some ongoing animal pest control, and possibly plant pest control, may be required to maintain ecological values in the long term.

### Property Owner Comment:

Mr Christie supports protection of this area of forest, though is wary of plant pest control obligations that may be required by Council (or Ecan). He is proud of the totara regeneration, much of which has occurred during his time on the property.

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

This site occupies steep rocky slopes that are generally unsuitable for pastoral farming. It lies at the corner of the property and does not provide important access for farm management. It has been informally protected by the landowner, as indicated by the healthy forest canopy and abundance of totara regeneration.

### Discussion:

This site easily meets the Timaru District Plan criteria for a significant natural area (SNA). Important features of the site are the diversity of plant species, presence of podocarp (totara) regeneration, the habitat it provides for forest birds and probably falcon, and the size of the area.

*Rocky slopes are present at most parts of the site*



**Area Name:** Streakers Creek  
**Ecological District:** Orari  
**Central map ref. (NZTM):** 1439130E-5118410N  
**Surveyors:** Mike Harding

**Property:** Matahiwi (Christie)  
**Nearest Locality:** Beautiful Valley  
**Area Size (ha):** 35.3      **Altitude (m):** 250-450  
**Survey Time:** 2 hours      **Survey Date:** 10-06-15

### General Description:

This site lies in a large steeply-incised valley at the centre of the property. The largest areas of indigenous forest are on the shaded south-facing slopes of the valley. Elsewhere the valley supports scrub and areas of scattered to dense self-sown pine trees. The site lies southeast of and relatively close to another area of regenerating indigenous forest on the property (SNA 323).

### Plant Communities:

The main plant community present is young (regenerating) low-canopied indigenous hardwood forest. There are extensive areas of scrub at the forest margins. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk\*.

The forest canopy over most parts of the site is dominated by matipo and five-finger. Other canopy species are lancewood, broadleaf, mountain akeake, cabbage tree, mapou, koromiko, bush lawyer and occasional emergent trees of radiata pine\*. Other canopy species at the valley bottom are wineberry, fuchsia, marbleleaf, kowhai and a single totara tree.

The forest understorey is mostly open. Plant species present are lancewood, matipo, five-finger, broadleaf, korokio, *Coprosma dumosa*, *Coprosma crassifolia*, marbleleaf, mapou, mahoe (uncommon), elderberry\* and bittersweet\*.

Plant species present on the forest floor are mountain kiokio, hen and chickens fern, *Asplenium bookerianum*, necklace fern, prickly shield fern, common shield fern, *Blechnum penna-marina*, *Blechnum fluviatile*, hound's tongue fern, *Schizaelema trifoliolatum*, hookgrass and seedlings of broadleaf, five-finger, matipo and *Coprosma* species. Additional species present near the stream are native broom, *Carex forsteri*, bush lily, *Blechnum chambersii* and swamp kiokio.



SNA 324

Plant species commonly present at the forest margin or in forest openings are mingimingi, *Coprosma dumosa*, tauhinu, manuka, korokio, matagouri, mountain akeake, Himalayan honeysuckle\*, Spanish heath\*, gorse\*, broom\*, bracken, lawyer, leafless lawyer, tutu, mountain flax, bidibid, hard fern, golden speargrass and foxglove\*.



Additional species present at open rocky sites on sunny slopes are bush snowberry, toatoa, porcupine shrub, *Helichrysum filicaule*, patotara, *Dichondra repens*, *Cheilanthes sieberi*, button fern, *Carex breviculmis*, harebell, blue tussock, scrub pohuehue and *Parsonia capsularis*.

**Birds/Fauna Observed:**

Native birds observed during this brief survey were bellbird, fantail, grey warbler, silvereve and harrier. A falcon was observed nearby.

**Notable Flora, Fauna and Habitats:**

Notable features of this area are the habitat it provides for forest birds, the presence of locally uncommon plant species (the fern *Cheilanthes sieberi* and leafless lawyer), the presence of totara, and the size of the area.

**Notable Plant and Animal Pests:**

The most important plant pest at this site is wilding pine, though the site boundaries have been drawn to exclude most emergent pine trees. Other plant pests present are Spanish heath, gorse, broom, elderberry and Himalayan honeysuckle, though these species do not pose a significant threat to the closed-canopy forest. Animal pests were not surveyed but sign of possum and feral pigs was observed.

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

The site boundaries have been drawn to include the main area of older indigenous forest. These boundaries are somewhat arbitrary, as it is difficult to precisely define the extent of forest in some places. The site lies close to similar areas of vegetation in the adjacent valley (SNA 323).

**Condition and Management**

The forest canopy at the site is in good condition. This is presumably due to ongoing possum control, as one of the main canopy species (five-finger) is very susceptible to possum browse. The forest understorey is affected by feral pigs and in places cattle trampling. Forest edges are affected by invasive plant pests, notably gorse, broom, and Spanish heath. The most important management issues are ongoing control of wild animals (possums and feral pigs) and containment of plant pests. Fencing to restrict access by cattle would also benefit the site.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	M	A good example of young regenerating indigenous forest typical of that present in the ecological district and moderately representative of the original vegetation.
Rarity	M	Supports populations of two locally uncommon plant species; may provide habitat for an 'at risk' bird species (falcon).
Diversity and pattern	M	Plant species diversity is moderate (57 indigenous vascular species).
Special features	M	The presence of totara is notable.
<b>Other Criteria</b>		
Size/shape	M/H	A moderate-sized area that has a good shape and is well buffered.
Connectivity	M	Lies close to other areas of indigenous vegetation.
Long-term Sustainability	M/H	Some plant and animal pest control may be required to maintain ecological values in the long term.

**Property Owner Comment:**

Mr Christie undertakes regular possum control.

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

This site occupies a steeply incised valley that is generally unsuitable for pastoral farming. It does not provide important access for farm management. It has been informally protected by the landowner.

**Discussion:**

This site meets the Timaru District Plan criteria for a significant natural area (SNA). Important features of the site are the presence of locally uncommon plant species, the habitat it provides for forest birds (probably including falcon), and the size of the area.

## 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)	
barberry* .....	<i>Berberis glaucocarpa</i>
bidibid .....	<i>Acaena</i> sp.
bittersweet* .....	<i>Solanum dulcamara</i>
blue tussock .....	<i>Poa colensoi</i>
bracken .....	<i>Pteridium esculentum</i>
broadleaf .....	<i>Griselinia littoralis</i>
broom* .....	<i>Cytisus scoparius</i>
bush lawyer .....	<i>Rubus cissoides</i>
bush lily .....	<i>Astelia fragrans</i>
bush snowberry .....	<i>Gaultheria antipoda</i>
button fern .....	<i>Pellaea rotundifolia</i>
cabbage tree/ti rakau .....	<i>Cordyline australis</i>
clematis .....	<i>Clematis paniculata</i>
common shield fern .....	<i>Polystichum richardii</i>
elderberry* .....	<i>Sambucus nigra</i>
five-finger .....	<i>Pseudopanax arboreus</i>
foxglove* .....	<i>Digitalis purpurea</i>
fuchsia .....	<i>Fuchsia excorticata</i>
golden speargrass .....	<i>Aciphylla aurea</i>
gorse* .....	<i>Ulex europaeus</i>
hairy pennywort .....	<i>Hydrocotyle moschata</i>
hanging spleenwort .....	<i>Asplenium flaccidum</i>
hard fern .....	<i>Paesia scaberula</i>
harebell .....	<i>Wahlenbergia albomarginata</i>
hen and chickens fern .....	<i>Asplenium gracillimum</i>
Himalayan honeysuckle* .....	<i>Leycesteria formosa</i>
hookgrass .....	<i>Uncinia</i> sp.
hound's tongue fern .....	<i>Microsorium pustulatum</i>
hybrid wineberry .....	<i>Aristolelia serrata</i> X <i>fruticosa</i>
Khasia berry* .....	<i>Cotoneaster simonsii</i>
korokio .....	<i>Corokia cotoneaster</i>
koromiko .....	<i>Hebe salicifolia</i>
kowhai .....	<i>Sophora microphylla</i>
lancewood .....	<i>Pseudopanax crassifolius</i>
lawyer .....	<i>Rubus schmidelioides</i>
leafless lawyer .....	<i>Rubus squarrosus</i>
mahoe/whiteywood .....	<i>Melicytus ramiflorus</i>
male fern* .....	<i>Dryopteris filix-mas</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>
mingimingi .....	<i>Coprosma propinqua</i>
mistletoe .....	<i>Ileostylis micranthus</i>
mountain akeake .....	<i>Olearia avicenniifolia</i>
mountain flax .....	<i>Phormium cookianum</i>
narrow-leaved snow-tussock .....	<i>Chionochloa rigida</i>
native bindweed .....	<i>Calystegia tuguriorum</i>
native broom .....	<i>Carmichaelia</i> aff. <i>australis</i>
native jasmine .....	<i>Parsonsia heterophylla</i>
necklace fern .....	<i>Asplenium flabellifolium</i>

pate.....	<i>Schefflera digitata</i>
patotara.....	<i>Leucopogon fraseri</i>
poataniwha.....	<i>Melicope simplex</i>
pohuehue.....	<i>Muehlenbeckia australis</i>
porcupine shrub.....	<i>Melicytus alpinus</i>
prickly shield fern.....	<i>Polystichum vestitum</i>
radiata pine*.....	<i>Pinus radiata</i>
scrambling fuchsia.....	<i>Fuchsia perscandens</i>
scrub pohuehue.....	<i>Muehlenbeckia complexa</i>
silver tussock.....	<i>Poa cita</i>
Spanish heath*.....	<i>Erica lusitanica</i>
swamp kiokio.....	<i>Blechnum minus</i>
sweet brier*.....	<i>Rosa rubiginosa</i>
tauhinu.....	<i>Ozothamnus leptophyllus</i>
toatoa.....	<i>Haloragis erecta</i>
totara.....	<i>Podocarpus totara</i>
tutu.....	<i>Coriaria sarmentosa</i>
weeping mapou.....	<i>Myrsine divaricata</i>
wineberry.....	<i>Aristotelia serrata</i>
yellowwood.....	<i>Coprosma linariifolia</i>