TIMARU DISTRICT

SIGNIFICANT NATURAL AREAS SURVEY

COLES PROPERTY

Report prepared for Timaru District Council by Mike Harding
June 2015

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: .....Coles
Valuation Reference: ...24670/262.00
Address: .....17 McMaster Road
Location: .....Northeast side of Opuha River, Beautiful Valley
Ecological District: .....Geraldine
TDC Land Type:.....'Soft Rock Hills and Downs'
Land Environments:.....N3.1a

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.

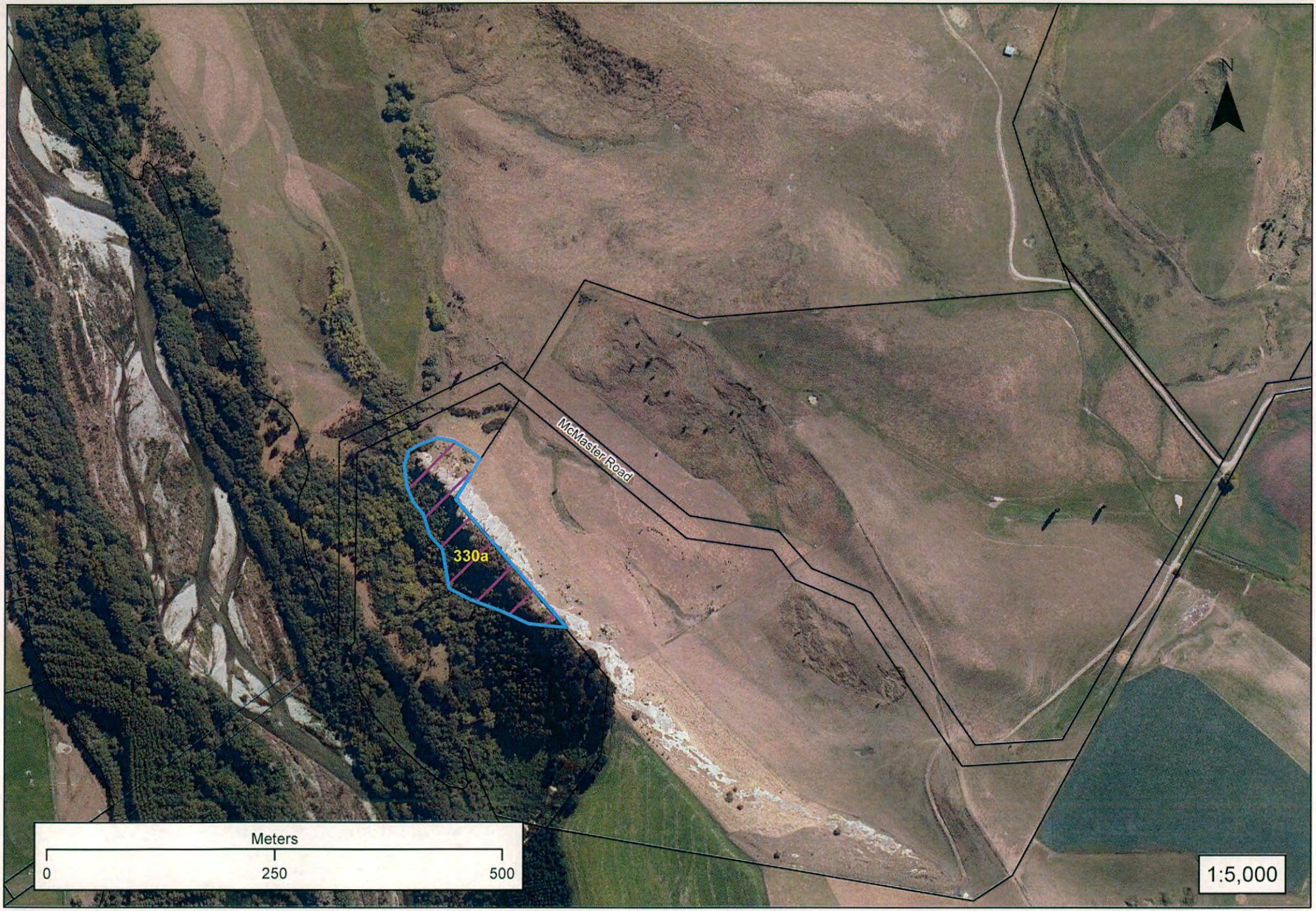
SIGNIFICANT AREAS ON THE PROPERTY:

Indigenous vegetation on the property comprises forest, shrubland, herbfield and sparsely vegetated rockland on or associated with a large limestone scarp. These habitats support populations of one nationally threatened and three 'at risk' plant species, as listed by de Lange *et al* (2012), and other uncommon 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 1.3 hectares, is regarded as a Significant Natural Area (SNA) when assessed against the District Plan criteria. It is part of a larger area that extends onto the adjacent property (described together in this report). 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.


N
McMaster Road
330a
Meters
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TIMARU DISTRICT SNA SURVEY — SNA 330 (a & b)

Area Name:
Ecological District: Geraldine
SNA 330a: Central map ref. (NZTM): 1439990E-5111800N
SNA 330b: Central map ref. (NZTM): 1440210E-5111650N
Surveyors: Mike Harding

Property: Coles (330a) & Lissaman (330b)
Nearest Locality: Beautiful Valley
Area Size (ha): 1.3 **Altitude (m):** 200-240
Area Size (ha): 1.9 **Altitude (m):** 220-250
Survey Time: 3 hours **Survey Date:** 23-04-15

General Description:

This SNA occupies a prominent limestone scarp on the north side of the Opuha River just west of Beautiful Valley. It is adjacent to the river, with the north and west parts (SNA 330a) on the Coles property and the east part (SNA 330b) on the Lissaman property. It covers the limestone scarp crest, steep northwest slopes and the gentler east face.

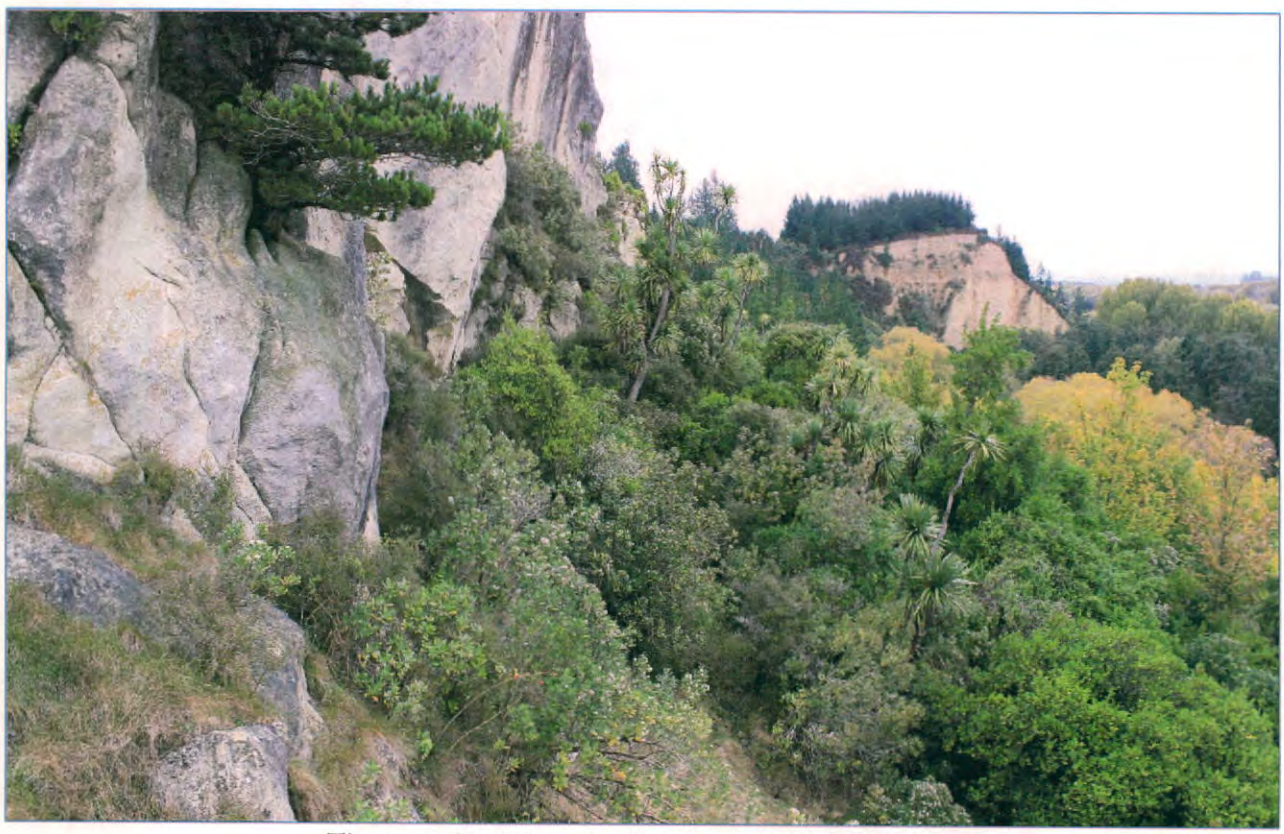
Plant Communities:

Three main plant communities are present at the site: forest on the steep west face; sparsely vegetated rockland; and grassland/herbfield on the east face; and, shrubland/scrub on the scarp crest. These plant communities are described below. Naturalized (exotic) species are indicated with an asterisk*.

Forest on the west face (SNA 330a):

This plant community occupies the steep western face at the north end of the limestone scarp. Further south the rock face supports plantation pine trees. The indigenous forest is dominated by broadleaf. Other canopy species are mahoe, mountain akeake, cabbage tree, mingimingi and the climbers: native jasmine, native bindweed, leafless lawyer and pohuehue. The dominant species on the boulder-strewn forest floor is *Asplenium lyallii*. Other ground-cover and understorey species are common shield fern, *Blechnum chambersii*, hound's tongue fern, mingimingi, blackberry* and bittersweet*.

This forest community grades, on lower slopes, to forest dominated by sycamore* and then, on the river terrace, crack willow* (outside the SNA). Additional species here are elderberry*, alder*, barberry*, gooseberry*, *Carex secta*, swamp kiokio and creeping buttercup*.



The western face of the scarp with indigenous forest on upper slopes

Open bluff: rockland and herbfield/grassland:

Areas of exposed limestone are sparsely vegetated. Gentler faces are generally dominated by a dense sward of pasture grasses, notably Chewings fescue*. Indigenous plant species commonly present are broadleaf, mingimingi, mountain akeake, native broom, matagouri, koromiko, sweet brier*, porcupine shrub, toatoa, *Einadia allanii*, *Gingidia enysii*, *Epilobium nummularifolium*, *Carex breviculmis*, maidenhair fern, hound's tongue fern and *Asplenium hyallii*. Common naturalized (exotic) species are hemlock*, mouse-ear hawkweed*, king devil hawkweed*, suckling clover*, yarrow*, narrow-leaved plantain*, stonecrop*, daisy*, horehound* and dwarf mallow*. Occasional wilding pine trees* are present.

Additional species present on steep grassy slopes at the northern tip of the scarp (within SNA 330a) are white fuzzweed and one small patch of an endemic South Canterbury limestone gentian species (*Gentianella calcis*): a threatened (nationally critical) species (*photo at right*).

A small patch of shrubland on lower slopes at the north end of the scarp is dominated by mingimingi. Other species present are cabbage tree, native broom, matagouri, mahoe, elderberry*, sweet brier*, porcupine shrub, blackberry*, mistletoe (on mingimingi), pohuehue, native jasmine, native bindweed, scrub pohuehue and two large shrubs of *Coprosma virescens*, an 'at risk' (declining) species.

The northeast face of the scarp: shrubland with Coprosma virescens at base; gentian population on upper slopes.

The southern part of the exposed limestone on the east face of the scarp (within SNA 330b) appears more modified. Chewings fescue* is dominant over large areas and indigenous species are more sparsely distributed. Additional indigenous species present are kowhai and, at one location, a large patch of tree nettle.

Scarp crest shrubland/scrub:

This plant community occupies the relatively broad crest of the scarp, on the boundary between the two properties. It is a dense woody plant community dominated by mingimingi, matagouri, native broom, mahoe, broadleaf, koromiko, mountain akeake, cabbage tree, porcupine shrub and pohuehue. Other prominent species are matipo, five-finger, mistletoe, scrub pohuehue, native jasmine and blue tussock. Broom* scrub is present at the south end.

Birds/Fauna Observed:

Native birds observed during this brief survey were bellbird, fantail, rifleman, grey warbler, kingfisher and harrier. Additional species observed in the crack willow forest were pukeko and paradise shelduck.

Notable Flora, Fauna and Habitats:

Notable features of this area are the presence of indigenous vegetation on a naturally uncommon ecosystem (limestone) listed as 'nationally vulnerable' (Holdway *et al*, 2012) and in an 'acutely threatened' land environment. The presence of a threatened (nationally critical) species (de Lange *et al*, 2012), *Gentianella calcis*, is especially important. One 'at risk' (declining) species (*Coprosma virescens*), two 'at risk' (naturally uncommon) plant species (*Einadia allanii* and *Gingidia enysii*) and two locally uncommon species (white fuzzweed and tree nettle) are present. The site lies close to other areas of indigenous vegetation on limestone.

The scarp crest.

Notable Plant and Animal Pests:

The most important woody weeds present are sycamore, barberry, broom, elderberry and sweet brier. Of these, sycamore, barberry and broom pose the greatest threat. The most important herbaceous weeds are Chewings fescue, stonecrop, 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 is a relatively large limestone scarp. Western parts (SNA 330a) are buffered by the steep rocky slope and the dense exotic forest on the adjacent river terrace. The eastern scarp face is more modified. The scarp crest is well protected by difficult access and dense woody vegetation. It is grazed as part of larger paddocks, though parts of the site are protected from grazing by steep rock and dense vegetation. 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 on the western face and crest of the scarp is in good condition; elsewhere the vegetation is more modified. Forest and shrubland communities are healthy, but the exposed limestone is affected by invasive naturalized plants. The most important management issues are control of weeds (especially sycamore, broom and Chewings fescue) and protection of the site from intensive grazing, especially by cattle.

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 one threatened (nationally critical), three 'at risk' and two locally uncommon plant species.
Diversity and pattern	**M**	Species diversity is moderate.
Distinctiveness/special features	**M**	The intactness of the indigenous forest on the northwest face is notable.
Other Criteria		
Size/shape	**M/H**	A moderate-sized area that is partly buffered.
Connectivity	**M**	Lies close to other areas of indigenous vegetation on limestone.
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 landowners. It lies on a steep scarp that has only limited potential for farm development. It is on the boundary between the two properties and does not appear to provide important access for farm management.

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 threatened, at risk and locally uncommon plant species.

The 'at risk' (naturally uncommon) limestone species: Gingidia enysii

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 (* = naturalised species)	Scientific name
alder*	*Alnus glutinosa*
barberry*	*Berberis glaucocarpa*
bittersweet*	*Solanum dulcamara*
blackberry*	*Rubus fruticosus*
blue tussock	*Poa colensoi*
broadleaf	*Griselinia littoralis*
broom*	*Cytisus scoparius*
cabbage tree/ti rakau	*Cordyline australis*
Chewings fescue*	*Festuca rubra* ssp. *commutata*
common shield fern	*Polystichum richardii*
crack willow*	*Salix fragilis*
creeping buttercup*	*Ranunculus repens*
daisy*	*Bellis perennis*
dwarf mallow*	*Malva neglecta*
elderberry*	*Sambucus nigra*
five-finger	*Pseudopanax arboreus*
gooseberry*	*Ribes uva-crispa*
hemlock*	*Conium maculatum*
horehound*	*Marrubium vulgare*
hound's tongue fern	*Microsorum pustulatum*
king devil hawkweed*	*Pilosella piloselloides* ssp. *praealta*
koromiko	*Hebe salicifolia*
kowhai	*Sophora microphylla*
leafless lawyer	*Rubus squarrosus*
mahoe/whiteywood	*Melicytus ramiflorus*
maidenhair fern	*Adiantum cunninghamii*
matagouri	*Discaria toumatou*
matai/black pine	*Prumnopitys taxifolia*
matipo/kohuhu	*Pittosporum tenuifolium*
mingimingi	*Coprosma propinqua*
mistletoe	*Ileostylis micranthus*
mountain akeake	*Olearia avicenniifolia*
mouse-ear hawkweed*	*Pilosella officinarum*
narrow-leaved plantain*	*Plantago lanceolata*
native bindweed	*Calystegia tuguriorum*
native broom	*Carmichaelia* aff. *australis*
native jasmine	*Parsonsia capsularis*
pohuehue	*Muehlenbeckia australis*
porcupine shrub	*Melicytus alpinus*
scrub pohuehue	*Muehlenbeckia complexa*
stonecrop*	*Sedum acre*
suckling clover*	*Trifolium dubium*
swamp kiokio	*Blechnum minus*
sweet brier*	*Rosa rubiginosa*
sycamore*	*Acer pseudoplatanus*
toatoa	*Haloragis erecta*
totara	*Podocarpus totara*
tree nettle	*Urtica ferox*
white fuzzweed	*Vittadina australis*
yarrow*	*Achillea millefolium*

Coprosma virescens at SNA 330a

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.*