

TIMARU DISTRICT COUNCIL
SIGNIFICANT NATURAL AREAS
SURVEY
JAMIESON PROPERTY



Report prepared for Timaru District Council
Mike Harding
November 2020

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY PROPERTY REPORT

PROPERTY DETAILS:

Owner: Jamieson HR & CR
Valuation Reference: ... 24850-01200
Location:..... Pareora Ford Road, Taiko
Ecological District:..... Waimate
Land Environment: N3.1a

LOCATION AND DESCRIPTION:



Location of Jamieson Property (red star).

The Jamieson property is located in the lower Taiko Stream valley, approximately 3km south of Taiko Flat and 15km west of Timaru. The property is located on hill country between altitudes of 100m and 300m. It is just east of the prominent Cave Hill (542m). Underlying geology is calcareous sandstone, siltstone and mudstone of the Eyre Group at the west part of the property, and limestone of the Kekenodon Group at the east part (GNS Science, NZ Geology Web Map.). Small streams on and adjacent to the property drain south-east to Taiko Stream and the Pareora River.

ECOLOGICAL CONTEXT:

The property lies in Waimate Ecological District, within Pareora Ecological Region (McEwen, 1987), and within the N3.1a Level IV Land Environment as defined by Leathwick *et al* (2003).

It is likely that the original vegetation of this area was predominantly podocarp-broadleaved forest, dominated by matai, totara, kowhai, broadleaf and other broadleaved trees. Shrubland, scrub, treeland and tussockland would 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 Waimate 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.

SURVEY METHOD AND COVERAGE:

The field survey upon which this report is based was restricted to views from Pareora Ford Road, as permission for access to the property was declined by the landowner. This road-side survey is supplemented by species' records provided by Hermann Frank and by my knowledge of South Canterbury limestone ecosystems. The purpose of the field survey was to determine the presence and extent of significant indigenous vegetation and significant habitats of indigenous fauna.

Names of indigenous plant species cited in this report are as listed on the Ngā Tipu o Aotearoa-New Zealand Plants database (Manaaki Whenua-Landcare Research). Plant community names follow the method proposed by Atkinson (1985). The threat status of indigenous species is as listed in the most recent publications of the Department of Conservation, referenced in this report.

SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

The property was viewed in October 2020. Three separate areas are assessed as significant natural areas (SNAs) under the Canterbury Regional Policy Statement (RPS) criteria.

SNA No.	Central Map Reference (NZTM)	Aprox. size(ha)	Vegetation/habitat type
857	1444300E-5083400N	1.72	rockland; grassland/herbfield
858	1444275E-5084050N	38.3	forest; shrubland; rockland
859	1443800E-5084100N	26.08	forest; shrubland; rockland

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.



Jamieson Property SNAs (white-hatched areas).

TIMARU DISTRICT SNA SURVEY**SNA 857**

Ecological District: Waimate	Nearest Locality: Taiko Flat	
Map ref. (NZTM): 1444300E-5083400N	Size (ha): 1.72	Altitude (m): 200
Surveyor/Assessor: Mike Harding	Survey Time: n/a	Survey Date: 19-10-20

GENERAL DESCRIPTION:

This SNA comprises a broad spur with areas of exposed limestone. It lies near to a larger area of indigenous vegetation (shrubland/scrub), described separately as SNA 858.



SNA 857 viewed from Pareora Ford Road.

VEGETATION/HABITAT TYPES:**Vegetation**

This desk-top analysis does not permit a full description of the vegetation. Indigenous plant species visible from the road are kowhai, mingimingi, *Coprosma crassifolia* and *Coprosma virescens*. Notable plant species recorded by Hermann Frank are *Coprosma virescens*, *Gingidia enysii*, *Cardamine integræ*, *Colabanthus* aff. *brevisepalus* “limestone” and *Chenopodium allanii*.

Habitats of Indigenous Fauna

Survey of fauna was not possible. Native bird species observed in the vicinity of the SNA during this road-based survey were grey warbler, harrier, spur-winged plover and paradise shelduck. The rocky slopes appear to provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The site supports areas of exposed limestone, which is an ‘originally rare ecosystem’ (Williams *et al*, 2007) with a threat status of nationally ‘vulnerable’ (Holdaway *et al*, 2012). The Level IV Land Environment (N3.1a) in which the SNA lies is an ‘acutely threatened’ land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015).

The following plant species listed as ‘threatened’ or ‘at risk’ by de Lange *et al* (2018) have been recorded at the site:

- *Cardamine integra*threatened (nationally critical)
- *Chenopodium allanii*at risk (naturally uncommon)
- *Coprosma virescens*.....at risk (declining)
- *Gingidia enysii*.....threatened (nationally endangered)

ASSESSMENT OF SIGNIFICANT NATURAL AREAS:

Significant Natural Areas (SNAs) are determined by assessing indigenous vegetation and habitats of indigenous fauna against the criteria in Appendix 3 of the Canterbury Regional Policy Statement (RPS), with reference to the guidelines for application of these criteria (Wildlands, 2013).

Selecting boundaries for SNAs can be problematic, as vegetation boundaries are not precise (plant communities frequently grade from one type to another) and habitats of indigenous fauna are not easily determined through brief site surveys. In this assessment the SNA boundary is drawn to encompass the main areas of exposed limestone. This includes areas of pasture which are not likely to be significant. A more detailed site survey would be necessary to refine this boundary.

ASSESSMENT AGAINST CANTERBURY RPS CRITERIA:

Criteria	Yes/No	Comments
Representativeness	No	The vegetation poorly represents the original vegetation and is a degraded example of that which remains at this part of the ecological district.
Rarity/Distinctiveness	Yes	Exposed limestone at the site supports populations of two ‘threatened’ and two ‘at risk’ plant species. Calcareous (limestone) cliffs and scarps are a nationally ‘vulnerable’ ecosystem.
Diversity and Pattern	No	The site appears to support a low diversity of indigenous species and habitats.
Ecological Context	Maybe	Indigenous vegetation that is part of a larger group of rockland and shrubland remnants in the area that collectively form a relatively extensive area of indigenous vegetation and habitat.

Comments/Reasons:

There is sufficient information about this site to confirm that it supports significant indigenous vegetation, despite the absence of a field survey. Important ecological values are the presence of an originally rare ecosystem (limestone) and populations of ‘threatened’ and ‘at risk’ plant species. An on-site survey would be required to provide further information about the presence and extent of those values, and site condition.

TIMARU DISTRICT SNA SURVEY**SNA 858**

Ecological District: Waimate	Nearest Locality: Taiko Flat	
Map ref. (NZTM): 1444275E-5084050N	Size (ha): 38.3	Altitude (m): 140-280
Surveyor/Assessor: Mike Harding	Survey Time: n/a	Survey Date: 19-10-20

GENERAL DESCRIPTION:

This SNA covers east-facing hill slopes, comprising a series of broad spurs and gullies. It has gentle to moderate slopes, with steeper terrain at areas of exposed limestone. It lies near to another large area of indigenous vegetation, on the west-facing slopes of the property, described separately as SNA 859.



SNA 858 viewed from Pareora Ford Road.

VEGETATION/HABITAT TYPES:**Vegetation**

This desk-top analysis does not permit a full description of the vegetation. The SNA supports extensive areas of indigenous shrubland/scrub, smaller patches of forest, and localised areas of exposed limestone (rockland). Indigenous plant species visible from the road are kowhai, broadleaf, lancewood, cabbage tree, matagouri, mingimingi, native broom, *Coprosma crassifolia*, pohuehue, lawyer, leafless lawyer, native jasmine (?) and silver tussock. Notable plant species recorded by Hermann Frank are *Coprosma virescens*, *Geranium microphyllum* and *Cardamine grandiscapa*.

Habitats of Indigenous Fauna

Survey of fauna was not possible. Native bird species observed in the vicinity of the SNA during this road-based survey were grey warbler, harrier, spur-winged plover and paradise shelduck. The rocky slopes appear to provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The site supports areas of exposed limestone, which is an ‘originally rare ecosystem’ (Williams *et al*, 2007) with a threat status of nationally ‘vulnerable’ (Holdaway *et al*, 2012). The Level IV Land Environment (N3.1a) in which the SNA lies is an ‘acutely threatened’ land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015).

The following plant species listed as ‘at risk’ by de Lange *et al* (2018) have been recorded at the site:

- *Coprosma virescens*.....at risk (declining)
- *Discaria toumatou* (matagouri)at risk (declining)
- *Geranium microphyllum*.....at risk (naturally uncommon)



SNA 858 includes areas of outcropping limestone.

ASSESSMENT OF SIGNIFICANT NATURAL AREAS:

Significant Natural Areas (SNAs) are determined by assessing indigenous vegetation and habitats of indigenous fauna against the criteria in Appendix 3 of the Canterbury Regional Policy Statement (RPS), with reference to the guidelines for application of these criteria (Wildlands, 2013).

Selecting boundaries for SNAs can be problematic, as vegetation boundaries are not precise (plant communities frequently grade from one type to another) and habitats of indigenous fauna are not easily determined through brief site surveys. In this assessment the SNA boundary is drawn to encompass the main areas of indigenous woody vegetation (shrubland, scrub, forest) and exposed limestone. This includes areas of pasture which are not likely to be significant. A more detailed site survey would be necessary to refine this boundary.

ASSESSMENT AGAINST CANTERBURY RPS CRITERIA:

Criteria	Yes/No	Comments
Representativeness	Yes	The vegetation represents the original seral vegetation and is typical of the natural diversity of this part of the ecological district.
Rarity/Distinctiveness	Yes	Exposed limestone at the site supports populations of two 'at risk' plant species. Another 'at risk' species (matagouri) is an important component of the extensive shrubland/scrub at the site. Calcareous (limestone) cliffs and scarps are a nationally 'vulnerable' ecosystem. Indigenous vegetation is depleted to less than 10% of its former extent in this Land Environment.
Diversity and Pattern	No	The site appears to support a moderate diversity of indigenous species and habitats.
Ecological Context	Maybe	Indigenous vegetation that is part of a larger group of rockland and shrubland remnants in the area that collectively form a relatively extensive area of indigenous vegetation and habitat.

Comments/Reasons:

There is sufficient information about this site to confirm that it supports significant indigenous vegetation, despite the absence of a field survey. Important ecological values are the extensive indigenous shrubland/scrub, presence of an originally rare ecosystem (limestone) and populations of 'at risk' plant species. An on-site survey would be required to provide further information about the presence and extent of those values, and site condition.

TIMARU DISTRICT SNA SURVEY**SNA 859**

Ecological District: Waimate	Nearest Locality: Taiko Flat	
Map ref. (NZTM): 1443800E-5084100N	Size (ha): 26.08	Altitude (m): 140-260
Surveyor/Assessor: Mike Harding	Survey Time: n/a	Survey Date: 19-10-20

GENERAL DESCRIPTION:

This SNA covers west-facing hill slopes, comprising a series of broad spurs and gullies, with occasional steeper escarpments. It lies near to another large area of indigenous vegetation, on the east-facing slopes of the property, described separately as SNA 858.

VEGETATION/HABITAT TYPES:**Vegetation**

This desk-top analysis does not permit a full description of the vegetation. The SNA supports extensive areas of indigenous shrubland/scrub, smaller patches of forest, and localised areas of exposed calcareous rock (rockland). Indigenous plant species visible from the road are broadleaf¹, cabbage tree, matagouri and mingimingi. Notable plant species recorded by Hermann Frank are *Chenopodium allanii*, *Azorella* aff. *hookeri* “calcicole” and *Cardamine integra*.

Habitats of Indigenous Fauna

Survey of fauna was not possible. Native bird species observed at the east side of the property during this road-based survey were grey warbler, harrier, spur-winged plover and paradise shelduck. The rocky slopes appear to provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The site supports areas of exposed calcareous rock, which is an ‘originally rare ecosystem’ (Williams *et al*, 2007) with a threat status of nationally ‘vulnerable’ (Holdaway *et al*, 2012). The Level IV Land Environment (N3.1a) in which the SNA lies is an ‘acutely threatened’ land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015).

The following plant species listed as ‘at risk’ by de Lange *et al* (2018) have been recorded at the site:

- *Chenopodium allanii*at risk (naturally uncommon)
- *Discaria toumatou* (matagouri)at risk (declining)

ASSESSMENT OF SIGNIFICANT NATURAL AREAS:

Significant Natural Areas (SNAs) are determined by assessing indigenous vegetation and habitats of indigenous fauna against the criteria in Appendix 3 of the Canterbury Regional Policy Statement (RPS), with reference to the guidelines for application of these criteria (Wildlands, 2013).

Selecting boundaries for SNAs can be problematic, as vegetation boundaries are not precise (plant communities frequently grade from one type to another) and habitats of indigenous fauna are not easily determined through brief site surveys. In this assessment the SNA boundary is

¹ Scientific names of species are listed in Appendix 1.

drawn to encompass the main areas of indigenous woody vegetation (shrubland, scrub, forest) and exposed limestone. This includes areas of pasture which are not likely to be significant. A more detailed site survey would be necessary to refine this boundary.

ASSESSMENT AGAINST CANTERBURY RPS CRITERIA:

Criteria	Yes/No	Comments
Representativeness	Yes	The vegetation represents the original seral vegetation and is typical of the natural diversity of this part of the ecological district.
Rarity/Distinctiveness	Yes	Exposed calcareous rock at the site supports populations of one ‘at risk’ plant species. Another ‘at risk’ species (matagouri) is an important component of the extensive shrubland/scrub at the site. Calcareous cliffs and scarps are a nationally ‘vulnerable’ ecosystem. Indigenous vegetation is depleted to less than 10% of its former extent in this Land Environment.
Diversity and Pattern	No	The site appears to support a moderate diversity of indigenous species and habitats.
Ecological Context	Maybe	Indigenous vegetation that is part of a larger group of rockland and shrubland remnants in the area that collectively form a relatively extensive area of indigenous vegetation and habitat.

Comments/Reasons:

There is sufficient information about this site to confirm that it supports significant indigenous vegetation, despite the absence of a field survey. Important ecological values are the extensive indigenous shrubland/scrub, presence of an originally rare ecosystem (calcareous cliffs) and populations of ‘at risk’ plant species. An on-site survey would be required to provide further information about the presence and extent of those values, and site condition.

REFERENCES CITED:

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McEwen, W.M. (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.

Wildlands. 2013. Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna in Canterbury Region. *Contract Report 2289i*. Environment Canterbury, Christchurch.

Williams, P.A.; Wisser, S.; Clarkson, B.; Stanley, M.C. 2007. New Zealand's historically rare terrestrial ecosystems set in a physical and physiognomic framework. *NZ Journal of Ecology* 31: 119-128.

Species List: SNA 857, 858, 859

(not complete: based on roadside survey and notable plant records)

Species' scientific names are as listed in the Manaaki Whenua/Landcare Research Nga Tipu o Aotearoa New Zealand Plants database.

Species' names of limestone flora are as proposed by Heenan and Rogers (Conserving the plants of eastern South Island limestone. Canterbury Botanical Society 2019.)

Indigenous Plant Species

Trees, shrubs, sub-shrubs, lianes (woody plants)

- Carmichaelia australis native broom
- Coprosma crassifolia
- Coprosma propinqua mingimingi
- Coprosma virescens
- Cordyline australis cabbage tree/ti rakau
- Discaria toumatou matagouri
- Griselinia littoralis broadleaf
- Muehlenbeckia australis pohuehue
- Parsonsia capsularis native jasmine
- Pseudopanax crassifolius lancewood
- Rubus schmidelioides lawyer
- Rubus squarrosus leafless lawyer
- Sophora microphylla kowhai

Herbaceous (non-woody) plants

- Azorella aff. hookeri “calicole”
- Cardamine grandiscapa
- Cardamine integra
- Chenopodium allanii
- Colobanthus aff. brevisepalus “limestone”
- Geranium microphyllum
- Gingidia enysii
- Poa cita silver tussock

Bird Species

- Circus approximans harrier
- Gerygone igata grey warbler
- Tadorna variegata paradise shelduck
- Vanellus miles spur-winged plover