TIMARU DISTRICT COUNCIL

SIGNIFICANT NATURAL AREAS SURVEY

WESTGARTH PROPERTY ROCK FARM

Report prepared for Timaru District Council
Mike Harding
April 2022

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY PROPERTY REPORT

PROPERTY DETAILS:

Owner: ..... Westgarth (Rock Farm)
Valuation Reference: ... 24820-12500
Location:..... Pleasant Point Cave Highway, Cave
Ecological District:..... Waimate
Land Environment: N3.1a

LOCATION AND DESCRIPTION:

Location of Westgarth Property (red star).

The Westgarth property is located on north-facing hill slopes above the Pleasant Point Cave Highway, just east of Cave. Underlying geology is semischist derived from quartzofeldspathic sandstone, siltstone, mudstone and conglomerate of Rakaia Terrane Permian rock (GNS Science, NZ Geology Web Map.). Small streams on the property drain north-west to the Tengawai 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. Poorly-drained 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 rock outcrops. 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 undertaken over three hours on 7th April 2022. 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.

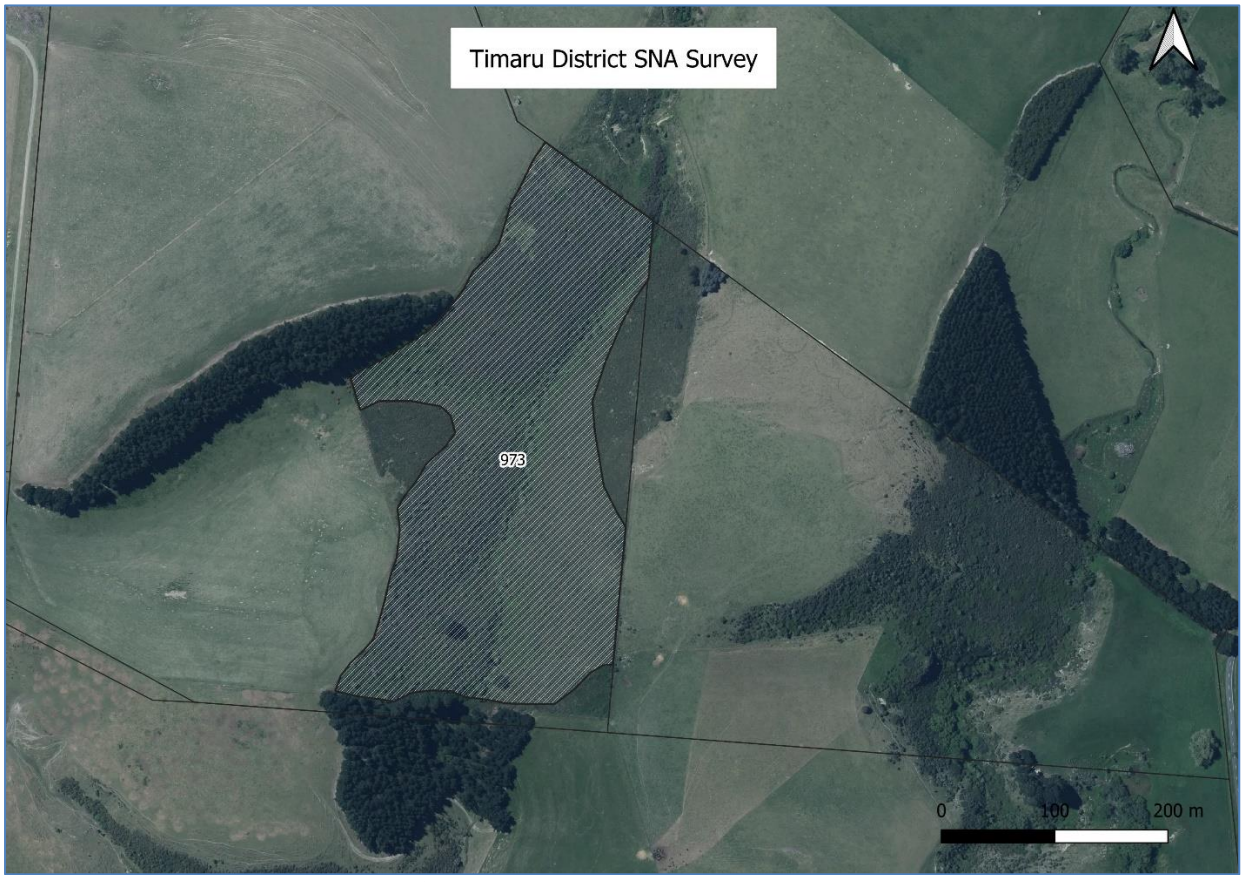
SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

Five separate areas are assessed as significant natural areas (SNAs) under the Timaru District Plan and Canterbury Regional Policy Statement (RPS) criteria, as listed below.

SNA No.	Central Map Reference (NZTM)	Aprox. size(ha)	Vegetation/habitat type
969	1438900-5092115	0.05	shrubland
970	1439100-5092060	1.05	shrubland; scrub
971	1439280-5091850	0.16	treeland
972	1439350-5091865	0.47	forest; scrub
973	1440250-5091450	7.87	scrub

The extents of these SNAs are illustrated on the aerial photographs below. The areas are described in greater detail on the SNA Survey Forms in this report. Exotic (naturalised) species in these descriptions are indicated with an asterisk*. A list of all species observed is presented at the end of this report.

Westgarth Property SNAs 969, 970, 971 and 972 (white-hatched areas).



Westgarth Property SNA 973 (white-hatched area).

TIMARU DISTRICT SNA SURVEY SNA 969

Ecological District: Waimate	**Nearest Locality:** Cave	
Map ref. (NZTM): 1438900E-5092115N	**Size (ha):** 0.05	**Altitude (m):** 200
Surveyor/Assessor: Mike Harding	**Survey Time:** ½ hour	**Survey Date:** 07-04-22

GENERAL DESCRIPTION:

This SNA comprises a small patch of indigenous shrubland on the lower part of a broad spur.

Indigenous shrubland at SNA 969.

VEGETATION/HABITAT TYPES:

Vegetation

The shrubland community is dominated by *Coprosma crassifolia*. Other indigenous species present are leafless lawyer (*Rubus squarrosus*), mistletoe (*Ileostylus micranthus*) and a single ti/cabbage tree (*Cordyline australis*). Vegetation within and adjacent to the shrubland is dominated by pasture grasses*. Also present are gorse* (*Ulex europaeus*) (mostly sprayed), black nightshade* (*Solanum nigrum*), horehound* (*Marrubium vulgare*), yarrow* (*Achillea millefolium*), woolly mullein* (*Verbascum thapsus*), shepherd's purse* (*Capsella bursa-pastoris*) and nettle (*Urtica urens*).

Habitats of Indigenous Fauna

Native bird species observed at or adjacent to the SNA during this brief survey were bellbird (*Anthornis melanura*), fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), harrier (*Circus approximans*) and spur-winged plover (*Vanellus miles*). The rocky slopes appear to provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The Level IV Land Environment (N3.1a) in which this SNA lies is an 'acutely threatened' land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015). Indigenous vegetation cover has been reduced to less than 20% of its former extent in Waimate Ecological District.

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE:

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 guidelines for application of these criteria (Wildlands, 2013); and by criteria in the Timaru District Plan, with reference to assessment guidelines (Harding, 2012).

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 area of indigenous shrubland. This includes small areas of grassland and excludes isolated indigenous shrubs.

Assessment against Canterbury Regional Policy Statement Appendix 3 criteria:

Criteria	Yes/No Rank	Assessment
Representativeness	**Yes** **M**	1. Indigenous vegetation that is typical of the natural diversity of the ecological district. A degraded example, but one of few that remain in this part of the ecological district.
Rarity/Distinctiveness	**Yes** **H**	3. Indigenous vegetation/habitat that has been reduced to less than 20% of its former extent in the ecological district.
Diversity and Pattern	**No** **L**	7. A low diversity of indigenous ecosystems, habitat types, or taxa.
Ecological Context	**No**	Is not known to provide an important contribution to linkages, networks or ecological functioning.

Assessment against Timaru District Plan Part B criteria:

Primary Criteria	Rank	Assessment
Representativeness	**M**	A depleted example of indigenous vegetation which is typical of that remaining in the ecological district.
Rarity	**M**	The area supports indigenous vegetation that is now rare in the ecological district.
Diversity and Pattern	**L/M**	A low diversity of species, habitats or communities.
Distinctiveness/Special Features	**L**	The area does not support species at distributional limits, and is not known to provide important habitat for indigenous fauna, or support any special features.

Other Criteria		
Size/Shape	**L/M**	The area is small, but partly buffered.
Connectivity	**M**	The area is isolated from other areas of indigenous vegetation/habitat but is part of a network of fauna habitat.
Sustainability	**M**	The area is modified, but the indigenous vegetation appears resilient.

The area is significant when assessed against the Canterbury Regional Policy Statement criteria, principally because it supports indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district.

CONDITION AND MANAGEMENT:

This small area of indigenous vegetation is in moderate condition. It is buffered by its location on a steep rocky slope. There is some regeneration of *Coprosma crassifolia*. Natural regeneration of this and other indigenous species would be enhanced if the site was fenced from grazing. Gorse is the only notable plant pest present. Continued careful control of gorse would be beneficial, although over the long-term gorse may assist with regeneration of indigenous vegetation.

Coprosma crassifolia at SNA 969.

TIMARU DISTRICT SNA SURVEY SNA 970

Ecological District: Waimate	**Nearest Locality:** Cave	
Map ref. (NZTM): 1439100E-5092060N	**Size (ha):** 1.05	**Altitude (m):** 220
Surveyor/Assessor: Mike Harding	**Survey Time:** ½ hour	**Survey Date:** 07-04-22

GENERAL DESCRIPTION:

This SNA comprises patches of indigenous shrubland and scrub on moderately-steep rocky slopes on the side of a broad spur.

Indigenous shrubland and scrub at SNA 970.

VEGETATION/HABITAT TYPES:

Vegetation

The shrubland and scrub vegetation is dominated by *Coprosma crassifolia*. Other indigenous species commonly present are ti/cabbage tree (*Cordyline australis*), matagouri (*Discaria toumatou*), scrub pohuehue (*Muehlenbeckia complexa*), leafless lawyer (*Rubus squarrosus*) and mistletoe (*Ileostylus micranthus*). Less common are pohuehue (*Muehlenbeckia australis*), *Dichondra repens* and *Crassula* sp. Additional species at rocky sites are necklace fern (*Asplenium flabellifolium*) and button fern (*Pellaea rotundifolia*). Gorse* (*Ulex europaeus*) (mostly sprayed) is present and in places common.

Vegetation within and adjacent to the shrubland/scrub is dominated by pasture grasses*. Other exotic species commonly present are black nightshade* (*Solanum nigrum*), horehound* (*Marrubium vulgare*), yarrow* (*Achillea millefolium*), woolly mullein* (*Verbascum thapsus*), shepherd's purse*

(*Capsella bursa-pastoris*), nodding thistle* (*Carduus nutans*), cut-leaved geranium* (*Geranium dissectum*) and nettle (*Urtica urens*).

Habitats of Indigenous Fauna

Native bird species observed at or adjacent to the SNA during this brief survey were bellbird (*Anthornis melanura*), fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), harrier (*Circus approximans*) and spur-winged plover (*Vanellus miles*). The rocky slopes appear to provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The Level IV Land Environment (N3.1a) in which this SNA lies is an 'acutely threatened' land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015). Indigenous vegetation cover has been reduced to less than 20% of its former extent in Waimate Ecological District.

The following plant species listed as 'at risk' by de Lange *et al* (2018) is present at the site:

- *Discaria toumatou* (matagouri).....at risk (declining)

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE:

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 guidelines for application of these criteria (Wildlands, 2013); and by criteria in the Timaru District Plan, with reference to assessment guidelines (Harding, 2012).

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 area of indigenous shrubland. This includes small areas of grassland and excludes isolated indigenous shrubs.

Assessment against Canterbury Regional Policy Statement Appendix 3 criteria:

Criteria	Yes/No Rank	Assessment
Representativeness	**Yes** **M**	1. Indigenous vegetation that is typical of the natural diversity of the ecological district. A degraded example, but one of the best remaining in this part of the ecological district.
Rarity/Distinctiveness	**Yes** **H**	3. Indigenous vegetation/habitat that has been reduced to less than 20% of its former extent in the ecological district. Supports a population of an 'at risk' species (matagouri).
Diversity and Pattern	**No** **L**	7. A low diversity of indigenous ecosystems, habitat types, or taxa.
Ecological Context	**No**	Is not known to provide an important contribution to

		linkages, networks or ecological functioning.

Assessment against Timaru District Plan Part B criteria:

Primary Criteria	Rank	Assessment
Representativeness	**M**	A depleted example of indigenous vegetation which is typical of that remaining in the ecological district.
Rarity	**M**	The area supports indigenous vegetation that is now rare in the ecological district, including at 'at risk' species (matagouri).
Diversity and Pattern	**L/M**	A low diversity of species, habitats or communities.
Distinctiveness/Special Features	**L**	The area does not support species at distributional limits, and is not known to provide important habitat for indigenous fauna, or support any special features.
Other Criteria		
Size/Shape	**M**	The area is moderate-sized, and partly buffered.
Connectivity	**M**	The area is isolated from other areas of indigenous vegetation/habitat but is part of a network of fauna habitat.
Sustainability	**M**	The area is modified, but the indigenous vegetation appears resilient.

The area is significant when assessed against the Canterbury Regional Policy Statement criteria, principally because it supports indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district. It also supports an 'at risk' species (matagouri) which, although common elsewhere, is now relatively uncommon in this part of the ecological district.

CONDITION AND MANAGEMENT:

This small area of indigenous vegetation is in moderate condition. It is buffered by its location on steep rocky slopes. There is good regeneration of *Coprosma crassifolia*. Natural regeneration of this and other indigenous species would be enhanced if the site was fenced from grazing. Gorse is the only notable plant pest present. Continued careful control of gorse would be beneficial, although over the long-term gorse may assist with regeneration of indigenous vegetation.

Shrubland/scrub with emergent ti/cabbage tree at SNA 970.

Button fern (Pellaea rotundifolia) at SNA 970.

TIMARU DISTRICT SNA SURVEY SNA 971

Ecological District: Waimate	**Nearest Locality:** Cave	
Map ref. (NZTM): 1439280E-5091850N	**Size (ha):** 0.16	**Altitude (m):** 200
Surveyor/Assessor: Mike Harding	**Survey Time:** ½ hour	**Survey Date:** 07-04-22

GENERAL DESCRIPTION:

This SNA comprises two patches of ti/cabbage trees in a small gully.

Ti/cabbage trees at SNA 970.

VEGETATION/HABITAT TYPES:

Vegetation

The treeland community is dominated by ti/cabbage tree (*Cordyline australis*). One mature tree of kowhai (*Sophora microphylla*) is present at the lower (north) end of the site, adjacent to a plantation pine forest. Vegetation within and adjacent to the treeland is dominated by pasture grasses*. Also present are gorse* (*Ulex europaeus*) (mostly sprayed), rushes (*Juncus edgariae*), nodding thistle* (*Carduus nutans*) and Californian thistle* (*Cirsium arvense*).

Habitats of Indigenous Fauna

Native bird species observed at or adjacent to the SNA during this brief survey were bellbird (*Anthornis melanura*), fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), harrier (*Circus approximans*) and spur-winged plover (*Vanellus miles*).

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The Level IV Land Environment (N3.1a) in which this SNA lies is an 'acutely threatened' land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015). Indigenous vegetation cover has been reduced to less than 20% of its former extent in Waimate Ecological District.

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE:

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 guidelines for application of these criteria (Wildlands, 2013); and by criteria in the Timaru District Plan, with reference to assessment guidelines (Harding, 2012).

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 patches of cabbage trees and the lone kowhai tree. This includes areas of grassland.

Assessment against Canterbury Regional Policy Statement Appendix 3 criteria:

Criteria	Yes/No Rank	Assessment
Representativeness	**Yes** **M**	1. Indigenous vegetation that is typical of the natural diversity of the ecological district. A degraded example, but one of few that remain in this part of the ecological district.
Rarity/Distinctiveness	**Yes** **H**	3. Indigenous vegetation/habitat that has been reduced to less than 20% of its former extent in the ecological district.
Diversity and Pattern	**No** **L**	7. A very low diversity of indigenous ecosystems, habitat types, or taxa.
Ecological Context	**No**	Is not known to provide an important contribution to linkages, networks or ecological functioning.

Assessment against Timaru District Plan Part B criteria:

Primary Criteria	Rank	Assessment
Representativeness	**M**	A depleted example of indigenous vegetation which is typical of that remaining in the ecological district.
Rarity	**M**	The area supports indigenous vegetation that is now rare in the ecological district.
Diversity and Pattern	**L**	A very low diversity of species, habitats or communities.
Distinctiveness/Special Features	**L**	The area does not support species at distributional limits, and is not known to provide important habitat for indigenous fauna, or support any special features.

Other Criteria		
Size/Shape	**L**	The area is small, and not well buffered.
Connectivity	**M**	The area is isolated from other areas of indigenous vegetation/habitat but is part of a network of fauna habitat.
Sustainability	**M**	The area is modified, but the indigenous vegetation appears resilient.

The area is significant when assessed against the Canterbury Regional Policy Statement criteria, principally because it supports indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district.

CONDITION AND MANAGEMENT:

The cabbage trees and kowhai within this area appear in good condition. It would be prudent to protect the trunks of the cabbage trees from domestic stock, especially cattle. Gorse is the only notable plant pest present.

Ti/cabbage trees at SNA 971.

TIMARU DISTRICT SNA SURVEY SNA 972

Ecological District: Waimate	**Nearest Locality:** Cave	
Map ref. (NZTM): 1439350E-5091865N	**Size (ha):** 0.47	**Altitude (m):** 220
Surveyor/Assessor: Mike Harding	**Survey Time:** ½ hour	**Survey Date:** 07-04-22

GENERAL DESCRIPTION:

This SNA comprises patches of indigenous shrubland and scrub on a rocky slope.

Indigenous scrub at south part of SNA 972.

VEGETATION/HABITAT TYPES:

Vegetation

The main patch of scrub at the upper (south) part of the site is dominated by *Coprosma crassifolia*. Trees of kowhai (*Sophora microphylla*) and ti/cabbage tree (*Cordyline australis*) are common. Other species present are scrub pohuehue (*Muehlenbeckia complexa*), pohuehue (*Muehlenbeckia australis*), leafless lawyer (*Rubus squarrosus*), mistletoe (*Ileostylus micranthus*), *Crassula* sp. and *Dichondra repens*. Vegetation within and adjacent to the scrub is dominated by pasture grasses*. Other exotic species commonly present are elder* (*Sambucus nigra*), gorse* (*Ulex europaeus*), black nightshade* (*Solanum nigrum*), horehound* (*Marrubium vulgare*), woolly mullein* (*Verbascum thapsus*), shepherd's purse* (*Capsella bursa-pastoris*), dwarf mallow* (*Malva neglecta*) and nettle (*Urtica urens*).

Two smaller patches of indigenous shrubland are present. Both are dominated by *Coprosma crassifolia*. Other species present are ti/cabbage tree, leafless lawyer, mistletoe and gorse* (sprayed).

Habitats of Indigenous Fauna

Native bird species observed at or adjacent to the SNA during this brief survey were bellbird (*Anthornis melanura*), fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), harrier (*Circus approximans*) and spur-winged plover (*Vanellus miles*). The rocky slopes may provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The Level IV Land Environment (N3.1a) in which this SNA lies is an 'acutely threatened' land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015). Indigenous vegetation cover has been reduced to less than 20% of its former extent in Waimate Ecological District.

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE:

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 guidelines for application of these criteria (Wildlands, 2013); and by criteria in the Timaru District Plan, with reference to assessment guidelines (Harding, 2012).

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 shrubland. This includes small areas of grassland and excludes isolated indigenous shrubs.

Assessment against Canterbury Regional Policy Statement Appendix 3 criteria:

Criteria	Yes/No Rank	Assessment
Representativeness	**Yes** **M**	1. Indigenous vegetation that is typical of the natural diversity of the ecological district. A degraded example, but one of the best remaining in this part of the ecological district.
Rarity/Distinctiveness	**Yes** **H**	3. Indigenous vegetation/habitat that has been reduced to less than 20% of its former extent in the ecological district.
Diversity and Pattern	**No** **L**	7. A low diversity of indigenous ecosystems, habitat types, or taxa.
Ecological Context	**No**	Is not known to provide an important contribution to linkages, networks or ecological functioning.

Assessment against Timaru District Plan Part B criteria:

Primary Criteria	Rank	Assessment
Representativeness	**M**	A depleted example of indigenous vegetation which is

		typical of that remaining in the ecological district.
Rarity	**M**	The area supports indigenous vegetation that is now rare in the ecological district.
Diversity and Pattern	**L/M**	A low diversity of species, habitats or communities.
Distinctiveness/Special Features	**L**	The area does not support species at distributional limits, and is not known to provide important habitat for indigenous fauna, or support any special features.
Other Criteria		
Size/Shape	**M**	The area is moderate-sized, and partly buffered.
Connectivity	**M**	The area is isolated from other areas of indigenous vegetation/habitat but is part of a network of fauna habitat.
Sustainability	**M**	The area is modified, but the indigenous vegetation appears resilient.

The area is significant when assessed against the Canterbury Regional Policy Statement criteria, principally because it supports indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district.

CONDITION AND MANAGEMENT:

This small area of indigenous vegetation is in moderate condition. It is buffered by its location on a rocky slope. There is some regeneration of *Coprosma crassifolia* and kowhai. Natural regeneration of this and other indigenous species would be enhanced if the site was fenced from grazing. Gorse is the only notable plant pest present. Continued careful control of gorse would be beneficial, although over the long-term gorse may assist with regeneration of indigenous vegetation.

Shrubland at the lower (north) part of SNA 972. Ti/cabbage trees at SNA 971 beyond (distance).

TIMARU DISTRICT SNA SURVEY SNA 973

Ecological District: Waimate	**Nearest Locality:** Cave	
Map ref. (NZTM): 1440250E-5091450N	**Size (ha):** 7.87	**Altitude (m):** 220-280
Surveyor/Assessor: Mike Harding	**Survey Time:** ½ hour	**Survey Date:** 07-04-22

GENERAL DESCRIPTION:

This SNA comprises a large area of scrub in a steep-sided gully at the east part of the property. This dense vegetation was not surveyed closely; instead, it was viewed from the margin.

Extensive scrub at the upper part of SNA 973.

VEGETATION/HABITAT TYPES:

Vegetation

The scrub community is at most places dominated by gorse* (*Ulex europaeus*). However, indigenous shrubs, notably *Coprosma crassifolia*, are present throughout and in places co-dominant. Other indigenous species visible in the vegetation canopy are ti/cabbage tree (*Cordyline australis*), kowhai (*Sophora microphylla*), five-finger (*Pseudopanax arboreus*), mahoe (*Melicytus ramiflorus*), pohuehue (*Muehlenbeckia australis*) and leafless lawyer (*Rubus squarrosus*).

Exotic species present in the canopy are Khasia berry* (*Cotoneaster simonsii*), elder* (*Sambucus nigra*) and occasional radiata pine* (*Pinus radiata*). Additional species observed at the vegetation margins are scrub pohuehue (*Muehlenbeckia complexa*), poroporo (*Solanum laciniatum*) and hemlock* (*Conium maculatum*). The scrub understorey was not surveyed.

Habitats of Indigenous Fauna

Native bird species observed at or adjacent to the SNA during this brief survey were bellbird (*Anthornis melanura*), fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), harrier (*Circus approximans*) and spur-winged plover (*Vanellus miles*). Exposed rocky slopes at the site are likely to provide suitable habitat for lizards.

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The Level IV Land Environment (N3.1a) in which this SNA lies is an 'acutely threatened' land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015). Indigenous vegetation cover has been reduced to less than 20% of its former extent in Waimate Ecological District.

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE:

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 guidelines for application of these criteria (Wildlands, 2013); and by criteria in the Timaru District Plan, with reference to assessment guidelines (Harding, 2012).

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 area of scrub containing regenerating indigenous species, while excluding scrub that has only gorse in the canopy. This SNA boundary is therefore indicative, rather than precise. A more intensive site survey would be required to refine that boundary.

Assessment against Canterbury Regional Policy Statement Appendix 3 criteria:

Criteria	Yes/No Rank	Assessment
Representativeness	**Yes** **M** **H**	1. Indigenous vegetation that is typical of the natural diversity of the ecological district. A degraded example, but one of the best remaining in this part of the ecological district. 2. A relatively large example of seral indigenous vegetation in the ecological district.
Rarity/Distinctiveness	**Yes** **H**	3. Indigenous vegetation/habitat that has been reduced to less than 20% of its former extent in the ecological district.
Diversity and Pattern	**Yes** **M**	7. A moderate diversity of taxa are present.
Ecological Context	**No**	Is not known to provide an important contribution to linkages, networks or ecological functioning.

Assessment against Timaru District Plan Part B criteria:

Primary Criteria	Rank	Assessment
Representativeness	**M/H**	A good example of seral indigenous vegetation which is typical of that remaining in the ecological district.
Rarity	**M**	The area supports indigenous vegetation that is now rare in the ecological district.
Diversity and Pattern	**M**	A moderate diversity of species and habitats.
Distinctiveness/Special Features	**M**	The area does not support species at distributional limits, but is likely to provide important habitat for indigenous fauna.
Other Criteria		
Size/Shape	**H**	The area is relatively large; and one of the most extensive areas of seral indigenous vegetation in this part of the ecological district.
Connectivity	**M**	The area is isolated from other areas of indigenous vegetation/habitat but is part of a network of fauna habitat.
Sustainability	**M**	The area is modified, but the indigenous vegetation is regenerating and appears resilient.

The area is significant when assessed against the Canterbury Regional Policy Statement criteria, principally because it supports indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district, and because it is a large example of seral indigenous vegetation. The area is also significant when assessed against the Timaru District Plan criteria, because it is large example of seral indigenous vegetation that is typical of the ecological district.

This is a large site, with healthy regeneration of indigenous species. It is likely to provide important habitat for forest birds and lizards. The site has potential to become one of the best areas of indigenous vegetation in this part of the ecological district.

CONDITION AND MANAGEMENT:

This large area of indigenous vegetation is dominated in most places by an exotic species: gorse. However, in this situation, gorse is providing suitable habitat for regeneration of indigenous woody vegetation, including species which are relatively uncommon in this part of the ecological district, such as five-finger and mahoe.

A full survey was not undertaken, so it is difficult to assess the condition of the site. Wallabies are present, so it is likely that the understorey vegetation has been damaged by this destructive pest. However, the presence of palatable species such as mahoe and five-finger suggest that browsing pressure from wallabies (and possums) is not high.

The most important priority for management of the site is control of wallabies. Other management priorities are control of possums and Khasia berry, and protection from fire.

REFERENCES CITED:

Atkinson, I.E.A. 1985. Derivation of mapping units for an ecological survey of Tongariro National Park, North Island, New Zealand. *NZ Journal of Botany 23*: 361-378.

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Species List: SNAs 969, 970, 971, 972 and 973

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

Indigenous Plant Species

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

Coprosma crassifolia		c
Cordyline australis	cabbage tree/ti rakau	lc
Discaria toumatou	matagouri	o
Ileostylis micranthus	mistletoe	m
Melicytus ramiflorus	mahoe/whiteywood	r
Muehlenbeckia axillaris	creeping pohuehue	o
Muehlenbeckia complexa	scrub pohuehue	lm
Pseudopanax arboreus	five-finger	r
Rubus squarrosus	leafless lawyer	lm
Solanum laciniatum	poroporo	o
Sophora microphylla	kowhai	o

Ferns and Fern Allies

Asplenium flabellifolium	necklace fern	o
Pellaea rotundifolia	button fern	r

Herbaceous (non-woody) plants

Crassula sp		o
Dichondra repens		o
Juncus edgariae	a rush	o

Naturalised (exotic) Plant Species

Achillea millefolium	yarrow	o
Capsella bursa-pastoris	shepherd's purse	o
Carduus nutans	nodding thistle	o
Cirsium arvense	Californian thistle	lm
Conium maculatum	hemlock	o
Cotoneaster simonsii	Khasia berry	o
Crepis capillaris	hawksbeard	o
Dactylis glomerata	cocksfoot	lc
Geranium dissectum	cut-leaved geranium	o
Hypochoeris radicata	catsear	o
Malva neglecta	dwarf mallow	o
Marrubium vulgare	horehound	o
Pinus radiata	radiata pine	o
Plantago lanceolata	narrow-leaved plantain	o
Sambucus nigra	elderberry	o
Solanum nigrum	black nightshade	lm
Trifolium pratense	red clover	o
Trifolium repens	white clover	lc
Ulex europaeus	gorse	lf
Urtica urens	nettle	o
Verbascum thapsus	woolly mullein	o

Bird Species

Anthornis melanura	bellbird	o
Circus approximans	harrier	o
Gerygone igata	grey warbler	o
Rhipidura fuliginosa	fantail	o
Vanellus miles	spur-winged plover	a