

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

**HAZELBURN PROPERTY**



Report prepared for Timaru District Council by Mike Harding  
June 2015

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.



24810/012.00  
Cross (Hazelburn)



1:7,500





**Area Name:** West Hazelburn Scarp  
**Central map ref. NZTM:** 1437940E-5104280N  
**Ecological District:** Geraldine  
**Surveyors:** Mike Harding

**Property:** Hazelburn (Cross)  
**Nearest Locality:** Totara Valley  
**Area Size (ha):** c.4.2      **Altitude (m):** 180-220  
**Survey Time:** 3 hours      **Survey Date:** 23-12-14

### General Description:

This SNA lies on a steep limestone scarp in a small valley at the southern part of the property. The scarp slope extends up-valley onto the adjacent property. A smaller gentler limestone band is exposed on the opposite side of the valley, though supports only scattered indigenous vegetation.

### Plant Communities:

Indigenous vegetation on or associated with this limestone scarp is forest, shrubland and sparsely-vegetated rockland or limestone turf. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk\*.

Relatively large areas of forest are present on the main limestone scarp and on a separate block of limestone at the centre of the area. The dominant canopy species are broadleaf and pohuheue. Elderberry\* trees are dominant along the base of the scarp at the western part of the area; crack willow\* is dominant at the eastern end. Other forest species present are mahoe, mapou, wineberry, five-finger, cabbage tree, native bindweed, leafless lawyer, native jasmine, *Clematis foetida*, bittersweet\*, black nightshade\*, gooseberry\* and nettle\*. A single old (senescent) narrow-leaved lacebark tree is present and one very large weeping mapou tree (with a trunk diameter at breast height of 32cm). One large patch of tree nettle is present at the base of the scarp.

Shrubland is present on and adjacent to the scarp, notably at the west end of the area and along the scarp crest. It is dominated by *Coprosma propinqua*. Other shrubland species present are native broom, gooseberry\*, pohuehue, cabbage tree, hawthorn, matagouri, mistletoe (on *Coprosma propinqua*), sweet brier\* (uncommon) and necklace fern.



*The lower (east) end of SNA 427a*

Exposed limestone rock and the associated turf communities are dominated by naturalized grasses and herbs, similar to those described for SNA 435a except that stonecrop\* is also present. Indigenous species are *Coprosma propinqua*, native broom, koromiko, barberry\*, gorse\*, mountain akeake, ivy\* (at the east end), *Poa imbecilla*, hound's tongue fern, *Asplenium lyallii*, maidenhair fern, *Blechnum chambersii*, *Libertia iscioides*, *Lagenifera petiolata*, *Epilobium nummularifolium*, *Geranium brevicaule*, *Colobanthus* aff. *strictus*, pennywort and hairy pennywort. Also present, but uncommon, are *Craspedia uniflora* agg. and *Parietaria debilis*.



**Birds/Fauna Observed:**

Native birds observed during this brief survey were fantail, grey warbler, welcome swallow and harrier.

**Notable Flora, Fauna and Habitats:**

Important features of this area are the presence of: indigenous vegetation on limestone, a 'naturally uncommon' ecosystem listed as nationally vulnerable (Holdaway *et al*, 2012) and in an 'acutely threatened' land environment; two plant species listed as 'data deficient' by de Lange *et al* (2012), *Colobanthus* aff. *strictus* and *Craspedia uniflora* agg.; several locally uncommon species (narrow-leaved lacebark, *Libertia ixioides*, *Parietaria debilis* and tree nettle); and the habitat the area provides for birds.

**Notable Plant and Animal Pests:**

Elderberry is the most important woody plant pest present. Also important are ivy (at the east end) and the native climber, pohuehue, which is smothering the forest canopy. Areas of open limestone rock and soil are dominated by exotic grasses and herbs. Animal pests were not surveyed.



*large weeping mapou tree*

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

The boundary of this SNA has been drawn to include the exposed limestone and associated areas of indigenous shrubland. The site is not fenced but is relatively well buffered by the steepness of the slopes. Some parts of the site, such as on the limestone block, are well protected from grazing.

**Condition and Management Issues:**

The limestone scarp community is in relatively good condition. Naturalized plants are dominant in places, though native tree species still form the main forest canopy. The main management issues are control of invasive naturalized plant species and grazing management. Light grazing by sheep (not cattle or deer) appears to be the most beneficial grazing management for the indigenous plant species.

**Property Owner Comment:**

Mr Cross has recently purchased this property. He would be concerned about any rules that restrict farming of the property.





Ferns at SNA 427a, left to right: maidenhair fern; *Blechnum chambersii* and *Asplenium lyallii*

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#### ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	A relatively good example of indigenous woody vegetation on limestone, with a good range of representative plant species.
Rarity	H	Lies in an acutely-threatened land environment; indigenous vegetation in a 'nationally vulnerable' ecosystem; two 'data deficient' and several locally uncommon plant species.
Diversity and pattern	M/H	Plant species diversity (38 indigenous vascular species) is significantly higher than average for similar sites.
Distinctiveness/special features	M	The large old weeping mapou tree and the well-protected limestone block are notable features.
<b>Other Criteria</b>		
Size/shape	M/H	A moderate-sized area that is well buffered.
Connectivity	M	Lies close to other areas of indigenous vegetation on limestone.
Long-term Sustainability	M	Control of invasive exotic plants will be required 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 set aside from development, in part because of the steepness of the site. The area has only very limited potential for further farm development.

#### Discussion:

This area easily meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of indigenous vegetation in a threatened land environment and in a vulnerable ecosystem. The presence of populations of data deficient and locally uncommon plant species is notable. The diversity of the forest species is also notable.



**Area Name:** East Hazelburn Scarp  
**Central map ref. NZTM:** 1438260E-5103870N  
**Ecological District:** Geraldine  
**Surveyors:** Mike Harding

**Property:** Hazelburn (Cross)  
**Nearest Locality:** Totara Valley  
**Area Size (ha):** c.3.5      **Altitude (m):** 180-200  
**Survey Time:** 2½ hrs      **Survey Date:** 23-12-14

### General Description:

This SNA lies on a steep southeast-facing limestone scarp adjacent to Three Mile Bush Road, at the east edge of the property. The scarp continues onto the adjacent property and other limestone scarps and areas of indigenous are present nearby.

### Plant Communities:

The SNA supports shrubland, scattered trees and sparsely vegetated rockland (limestone). These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk\*.

Trees commonly present are cabbage tree and elderberry\*. Less common are broadleaf, mahoe, kowhai, hawthorn\*, walnut\* and holly\*. Large crack willow\* trees have been recently removed from the lower boundary of the site, along the stream.

Scattered shrubland at the site is dominated by *Coprosma propinqua* and matagouri. Other plant species present are native broom, sweet brier\*, barberry\*, gooseberry\*, gorse\*, broom\*, Himalayan honeysuckle\* (uncommon), pohuehue, native bindweed, male fern\* and silver tussock.

Exposed limestone and associated soils are for the most part dominated by naturalized (exotic) pasture grasses and herbs, notably Chewings fescue\*, cocksfoot\*, sandwort\*, purging flax\*, mouse-ear hawkweed\*, narrow-leaved plantain\*, suckling clover\*, pearlwort\*, nettle\*, hemlock\* and thistles\*. Indigenous species present are *Coprosma propinqua*, mountain akeake, koromiko, flax, *Poa imbecilla*, blue wheat grass, *Asplenium hyalii*, *Blechnum chambersii*, maidenhair fern, *Epilobium nummularifolium*, *Carex breviculmis*, *Lagenifera petiolata*, *Geranium brevicaulle*, buttercup, cardamine, pennywort and hairy pennywort. Other limestone species present but uncommon at the site are necklace fern, *Craspedia uniflora* agg., *Plantago lanigera*, *Gingidia enysii*, *Colobanthus* aff. *strictus* and *Asplenium bookerianum*.



SNA 435a



**Birds/Fauna Observed:**

Native birds observed during this brief survey were fantail, bellbird, welcome swallow and harrier.

**Notable Flora, Fauna and Habitats:**

Important features of this area are the presence of: indigenous vegetation on limestone, a 'naturally uncommon' ecosystem listed as nationally vulnerable (Holdaway *et al*, 2012) and in an 'acutely threatened' land environment; a plant species listed as 'at risk' (naturally uncommon) by de Lange *et al* (2012), *Gingidia enysii*; two plant species listed as 'data deficient', *Colobanthus* aff. *strictus* and *Craspedia uniflora* agg.; and the habitat the area provides for birds.



The 'data deficient' plant species: *Craspedia uniflora* agg.

**Notable Plant and Animal Pests:**

Woody weeds observed at the site are crack willow, elderberry, holly, hawthorn, barberry, gorse, broom, gooseberry and sweet brier. A larger number of invasive herbaceous species are present, notably Chewings fescue, cocksfoot, mouse-ear hawkweed, pearlwort and hemlock. Interestingly, stonecrop is absent, whereas it is dominant on some other limestone scarps in the area. Animal pests were not surveyed.

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

The boundary of this SNA has been drawn to include the exposed limestone and associated areas of indigenous shrubland and treeland. The site is not fenced but is relatively well buffered by the steepness of the slopes. A modified sedgeland community is present in patches along the stream below the scarp; this sedgeland is not included in the SNA.

**Condition and Management Issues:**

The limestone scarp community is in moderate condition. Naturalized plants are dominant in most places. The rare indigenous plants are present as only very small populations. At the time of survey, the site did not appear heavily grazed. The main management issues are control of invasive naturalized plant species and grazing management. Light grazing by sheep (not cattle or deer) appears to be the most beneficial grazing management for the indigenous plant species. Extensive Maori rock drawings are present within a fenced overhang at the site.



**Property Owner Comment:**

Mr Cross has recently purchased this property. He would be concerned about any rules that restrict farming.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	M	A reasonable example of indigenous vegetation on limestone, typical of that remaining in the ecological district and supporting a good range of representative plant species.
Rarity	H	Lies in an acutely-threatened land environment; indigenous vegetation in a 'nationally vulnerable' ecosystem; one 'at risk' and two 'data deficient' plant species.
Diversity and pattern	M	Moderate plant species diversity: higher than average for limestone sites in the area.
Distinctiveness/special features	M	The relative abundance of limestone turf (steep soil) habitat is a notable feature.
<b>Other Criteria</b>		
Size/shape	M/H	A moderate-sized area that is relatively well buffered.
Connectivity	M	Lies close to other areas of indigenous vegetation on limestone.
Long-term Sustainability	M	Control of invasive exotic plants will 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 set aside from development, in part because of the steepness of the site. The area has only very limited potential for further farm development.

**Discussion:**

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of indigenous vegetation in a threatened land environment and in a vulnerable ecosystem. The presence of populations (albeit small) of at risk and data deficient plants is notable. The impressive Maori rock drawings at the site are noteworthy.



*The fenced overhang containing the Maori rock drawings, SNA 435a*



## 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>
bittersweet* .....	<i>Solanum dulcamara</i>
black nightshade* .....	<i>Solanum nigrum</i>
blue wheat grass .....	<i>Elymus solandri</i>
broadleaf .....	<i>Griselinia littoralis</i>
broom* .....	<i>Cytisus scoparius</i>
buttercup .....	<i>Ranunculus</i> sp.
cabbage tree/ti rakau .....	<i>Cordyline australis</i>
cardamine .....	<i>Cardamine debilis</i> agg.
Chewings fescue* .....	<i>Festuca rubra</i> ssp. <i>commutata</i>
cocksfoot* .....	<i>Dactylis glomerata</i>
crack willow* .....	<i>Salix fragilis</i>
elderberry* .....	<i>Sambucus nigra</i>
five-finger .....	<i>Pseudopanax arboreus</i>
flax .....	<i>Phormium tenax</i>
gooseberry* .....	<i>Ribes uva-crispa</i>
gorse* .....	<i>Ulex europaeus</i>
hairy pennywort .....	<i>Hydrocotyle moschata</i>
hawthorn* .....	<i>Crataegus monogyna</i>
hemlock* .....	<i>Conium maculatum</i>
Himalayan honeysuckle* .....	<i>Leycesteria formosa</i>
holly* .....	<i>Ilex aquifolium</i>
hound's tongue fern .....	<i>Microsorium pustulatum</i>
ivy* .....	<i>Hedera helix</i>
koromiko .....	<i>Hebe salicifolia</i>
kowhai .....	<i>Sophora microphylla</i>
leafless lawyer .....	<i>Rubus squarrosus</i>
mahoe/whiteywood .....	<i>Meliccytus ramiflorus</i>
maidenhair fern .....	<i>Adiantum cunninghamii</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>
mistletoe .....	<i>Ileostylis micranthus</i>
mountain akeake .....	<i>Olearia avicenniifolia</i>
mouse-ear hawkweed* .....	<i>Pilosella officinarum</i>
narrow-leaved lacebark .....	<i>Hoheria angustifolia</i>
narrow-leaved plantain* .....	<i>Plantago lanceolata</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>
nettle .....	<i>Urtica incisa</i>
pearlwort* .....	<i>Sagina procumbens</i>
pennywort .....	<i>Hydrocotyle novae-zelandiae</i>
pohuehue .....	<i>Muehlenbeckia australis</i>
purging flax* .....	<i>Linum catharticum</i>
sandwort* .....	<i>Arenaria serpyllifolia</i>
silver tussock .....	<i>Poa cita</i>
stonecrop* .....	<i>Sedum acre</i>
suckling clover* .....	<i>Trifolium dubium</i>
sweet brier* .....	<i>Rosa rubiginosa</i>



totara .....	<i>Podocarpus totara</i>
tree nettle.....	<i>Urtica ferox</i>
walnut*.....	<i>Juglans regia</i>
weeping mapou .....	<i>Myrsine divaricata</i>
wineberry .....	<i>Aristotelia serrata</i>

**References Cited**

**de Lange, PJ; Rolfe, JR; Champion, PD; Courtney, SP; Heenan, PB; Barkla, JW; Cameron, EK; Norton, DA; Hitchmough, RA. 2012.** *Conservation status of New Zealand indigenous vascular plants, 2012.* Department of Conservation, Wellington, New Zealand. 70p.

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**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.

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