

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

MANCHESTER PROPERTY



**Report prepared for Timaru District Council by Mike Harding
June 2011**

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Manchester
Valuation References: 24850/005.00
Address: Limestone Valley Road.
Location: On the southwest side of Limestone Valley, west of Taiko Flat.
Ecological District: Waimate Ecological District.
TDC Land Type: 'Hard Rock Hills and Downs'
Land Environment: N3 (eastern South Island undulating plains and hills).

ECOLOGICAL CONTEXT:

The property covers moderately steep slopes between 200 and 500m on the range northwest of Cave Hill, on the southwest flanks of Limestone Valley. The property lies in Waimate Ecological District.

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

Today the original forest cover of Waimate Ecological District, within Timaru District, is largely confined to remnants in gullies on Cave Hill and Mt Horrible (including Claremont Scenic Reserve), and on basalt and limestone slopes in the Taiko and Limestone valleys. 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.

SIGNIFICANT AREAS ON THE PROPERTY:

Indigenous vegetation on the property comprises hardwood forest, shrubland/scrub and sparse rockland vegetation on steeper slopes. The property lies near to areas of forest and shrubland on adjoining properties, contributing to the network of fauna habitat in the wider area.

The property was surveyed as part of the District-wide survey of Significant Natural Areas during June 2011. Most parts of the property were surveyed. Four areas, comprising approximately 13 hectares, are regarded as Significant Natural Areas (SNAs) when assessed against the District Plan criteria. These SNAs are listed in the table below.

Area No.	Area Name	Central grid reference	Aprox. size (ha)	Vegetation/habitat type
480a		J39: 524-479	1.99	Hardwood forest
480b		J39: 520-484	6.59	Hardwood forest
480c		J39: 516-489	3.27	Hardwood forest
480d		J39: 511-488	1.39	Hardwood forest

These SNAs are illustrated on the attached aerial photograph and described in greater detail 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, spraying with herbicides and over-planting. SNAs encompass most, but not necessarily all, areas of vegetation and habitat which meet the Interim Definitions.

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.

OTHER AREAS INSPECTED ON THE PROPERTY:

Other areas on the property were inspected but are not significant when assessed against the District Plan criteria. Areas worth noting are the relatively extensive areas of indigenous scrub and shrubland, often with scattered emergent hardwood trees, on the steeper slopes adjacent to many of the SNAs. These areas will eventually regenerate, and perhaps become more important for nature conservation and biodiversity protection, if protected from clearance and other disturbance.

Also present, on the slopes of the small gully between SNAs 480a and 480b, is a small population of an 'at risk' (declining) species of speargrass (*Aciphylla subflabellata*).



Aciphylla subflabellata



Manchester Property
24850/005.00

Limestone Valley Road

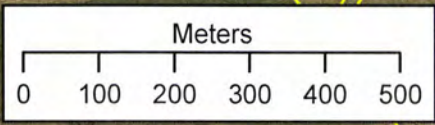
480d

480c

480b

480a

Summit Road



1:10,000

Area Name: Manchester forest remnants
Ecological District: Waimate
SNA 480a: Location (central map ref.): J39: 524-479
SNA 480b: Location (central map ref.): J39: 520-484
SNA 480c: Location (central map ref.): J39: 516-489
SNA 480d: Location (central map ref.): J39: 511-488
Surveyors: Mike Harding

Property: Manchester
Nearest Locality: Taiko Flat
Area Size (ha): 1.99 **Altitude (m):** 260-350
Area Size (ha): 6.59 **Altitude (m):** 280-380
Area Size (ha): 3.27 **Altitude (m):** 260-320
Area Size (ha): 1.39 **Altitude (m):** 360-420
Survey Time: 6½ hours **Survey Date:** 15-06-11

General Description:

These four SNAs lie in small steep-sided gullies on the upper southwest slopes of Limestone Valley, west of Taiko Flat. All support similar vegetation and have similar ecological values, so they are described together in this assessment.

Plant Communities:

Two main plant communities are present at these SNAs: hardwood forest and scrub/shrubland. These plant communities are described separately for each SNA below. Naturalized (exotic) species are indicated with an asterisk*.

SNA 480a:

The area lies in the central part of a steep-sided gully near the southeast property boundary. The forest canopy of most of the SNA is dominated by mahoe and broadleaf. Kowhai is dominant at the up-valley end of the SNA. Other canopy species are mapou, cabbage tree, marbleleaf, lancewood, native jasmine and pohuehue.

The forest understorey is relatively open. Important understorey plant species are mahoe, toatoa and *Coprosma crassifolia*. Other understorey species are native convolvulus, native jasmine, poroporo, black nightshade*, elderberry* and kowhai.

Button fern is the dominant groundcover species. Other species present are common shield fern, *Asplenium appendiculatum*, *Asplenium hookerianum*, *Asplenium richardii*, necklace fern, pennywort, hairy pennywort, foxglove*, horehound* (rare) and seedlings of *Coprosma crassifolia*, mapou, broadleaf, cabbage tree, mahoe and kowhai. The locally-uncommon fern, *Asplenium lyallii*, is present at one rocky site near the stream. Other species present near the stream are *Blechnum fluviatile* and hen and chickens fern.



Species commonly present at the forest margin or in forest openings are *Coprosma crassifolia*, *Coprosma propinqua*, native broom, lancewood, broadleaf, mahoe, cabbage tree, mapou, marbleleaf, koromiko, poroporo, toatoa, leafless lawyer, lawyer, *Coprosma propinqua* x *robusta*, broom*, black nightshade*, *Libertia ixioides*, *Hydrocotyle heteromeria*, necklace fern, common shield fern, button fern and *Dichondra repens*. Dense broom*-dominated scrub is present on sunny slopes adjacent to the area.

The locally uncommon fern
Asplenium lyallii

SNA 480b:

This area occupies the lower slopes of the gully alongside the main farm track. The forest canopy in the lower parts of the gully is dominated by mahoe. Other canopy species are broadleaf, cabbage tree, lancewood, mapou, marbleleaf, kowhai, pohuehue, native jasmine and native convolvulus. Fuchsia is present along the stream. Lancewood, kowhai and mapou are more common in the upper part of the gully.

The forest understorey is relatively open. Important understorey species are *Coprosma crassifolia* and *Coprosma propinqua*. Other understorey species present are *Coprosma rhamnoides*, *Coprosma propinqua* x *robusta*, *Helichrysum lanceolatum*, poroporo, mahoe, poataniwha (rare), fuchsia, mapou, kowhai, koromiko (rare), elderberry* (rare), toatoa, black nightshade* and native convolvulus.

Important groundcover species are *Asplenium hookerianum*, *Asplenium richardii*, common shield fern, button fern and *Libertia ixioides*. Other groundcover species are necklace fern, hanging spleenwort, hound's tongue fern, pennywort, hairy pennywort, *Cardamine debilis* and seedlings of mahoe, marbleleaf, broadleaf, mapou, lancewood, cabbage tree, five-finger (rare) and *Coprosma* species. Additional species present at damper sites are buttercup, *Hydrocotyle heteromeria*, *Blechnum fluviatile*, *Blechnum chambersii*, hen and chickens fern, *Hypolepis ambigua*, water fern, male fern* and sedge (*Carex* sp.).

Species present at the forest margin are *Coprosma propinqua*, *Coprosma crassifolia*, native broom, *Helichrysum lanceolatum*, matagouri, gorse*, broom*, native convolvulus, leafless lawyer, bush lawyer, common shield fern, prickly shield fern (rare), button fern, mountain kiokio, *Blechnum procerum*, *Blechnum vulvanticum*, *Blechnum penna-marina*, bracken, bidibid and occasionally horehound*.

Shrubland/scrub on the sunny side of the gully is dominated by *Coprosma propinqua* and *Coprosma crassifolia*. Other species present are matagouri, native broom, *Coprosma virescens*, rohutu (rare), hybrid fuchsia, broom*, gorse*, native convolvulus, leafless lawyer, lawyer, pohuehue, scrub pohuehue, bracken, common shield fern, necklace fern, vetch*, cocksfoot*, Californian thistle*, woolly mullein*, suckling clover*, blue wheatgrass, browntop*, *Rytidosperma unarede*, Yorkshire fog*, Chewings fescue*, fescue tussock and silver tussock. Trees of mahoe, cabbage tree, lancewood and kowhai are emergent from the scrub.

Species commonly present at rocky sites are white fuzzweed, *Einadia allanii*, button fern, necklace fern, *Cheilanthes humulis*, *Dichondra repens*, sand spurrey* and patotara.

SNA 480c:

This SNA occupies steep south-facing slopes in the central part of the gully near the northwest property boundary. The forest canopy is dominated by mahoe and five-finger. Other canopy species are broadleaf, marbleleaf, lancewood, cabbage tree, kowhai, mapou and pohuehue.

Understorey species are *Coprosma propinqua*, mahoe, wineberry, native convolvulus and black nightshade*.

Groundcover species are button fern, common shield fern, hanging spleenwort, necklace fern, hen and chickens fern, *Asplenium hookerianum*, pennywort, foxglove*, wall lettuce* and seedlings of mahoe, five-finger, broadleaf, and *Coprosma* species.

Additional species present along the stream are fuchsia, wineberry, bush lily, poroporo, *Blechnum fluviatile*, *Blechnum penna-marina*, swamp kiokio, *Hypolepis ambigua*, *Hypolepis rufobarbata*, male fern*, *Carex coriacea*, *Parietaria debilis*, creeping buttercup*, *Mimulus* sp.* and blackberry* (rare).

Species commonly present at the forest margin are *Coprosma propinqua*, *Coprosma crassifolia*, native broom, *Helichrysum lanceolatum*, koromiko, hybrid fuchsia, gorse*, broom*, lawyer, bush lawyer, scrub pohuehue, silver tussock and bracken.



SNA 480c

SNA 480d:

This smaller area of forest occupies a steep gorged section of the gully upstream from SNA 480c. The forest canopy is mostly dominated by kowhai and cabbage tree. Other canopy species are broadleaf, mahoe, marbleleaf, pohuehue and native jasmine.

The forest understorey is mostly open. Plant species are *Coprosma crassifolia*, *Coprosma propinqua* and mahoe.

Forest-floor species are toatoa, black nightshade*, common shield fern, prickly shield fern (rare), button fern, *Asplenium hookerianum*, *Asplenium richardii*, necklace fern and seedlings of mahoe, cabbage tree, broadleaf and *Coprosma* species. Additional species beside the stream are *Blechnum fluviatile*, swamp kiokio and *Hypolepis ambigua*.

This forest patch is surrounded by an extensive area of scrub dominated by *Coprosma crassifolia*. Other species present are matagouri, *Coprosma propinqua*, hybrid fuchsia, toatoa, poroporo, gorse*, silver tussock, blue tussock, native convolvulus, bush lawyer, lawyer, leafless lawyer, pohuehue, bracken, common shield fern, necklace fern, vetch* and woolly mullein*, with emergent cabbage tree, mahoe and kowhai.

Birds/Fauna Observed:

Native birds observed during this survey were bellbird, fantail, grey warbler, silvereye, rifleman, kereru (NZ pigeon) and harrier hawk.

Notable Flora, Fauna and Habitats:

Important features of these areas are the presence of a relatively diverse range of indigenous plant species including several locally uncommon species (*Asplenium lyallii*, *Cheilanthes humilis*, *Hypolepis rufobarbata*, *Parietaria debilis* and *Coprosma virescens*), the habitat the areas provide for forest birds including an 'at

risk' (declining) species (rifleman) and the extent of these areas of indigenous vegetation in a part of the district where forest cover has been largely lost.

Notable Plant and Animal Pests:

Gorse and broom are the most widespread plant pests in the area, though neither poses a significant threat to the taller woody vegetation. Other naturalized species such as elderberry and male fern are relatively uncommon. Animal pests were not surveyed, though several wallabies were seen and the effects of wallaby browse are obvious.

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

Each of these areas is well buffered by the steep slopes and incised gullies they occupy. Most parts of the forest patches are buffered at their margins by dense indigenous shrubland or scrub. The areas are close to each other and not far from other more extensive areas of indigenous forest elsewhere on the range.

Condition and Management Issues:

The forest canopy in each SNA is in good condition. Forest understoreys are more depleted, presumably from the effects of wallaby browse and cattle. There is strong regeneration of indigenous woody species at most forest margins. The most important management issue is probably wild animal control, notably wallabies.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	Indigenous vegetation that is typical of that remaining in the ecological district and moderately representative of that originally present.
Rarity	M	Provides good habitat for an at risk (declining) bird species (rifleman) and supports populations of several locally uncommon plant species.
Diversity and pattern	M	Species diversity is variable and ranges from 64 indigenous plant species in SNA 480b to 29 species in SNA 480d.
Distinctiveness/special features	L/M	The extent and health of indigenous scrub and shrubland communities at the forest margins is a notable feature.
Other Criteria		
Size/shape	M	Small to moderate-sized areas that are well buffered.
Connectivity	M	The areas lie close to one another and make an important contribution to the network of fauna habitat in the wider area.
Long-term Sustainability	M	Ongoing animal pest control (wallabies and possums) will probably be necessary to maintain the ecological values of these areas in the long term.

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

These four SNAs occupy steep slopes in narrow incised gullies. They offer very little potential for further farm development.

Discussion:

These areas meet the District Plan criteria for Significant Natural Areas. Important features of these areas are the presence of a relatively diverse range of indigenous plant species including several locally uncommon species, the habitat the areas provide for forest birds including an 'at risk' (declining) species (rifleman) and the extent of these areas of indigenous vegetation in a part of the district where forest cover has been largely lost.

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)	
bidibid.....	<i>Acaena</i> sp.
blackberry*	<i>Rubus fruticosus</i>
black nightshade*.....	<i>Solanum nigrum</i>
blue tussock.....	<i>Poa colensoi</i>
blue wheat grass.....	<i>Elymus solandri</i>
bracken.....	<i>Pteridium esculentum</i>
broadleaf	<i>Griselinia littoralis</i>
broom*	<i>Cytisus scoparius</i>
browntop*	<i>Agrostis capillaris</i>
bush lawyer	<i>Rubus cissoides</i>
bush lily.....	<i>Astelia fragrans</i>
buttercup	<i>Ranunculus</i> sp.
button fern.....	<i>Pellaea rotundifolia</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>
common shield fern.....	<i>Polystichum richardii</i>
creeping buttercup*.....	<i>Ranunculus repens</i>
elderberry*	<i>Sambucus nigra</i>
fescue tussock	<i>Festuca novae-zelandiae</i>
five-finger	<i>Pseudopanax arboreus</i>
foxglove*	<i>Digitalis purpurea</i>
fuchsia.....	<i>Fuchsia excorticata</i>
gorse*	<i>Ulex europaeus</i>
hairy pennywort	<i>Hydrocotyle moschata</i>
hanging spleenwort	<i>Asplenium flaccidum</i>
hen and chickens fern.....	<i>Asplenium gracillimum</i>
horehound*	<i>Marrubium vulgare</i>
hound's tongue fern	<i>Microsorium pustulatum</i>
hybrid fuchsia	<i>Fuchsia perscandens</i> x <i>excorticata</i>
koromiko.....	<i>Hebe salicifolia</i>
kowhai.....	<i>Sophora microphylla</i>
lancewood	<i>Pseudopanax crassifolius</i>
lawyer	<i>Rubus schmidelioides</i>
leafless lawyer.....	<i>Rubus squarrosus</i>
mahoe/whiteywood	<i>Melicytus ramiflorus</i>
male fern*	<i>Dryopteris filix-mas</i>
mapou	<i>Myrsine australis</i>
marbleleaf/putaputaweta	<i>Carpodetus serratus</i>
matagouri	<i>Discaria toumatou</i>
matai/black pine	<i>Prumnopitys taxifolia</i>
mountain kiokio	<i>Blechnum montanum</i>
native broom	<i>Carmichaelia</i> aff. <i>australis</i>
native convolvulus	<i>Calystegia tuguriorum</i>
native jasmine	<i>Parsonsia</i> sp.
necklace fern	<i>Asplenium flabellifolium</i>
patotara.....	<i>Leucopogon fraseri</i>
pennywort	<i>Hydrocotyle</i> sp.
perennial ryegrass*	<i>Lolium perenne</i>
poataniwha	<i>Melicope simplex</i>
pohuehue.....	<i>Muehlenbeckia australis</i>
poroporo.....	<i>Solanum laciniatum</i>

prickly shield fern	<i>Polystichum vestitum</i>
rohutu	<i>Lophomyrtus obcordata</i>
sand spurrey*	<i>Spergularia rubra</i>
scrub pohuehue	<i>Muehlenbeckia complexa</i>
silver tussock	<i>Poa cita</i>
suckling clover*	<i>Trifolium dubium</i>
swamp kiokio	<i>Blechnum minus</i>
toatoa	<i>Haloragis erecta</i>
totara	<i>Podocarpus totara</i>
vetch*	<i>Vicia sativa</i>
wall lettuce*	<i>Mycelis muralis</i>
water fern	<i>Histiopteris incisa</i>
white fuzzweed	<i>Vittadina australis</i>
wineberry	<i>Aristotelia serrata</i>
woolly mullein*	<i>Verbascum thapsus</i>
Yorkshire fog*	<i>Holcus lanatus</i>