

**TIMARU DISTRICT**

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

**PAGAN PROPERTY**



Report prepared for Timaru District Council by Mike Harding  
June 2015

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### PROPERTY DETAILS:

**Owner:** .....Pagan  
**Valuation Reference:** ...24670/261.00  
**Address:** ..... Geraldine Fairlie Highway  
**Location:** .....Northeast side of Opuha River, Beautiful 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 northeast side of the Opuha River, near Beautiful 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:

Indigenous vegetation on the property comprises shrubland, herbfield and sparsely vegetated rockland on or associated with limestone outcrops. These habitats support populations of three 'at risk' (naturally uncommon) plant species, as listed by de Lange *et al* (2012), and other uncommon and yet to be described species restricted to limestone. Limestone bluffs are a 'naturally uncommon' ecosystem listed as nationally vulnerable (Holdaway *et al*, 2012). This part of the ecological district is within the range of a remnant South Canterbury population of long-tailed bat; a threatened (nationally critical) species.

The property was surveyed as part of the District-wide survey of Significant Natural Areas during April 2015. One area, comprising approximately four hectares, is regarded as a Significant Natural Area (SNA) when assessed against the District Plan criteria. The boundary of this SNA is illustrated on the aerial photograph below and the values described on the SNA Form in this report. Note that the boundaries of the SNA are indicative, rather than precise.

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, or sustainable with appropriate management



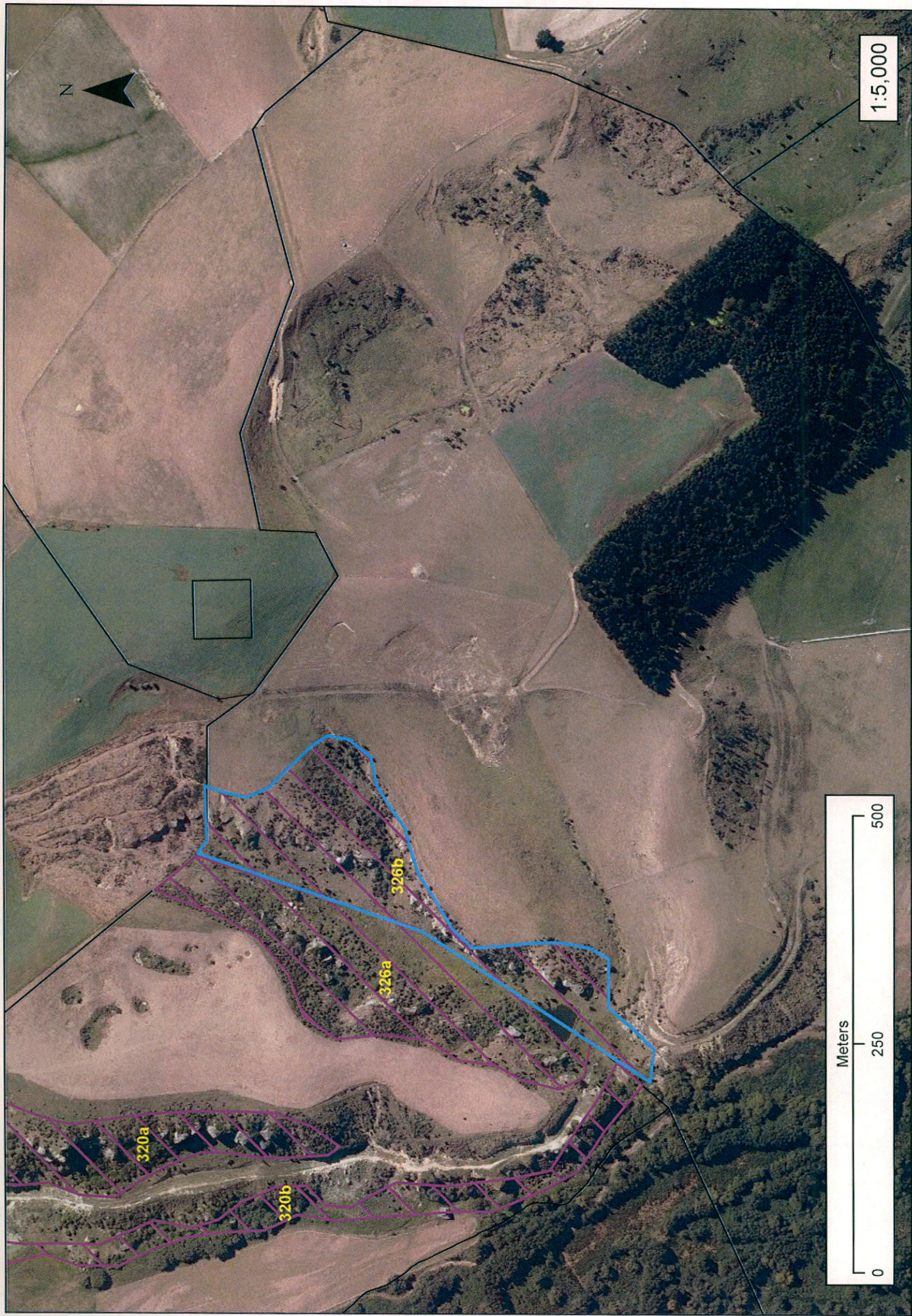
(criterion vii, page B19). SNAs are subject to confirmation by Council after regarding the matters listed in the District Plan (pages B19-B20). It is expected that SNAs will eventually be listed in the District Plan by way of a notified plan change.

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.

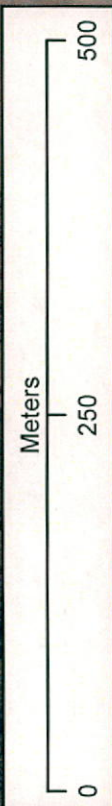


*Tree nettle at SNA 326b*





1:5,000





# TIMARU DISTRICT SNA SURVEY

SNA 326b

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**Area Name:**

**Ecological District:** Geraldine

**SNA : Central map ref. (NZTM):** 1439660E-5113290N

**Surveyors:** Mike Harding

**Property:** Pagan

**Nearest Locality:** Beautiful Valley

**Area Size (ha):** 4.4

**Altitude (m):** 220-280

**Survey Time:** 1½ hours

**Survey Date:** 23-04-15

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## General Description:

This SNA occupies the southeast side of a small gully on the north side of the Opuha River just west of Beautiful Valley. It lies on an exposed limestone scarp, the west side of which (SNA 326a) lies on an adjacent property. It covers the limestone scarp and areas of turf vegetation and shrubland associated with the scarp.

## Plant Communities:

Three main plant communities are present at the site: sparsely vegetated rockland; grassland/herbfield on turf associated with the limestone; and shrubland/scrub. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk\*.

### Rockland:

Areas of exposed limestone are sparsely vegetated. Plant species commonly present are broadleaf, kowhai, cabbage tree, mingimingi, matagouri, mountain akeake, koromiko, porcupine shrub, pohuehue, elderberry\*, sweet brier\*, *Asplenium lyallii*, maidenhair fern, *Blechnum chambersii*, blue tussock, Chewings fescue\*, cocksfoot\*, *Epilobium nummularifolium*, *Dichondra repens*, *Colobanthus* aff. *strictus*, *Gingidia enysii*, *Oxalis exilis*, mouse-ear hawkweed\*, sow thistle\* and narrow-leaved plantain\*.

Species present adjacent to the limestone rock are mostly exotic species: hemlock\*, yarrow\*, woolly mullein\*, narrow-leaved plantain\*, hawksbeard\*, horehound\*, nettle\*, burdock\*, dwarf mallow\*, black nightshade\*, sandwort\*, purging flax\*, white clover\*, *Geranium pusillum*\* and grasses. Native species occasionally present are *Geranium microphyllum* and *Einadia allanii*.

### Grassland/herbfield (turf):

This community is dominated by exotic grasses, but also supports a number of indigenous species, including *Carex breviculmis*, *Lagenifera pumila*, hairy pennywort and *Gingidia enysii*.



*Turf adjacent to limestone which provides habitat for the 'at risk' plant Gingidia enysii*



#### Shrubland/scrub:

This plant community is dominated by mingimingi. Other species commonly present are matagouri, native broom, mahoe, koromiko, gorse\*, broom\*, sweet brier\*, porcupine shrub, blackberry\*, silver tussock, Californian thistle\*, woolly mullein\* and the climbers: pohuehue, scrub pohuehue, native bindweed, native jasmine and leafless lawyer. Less common are tree nettle, barberry\* and mistletoe (on matagouri).

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

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

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

Notable features of this area are the presence of indigenous vegetation on a naturally uncommon ecosystem (limestone) and in an 'acutely threatened' land environment. Three 'at risk' (naturally uncommon) plant species (de Lange *et al*, 2012) (*Einadia allanii*, *Geranium microphyllum* and *Gingidia enysii*) and one locally uncommon species (tree nettle) are present. The site also supports plant species generally restricted to limestone (*Colobanthus* aff. *strictus* and *Asplenium hyalii*). It lies close to other areas of indigenous vegetation on limestone.

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

The most important woody weeds present are barberry, gorse, broom, elderberry and sweet brier. Of these, barberry and broom pose the greatest threat. The most important herbaceous weeds are Chewings fescue, cocksfoot, mouse-ear hawkweed and narrow-leaved plantain. Animal pests were not surveyed, though possums are likely to be present.

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

This area is part of a larger area that extends onto the adjacent property. It is grazed as part of a larger paddock, though parts of the site are protected from grazing by steep rock. It lies close to other areas of indigenous vegetation on limestone and is part of a network of bird habitat in the wider area.

#### **Condition and Management:**

Indigenous vegetation at the site is in moderate condition. Shrubland communities are healthy, but the exposed limestone is affected by invasive naturalized plants. The most important management issues are control of weeds and protection of the site from intensive grazing, especially by cattle.

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#### **ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	M	Indigenous vegetation that is moderately representative of the original vegetation and typical of that remaining on limestone in the area.
Rarity	H	Indigenous vegetation on a naturally uncommon ecosystem (limestone) and in an acutely threatened land environment (N3.1a). Supports three at risk (naturally uncommon) and one locally uncommon plant species.
Diversity and pattern	M	Species diversity is moderate.
Distinctiveness/special features	M	The presence of adjacent wetland communities (SNA 326a) is notable.
<b>Other Criteria</b>		
Size/shape	M/H	A moderate-sized area that is partly buffered.
Connectivity	M/H	Is part of a larger area that extends onto the adjacent property.
Long-term Sustainability	M	Some plant pest control will probably 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 protected informally by the landowner. It lies on steep country that has only limited potential for farm development. It is at the corner of the property and does not appear to provide important access for farm management. Mr Pagan is contemplating fencing the site from stock.

#### **Discussion:**

This area easily meets the District Plan criteria for a significant natural area. Important features are the presence of indigenous vegetation on limestone and within an acutely threatened land environment, and the presence of at risk and locally uncommon plant species.



### 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>
blackberry*	<i>Rubus fruticosus</i>
black nightshade*	<i>Solanum nigrum</i>
blue tussock	<i>Poa colensoi</i>
broadleaf	<i>Griselinia littoralis</i>
broom*	<i>Cytisus scoparius</i>
burdock*	<i>Arctium minus</i>
cabbage tree/ti rakau	<i>Cordyline australis</i>
Californian thistle*	<i>Cirsium arvense</i>
Chewings fescue*	<i>Festuca rubra</i> ssp. <i>commutata</i>
cocksfoot*	<i>Dactylis glomerata</i>
dwarf mallow*	<i>Malva neglecta</i>
elderberry*	<i>Sambucus nigra</i>
gorse*	<i>Ulex europaeus</i>
hairy pennywort	<i>Hydrocotyle moschata</i>
hawksbeard*	<i>Crepis capillaris</i>
horehound*	<i>Marrubium vulgare</i>
koromiko	<i>Hebe salicifolia</i>
kowhai	<i>Sophora microphylla</i>
leafless lawyer	<i>Rubus squarrosus</i>
mahoe/whiteywood	<i>Melicytus ramiflorus</i>
maidenhair fern	<i>Adiantum cunninghamii</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>
mouse-ear hawkweed*	<i>Pilosella officinarum</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 capsularis</i>
nettle	<i>Urtica incisa</i>
pohuehue	<i>Muehlenbeckia australis</i>
porcupine shrub	<i>Melicytus alpinus</i>
purging flax*	<i>Linum catharticum</i>
sandwort*	<i>Arenaria serpyllifolia</i>
scrub pohuehue	<i>Muehlenbeckia complexa</i>
silver tussock	<i>Poa cita</i>
sow thistle*	<i>Sonchus oleraceus</i>
sweet brier*	<i>Rosa rubiginosa</i>
totara	<i>Podocarpus totara</i>
tree nettle	<i>Urtica ferox</i>
white clover*	<i>Trifolium repens</i>
woolly mullein*	<i>Verbascum thapsus</i>
yarrow*	<i>Achillea millefolium</i>





*Einadia allanii* at SNA 326b

#### 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.

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