

**TIMARU DISTRICT**

**SIGNIFICANT NATURAL AREAS**  
**SURVEY**

**CROSS PROPERTY**

Report prepared for Timaru District Council by Mike Harding  
October 2015

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### PROPERTY DETAILS:

**Owner:** ..... Ken Cross  
**Valuation Reference:** ...24810/010.00  
**Address:** ..... Monument Road  
**Location:** ..... Lower northeast slopes of Brothers Range, Totara Valley  
**Ecological District:** ..... Geraldine  
**TDC Land Type:**..... 'Soft Rock Hills and Downs'  
**Land Environments:** ..... N3.1a

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### ECOLOGICAL CONTEXT:

The property lies on lower northeast slopes of the Brothers Range, near Totara Valley. It is in Geraldine Ecological District (McEwen, 1987). Limestone scarps on the property lie within the N3.1a Level IV Land Environment as defined by Leathwick *et al* (2003). Indigenous vegetation within this land environment is regarded as acutely-threatened (Walker *et al*, 2005).

It is likely that the original vegetation of this area was predominantly podocarp-hardwood forest, dominated by matai, totara, kowhai, broadleaf and other hardwood trees. Shrubland, treeland and tussockland may have occupied steeper slopes and disturbed sites. Limestone bluffs supported specialised flora, and valley floors would have supported areas of wetland vegetation.

Today the original forest cover in this part of Geraldine Ecological District is largely confined to remnants in gullies or on steep slopes associated with limestone scarps. 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.

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### SIGNIFICANT AREAS ON THE PROPERTY:

This property was not surveyed as part of the District-wide survey of Significant Natural Areas because permission for access was declined by the landowner. However, neighbouring properties have been surveyed and there are good recent aerial photo images of the area. So it is possible to determine what indigenous vegetation is likely to be present on the property.

Indigenous vegetation on the property appears to comprise forest, treeland (scattered trees), shrubland, herbfield and sparsely vegetated rockland on or associated with limestone bluffs. On adjacent properties these habitats support populations of three 'at risk' (naturally uncommon) plant species, as listed by de Lange *et al* (2012), and several uncommon and yet to be described species restricted to limestone. The property lies near to areas of indigenous vegetation on other properties, contributing to the network of fauna habitat in the wider area.

Without the benefit of a field survey it is difficult to accurately determine the extent of significant indigenous vegetation on the property. Aerial images indicate that exposed limestone on the property is one system of bluffs and outcrops, separated by a small valley. This area is likely to be a Significant Natural Area (SNA) when assessed against the District Plan criteria.

The boundaries of this area are illustrated as two separate SNAs on the aerial photograph below and the likely values described on the SNA Form in this report. Note that the boundaries of the SNAs are indicative, rather than precise. These areas are likely to 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.

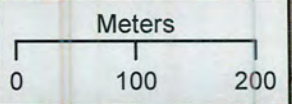
At present, consent is required from Council for clearance of areas of indigenous vegetation or habitat which meet the Interim Definitions in the District Plan. Clearance includes burning, track construction, spraying with herbicides and over-planting. To assist with the protection and management of 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.

Cross Property  
24810/010.00



423b

423a



Newton Road

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## TIMARU DISTRICT SNA SURVEY

## SNA 423a and 423b

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<b>Area Name:</b> Cross limestone	<b>Property:</b> Ken Cross
<b>Ecological District:</b> Geraldine	<b>Nearest Locality:</b> Totara Valley
<b>423a Central map ref. (NZTM):</b> 1437800E-5102400N	<b>Area Size (ha):</b> c.14 <b>Altitude (m):</b> 160-200
<b>423b Central map ref. (NZTM):</b> 1437765E-5102100N	<b>Area Size (ha):</b> c.2.4 <b>Altitude (m):</b> 160-200
<b>Assessor:</b> Mike Harding	<b>Survey Time:</b> n/a <b>Survey Date:</b> n/a

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### General Description:

This area comprises a limestone scarp and associated limestone outcrops and boulders running roughly north-south across the property. The SNA boundary is drawn (from an aerial photo image) to include the main areas of outcropping limestone, though there are small areas of pasture within this boundary which are unlikely to be significant.

### Plant Communities:

The main indigenous plant community present is vegetation (trees, shrubs and herbs) on or associated with the limestone outcrops. The species likely to be present are described below. Naturalized (exotic) species are indicated with an asterisk\*.

Areas of trees are likely to be dominated by broadleaf, mahoe and pohuehue. Other likely tree species are matipo, cabbage tree, five-finger and wineberry. Other species likely to be present within trees on the limestone scarp are mingimingi, koromiko, flax, bush lily and silver tussock.

Other woody species likely to be present are kowhai, mountain akeake, matagouri, native broom, mistletoe, scrub pohuehue, elderberry\* and Himalayan honeysuckle\*.

Indigenous herbaceous species typically present on limestone in this area are toatoa, *Einadia allanii*, *Cardamine* sp., woollyhead (*Craspedia* sp.), *Colobanthus* aff. *strictus*, *Colobanthus* *apetalus*, *Geranium microphyllum*, *Geranium* aff. *brevicaule*, *Epilobium nummularifolium*, *Gingidia ensyii*, *Dichondra repens*, *Lagenifera pumila*, *Oxalis exilis*, *Carex breviculmis*, *Asplenium lyallii*, maidenhair fern and *Blechnum chambersii*.

Grasses commonly present are silver tussock, blue tussock, *Poa imbecilla*, hard grass\*, cocksfoot\*, Chewings fescue\*, sweet vernal\* and browntop\*.

### Birds/Fauna Observed:

Native birds typically present at similar sites bellbird, grey warbler, fantail, silvereye, 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); the likely presence of three 'at risk' (naturally uncommon) plant species, *Gingidia ensyii*, *Einadia allanii* and *Geranium microphyllum* (de Lange *et al*, 2012); the likely presence of un-described limestone plant species (*Colobanthus* aff. *strictus*, *Geranium* aff. *brevicaule*, *Cardamine* sp. and *Craspedia* sp.) and its location near to other areas of indigenous vegetation on limestone.

### Notable Plant and Animal Pests:

Assessment of plant and animal pests was not possible.

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

The boundaries of these areas are drawn to include the largest limestone outcrops and the shrubland and pasture between the outcrops. However, the significant ecological values are likely to be confined to the exposed limestone and associated turfs. The site does not appear to be fenced and is grazed as part of large paddocks. It lies close to other areas of indigenous vegetation on limestone.

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**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

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<b>Primary Criteria</b>	<b>Rank</b>	<b>Notes</b>
Representativeness	<b>M/H</b>	Indigenous vegetation that is representative and typical of that remaining on limestone in the ecological district.
Rarity	<b>H</b>	Indigenous vegetation on a nationally vulnerable limestone ecosystem, within a threatened land environment; likely to provide habitat for 'at risk' and un-described limestone plant species.
Diversity and pattern	<b>M</b>	Plant species diversity appears moderate, though is likely to be reduced from that originally present.
Distinctiveness/special features		
<b>Other Criteria</b>		
Size/shape	<b>M</b>	Moderate-sized areas of exposed limestone, though separated by pasture and not well buffered.
Connectivity	<b>M/H</b>	Adjoins and links other areas of indigenous vegetation on limestone.
Long-term Sustainability		Unclear.

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

The parts of the site that are likely support significant ecological values are on or associated with the exposed limestone. These areas appear generally unsuitable for farm development.

**Discussion:**

If the above assessment is accurate, this site very easily meets the District Plan criteria for an SNA. Important values are the presence of indigenous vegetation on limestone, 'at risk' and un-described limestone plant species and the extent of the limestone habitat.

### 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)	
blue tussock.....	<i>Poa colensoi</i>
broadleaf .....	<i>Griselinia littoralis</i>
browntop* .....	<i>Agrostis capillaris</i>
bush lily.....	<i>Astelia fragrans</i>
cabbage tree/ti rakau .....	<i>Cordyline australis</i>
Chewings fescue* .....	<i>Festuca rubra</i> ssp. <i>commutata</i>
cocksfoot* .....	<i>Dactylis glomerata</i>
elderberry* .....	<i>Sambucus nigra</i>
five-finger .....	<i>Pseudopanax arboreus</i>
flax .....	<i>Phormium tenax</i>
hard grass* .....	<i>Cynosurus rigidum</i>
Himalayan honeysuckle* .....	<i>Leycesteria formosa</i>
koromiko .....	<i>Hebe salicifolia</i>
kowhai.....	<i>Sophora microphylla</i>
maidenhair fern .....	<i>Adiantum cunninghamii</i>
matipo .....	<i>Pittosporum tenuifolium</i>
matagouri .....	<i>Discaria toumatou</i>
matai/black pine .....	<i>Prumnopitys taxifolia</i>
mingimingi.....	<i>Coprosma propinqua</i>
mistletoe.....	<i>Ileostylis micranthus</i>
mountain akeake .....	<i>Olearia avicenniifolia</i>
native broom .....	<i>Carmichaelia</i> aff. <i>australis</i>
pohuehue .....	<i>Muehlenbeckia australis</i>
scrub pohuehue .....	<i>Muehlenbeckia complexa</i>
silver tussock.....	<i>Poa cita</i>
sweet vernal* .....	<i>Anthoxanthum odoratum</i>
toatoa.....	<i>Haloragis erecta</i>
totara .....	<i>Podocarpus totara</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.

Holdaway, R.J.; Wiser, S.K.; Williams, P.A. 2012. Status assessment of New Zealand's naturally uncommon ecosystems. *Conservation Biology* 26: 619-629.

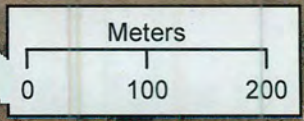
Leathwick, J; Wilson, G; Rutledge, D; Wardle, P; Morgan, F; Johnston, K; McLeod, M; Kirkpatrick, R. 2003. *Land Environments of New Zealand*. David Bateman Ltd.

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.

Walker, S.; Price, R.; Rutledge, D. 2005. New Zealand's remaining indigenous vegetation cover: recent changes and biodiversity protection needs. *Landcare Research Contract Report LC0405/038*.

revised boundaries

Cross (Hazelburn) Property  
24810/012.00



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