

**TIMARU DISTRICT**  
**SIGNIFICANT NATURAL AREAS**  
**SURVEY**

**D & B LOOMES PROPERTY**



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



# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

---

### PROPERTY DETAILS:

**Owner:** ..... D and B Loomes  
**Valuation References:** .... 24820/105.00  
**Address:** ..... McLeod Road, RD 4, Timaru.  
**Location:** ..... On the northeast side of Limestone Valley, west of Taiko Flat.  
**Ecological District:** ..... Waimate Ecological District.  
**TDC Land Type:** ..... 'Soft Rock Hills and Downs'  
**Land Environment:** ..... N3 (eastern South Island undulating plains and hills).

---

### ECOLOGICAL CONTEXT:

The property covers moderately steep slopes and limestone bluffs between 180 and 300m on the northeast 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. Limestone bluffs supported specialised flora, and valley floors supported wetland vegetation.

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, sparse rockland vegetation on limestone bluffs, and wetland vegetation on valley floors. The property lies near to areas of forest, shrubland and rockland vegetation on adjoining properties, contributing to the network of fauna habitat in the wider area. A substantial portion of this part of the property is protected by a QEII Open Space covenant.

The property was surveyed as part of the District-wide survey of Significant Natural Areas during August 2011. Most parts of the property were surveyed. Two 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                     |
|----------|-----------------|------------------------|------------------|---|
| 13a      | Loomes covenant | J39: 525-494           | 12.01            | Hardwood forest, scrub, rockland vegetation |
| 478a     | Loomes wetland  | J39: 526-491           | 0.91             | Sedgeland and rushland                      |



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. The open space covenants that protect this part of the property are likely to provide greater protection than District Plan rules.

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.

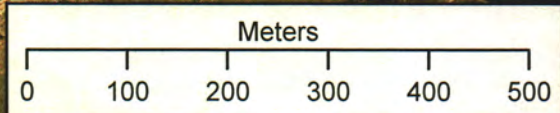


*Limestone bluffs within SNA 13a*





Loomes Property  
24820/105.00



1:7,500



---

**Area Name:** Loomes Covenant**Location (central map reference):** J39: 525-494**Ecological District:** Waimate**Surveyors:** Mike Harding**Property:** D & B Loomes**Nearest Locality:** Taiko Flat**Area Size (ha):** 12.01**Altitude (m):** 180-300**Survey Time:** 3 hours**Survey Date:** 05-08-11

---

**General Description:**

This SNA covers a steep limestone scarp and adjacent rubble slopes on the northeast side of Limestone Valley Road. It is part of a limestone bluff system that extends onto the adjacent property. Areas of indigenous vegetation and limestone scarp on both properties are protected by QEII Open Space covenants. Rockland plant communities were not thoroughly surveyed, because this time of the year (winter) is unsuitable for such a survey. Limestone vegetation at the site was surveyed in 2003. Furthermore, these plant communities are protected by a covenant.

**Plant Communities:**

Two main plant communities are present: hardwood forest and rockland (limestone scarp) communities. These plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk\*.

Hardwood forest adjacent to the bluff (fenced):

This area of forest occupies a broad limestone bench mid-way along the bluff system. It is fenced from grazing animals. The forest canopy is dominated by mahoe and large emergent lowland ribbonwood trees. The trunk diameter (at breast height) of one of the large lowland ribbonwood trees is 78cm. Other canopy species are kowhai, broadleaf, cabbage tree, pohuehue, *Clematis forsteri* and occasionally elderberry\*.

Additional woody species perched on a ledge on the limestone bluff are a single totara tree and two adult trees of the at-risk (naturally uncommon) fierce lancewood (*Pseudopanax ferox*).



*The fenced forest at the centre of SNA 13a*



The forest understorey is relatively open. Species present are lowland ribbonwood and kowhai saplings. Dominant ground-cover species are *Parietaria debilis* and *Asplenium lyallii*. Other species present are pennywort, hairy pennywort, *Cardamine debilis*, *Blechnum chambersii* and seedlings of kowhai.

Plant species present at rocky sites are koromiko, *Coprosma propinqua*, leafless lawyer, hound's tongue fern, *Asplenium lyallii*, *Epilobium nummulariifolium*, *Carex breviculmis*, cocksfoot\*, mouse-ear hawkweed\*, scrambling fumitory\* and sand spurrey\*.

Plant species commonly present in forest openings are *Coprosma propinqua*, native broom, *Parietaria debilis*, male fern\*, creeping buttercup\*, cocksfoot\*, *Senecio wairauensis*, Scotch thistle\*, poroporo, burdock\* and, at the forest margin, a small adult fierce lancewood tree.

Moderately-steep slopes below the forest support pasture with scattered silver tussock and shrubs of *Coprosma propinqua*.

#### Rockland (limestone bluff) vegetation:

Woody species present on or adjacent to the limestone scarp are broadleaf, five-finger, mahoe, cabbage tree, mountain akeake, *Coprosma propinqua*, native broom, matagouri, koromiko, elderberry\*, gooseberry\*, pohuehue, leafless lawyer *Clematis foetida* and occasionally weeping mapou, Khasia berry\* and plum\*.

Other species present on the scarp are *Parietaria debilis*, toatoa, *Epilobium nummulariifolium*, *Dichondra repens*, pennywort, *Cardamine debilis*, *Einadia allanii*, *Gingidia enysii*, *Colobanthus* sp., *Geranium microphyllum*, *Hydrocotyle heteromeria*, hairy pennywort, *Anisotome aromatica*, *Blechnum chambersii*, *Asplenium lyallii*, silver tussock, blue tussock, cocksfoot\*, cleavers\*, horehound\*, narrow-leaved plantain\*, scrambling fumitory\*, *Myosotis arvensis*, mouse-ear hawkweed\*, wire moss and a single plant of the at-risk (declining) *Aciphylla subflabellata* in the adjacent pasture.

Notable threatened species recorded during the 2003 limestone survey are limestone wheat grass, *Australopyrum calcis* (nationally vulnerable) and *Gentianella calcis* ssp. *taiko* (nationally critical).



*An adult fierce lancewood (*Pseudopanax ferox*) tree at SNA 13a*



**Birds/Fauna Observed:**

Native birds observed during this brief survey were bellbird, grey warbler, fantail, silvereye, welcome swallow and hawk.

**Notable Flora, Fauna and Habitats:**

Important features of this area are the presence of relatively intact indigenous forest on limestone, a diverse range of plants typical of limestone habitats, populations of nationally threatened species (*Australopyrum calcis* and *Gentianella calcis* ssp. *taiko*), at-risk species (fierce lancewood and *Aciphylla subflabellata*), locally-uncommon species (weeping mapou and lowland ribbonwood) and the extent of the limestone habitat.

**Notable Plant and Animal Pests:**

The site is relatively free of invasive woody plant pests. Elderberry, gooseberry, Khasia berry and plum are present, though not widespread. Herbaceous plants, especially naturalized grasses and mouse-ear hawkweed, pose a greater threat to vulnerable limestone plants, especially limestone wheatgrass and *Gentianella calcis* ssp. *taiko*. Animal pests were not surveyed, though possum sign was observed and two fallow deer were observed within the fenced part of the site (the deer have since been removed).

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

Most parts of the site are well buffered by the steepness of the limestone scarp. The main forest patch beneath the scarp is fenced from stock. The limestone bluff extends onto the adjacent property. The site is protected by a QEII Open Space covenant.

**Condition and Management Issues:**

Vegetation on the limestone scarp and within the fenced area is in relatively good condition. Unfenced sites that are accessible to stock are more depleted. The main threats to the area are invasive naturalized plants (especially grasses and herbs) and animal browse (especially possums). The site is managed for protection under the covenant agreement.

**Property Owner Comment:**

The Loomes are keen to restore and extend the area of forest.

---

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

| Primary Criteria                 | Rank | Notes  |
|----------------------------------|------|--|
| Representativeness               | H    | A good example of indigenous vegetation on limestone bluffs and one of the best remaining in the ecological district.  |
| Rarity                           | H    | Supports populations of nationally critical, nationally vulnerable, at risk and locally uncommon species. Limestone cliffs are originally rare ecosystems that are a national priority for protection. |
| Diversity and pattern            | M/H  | A relatively diverse range of species is present, though species diversity is probably reduced from that originally present.   |
| Distinctiveness/special features | M/H  | The extent of the limestone habitat and the forest remnant are notable features.   |
| <b>Other Criteria</b>            |      |  |
| Size/shape                       | H    | A relatively large area that is well buffered.   |
| Connectivity                     | M    | The limestone scarp extends onto the adjacent property. It lies relatively close to other indigenous forest remnants in the area.  |
| Long-term Sustainability         | M/H  | Most parts of the site are well buffered and protected. However, plant and animal pest control is probably required 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 set aside and protected voluntarily by the landowners. It is an ecologically valuable and nationally important site for protection of limestone flora. The steepness of the site severely limits its potential for farm development.



**Summary:**

This area very easily meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of relatively intact indigenous forest on limestone, a diverse range of plants typical of limestone habitats, populations of nationally threatened species (*Australopyrum calcis* and *Gentianella calcis* ssp. *taiko*), at-risk species (fierce lancewood and *Aciphylla subflabellata*), locally-uncommon species (weeping mapou and lowland ribbonwood) and the extent of the limestone habitat.



*Important habitat for limestone plants on an isolated rock outcrop in SNA 13a*



## TIMARU DISTRICT SNA SURVEY

SNA 478a

**Area Name:** Loomes wetland

**Location (central map reference):** J39: 526-491

**Ecological District:** Waimate

**Surveyors:** Mike Harding

**Property:** D & B Loomes

**Nearest Locality:** Taiko Flat

**Area Size (ha):** 0.91

**Altitude (m):** 180

**Survey Time:** ½ hour

**Survey Date:** 05-08-11

### General Description:

This wetland SNA lies on the valley floor alongside Limestone Valley Road. It occupies a low-lying alluvial flat at the base of a limestone slope and bluff (SNA 13a). Part of the wetland is fenced from stock.

### Plant Communities:

The main plant community present is sedgeland, described below. Naturalized (exotic) species are indicated with an asterisk\*.

Most parts of the site are dominated by *Carex coriacea*, *Carex secta* or *Juncus greigiflorus*. Pasture grasses, especially cocksfoot\* and Yorkshire fog\*, are present throughout. Other species present are creeping buttercup\*, watercress\*, broad-leaved dock\*, Californian thistle\*, Scotch thistle\* and *Azolla filiculoides*. One small patch of gorse\* and two Lombardy poplar\* trees are present.

Planted indigenous species, including cabbage tree and lowland ribbonwood, are present within the fenced area.



SNA 478a

### Birds/Fauna Observed:

Native birds observed during this brief survey were pukeko, paradise shelduck, South Island pied oystercatcher and spur-winged plover.

### Notable Flora, Fauna and Habitats:

Important features of this area are the presence of wetland vegetation at low altitude (a nationally-rare ecosystem), the extent (size) of the wetland and its location adjacent to an important limestone system.



**Notable Plant and Animal Pests:**

Gorse and pasture grasses are the most important plant pests present. Animal pests were not surveyed.

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

Approximately half this wetland is fenced from stock. Other parts of the wetland are not well buffered and are vulnerable to stock damage.

**Condition and Management Issues:**

The fenced part of the wetland is in relatively good condition. Its values are likely to improve; planting of indigenous wetland species should assist this recovery. The most important management issues are control of gorse and pasture grasses and the protection of the unfenced part of the wetland from stock damage.

**Property Owner Comment:**

The Loomes are interested to restore the wetland by planting indigenous wetland species and to possibly extend the area fenced from grazing.

---

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

| Primary Criteria                 | Rank | Notes   |
|----------------------------------|------|---|
| Representativeness               | M    | An example of lowland wetland vegetation; typical of that remaining in the ecological district.                             |
| Rarity                           | M/H  | Lowland wetlands are nationally rare ecosystems.  |
| Diversity and pattern            | L/M  | Species diversity is relatively low.  |
| Distinctiveness/special features | M    | The location of the wetland adjacent to a nationally important limestone system is a special feature.                       |
| <b>Other Criteria</b>            |      |   |
| Size/shape                       | M/H  | Relatively large for a lowland wetland.   |
| Connectivity                     | M    | Is linked by a small stream to other areas of wetland upstream. Lies close to indigenous vegetation on limestone (SNA 13a). |
| Long-term Sustainability         | M    | Plant and animal pest control will probably be required to maintain ecological values in the long term.                     |

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

A substantial part of the wetland has been fenced and voluntarily protected by the landowner.

**Summary:**

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of wetland vegetation at low altitude (a nationally-rare ecosystem), the extent (size) of the wetland and its location adjacent to an important limestone system.



# TIMARU DISTRICT SNA SURVEY

## Wetland Record Form

**Wetland 478a**

|  |  |
|--|--|
| <b>Wetland name:</b> Loomes Wetland    | <b>Date:</b> 5 <sup>th</sup> August 2011 |
| <b>Property:</b> D and B Loomes        | <b>GPS/Grid Ref:</b> J39: 526-491        |
| <b>Altitude:</b> 180 m                 | <b>No. of plots sampled:</b>             |
| <b>Location:</b> Limestone Valley Road | <b>Approximate size (ha):</b> 0.91       |

|                                 |                     |                         |                         |
|---------------------------------|---------------------|-------------------------|-------------------------|
| <b>Classification: I System</b> | <b>IA Subsystem</b> | <b>II Wetland Class</b> | <b>IIA Wetland Form</b> |
| Riverine                        |                     | Marsh                   | Riparian                |

**Surveyors:** Mike Harding

| Indicator  | Indicator components                    | Specify and Comment        | Score 0-5 <sup>1</sup> | Mean score   |
|--|---|----------------------------|------------------------|--------------|
| Change in hydrological integrity                     | Impact of manmade structures            | Fences present             | 4                      | 4            |
|  | Water table depth                       | No change apparent         | 5                      |              |
|  | Dryland plant invasion                  | Moderate                   | 3                      |              |
| Change in physico-chemical parameters                | Fire damage                             | None evident               | 5                      | 4.33         |
|  | Degree of sedimentation/erosion         | Some sediment and erosion  | 4                      |              |
|  | Nutrient levels                         | No evidence/localized      | 4                      |              |
|  | von Post index                          |                            |                        |              |
| Change in ecosystem intactness                       | Loss in area of original wetland        | Loss at margins            | 3                      | 4            |
|  | Connectivity barriers                   | Connections intact         | 5                      |              |
| Change in browsing, predation and harvesting regimes | Damage by domestic or feral animals     | Damage to parts of wetland | 3                      | 4            |
|  | Introduced predator impacts on wildlife |                            |                        |              |
|  | Harvesting levels                       | None apparent              | 5                      |              |
| Change in dominance of native plants                 | Introduced plant canopy cover           | Low                        | 4                      | 3.5          |
|  | Introduced plant understorey cover      | Moderate                   | 3                      |              |
| <b>Total wetland condition index /25</b>             |   |                            |                        | <b>19.83</b> |

**Main vegetation types:** *Carex coriacea*/*Carex secta* sedgeland and *Juncus gregiflorus* rushland

**Native fauna:** SI pied oystercatcher, pukeko, spur-winged plover, paradise shelduck

**Other comments:**

| Pressure                                | Rating <sup>2</sup> | Specify and Comment            |
|---|---------------------|--------------------------------|
| Modifications to catchment hydrology    | 1                   | Low; man-made dam upstream     |
| Water quality within the catchment      | 2                   | Stock pollution                |
| Animal access                           | 1                   | Partly fenced from stock       |
| Key undesirable species                 | 1                   | Low: gorse and pasture grasses |
| % catchment in introduced vegetation    | 3                   | High proportion                |
| Other pressures                         |                     |                                |
| <b>Total wetland pressure index /30</b> | <b>8</b>            |                                |

Source: Clarkson *et al*, Handbook for monitoring wetland condition, Ministry for the Environment, August 2002.

<sup>1</sup> Assign degree of modification thus: 5=v. low/ none, 4=low, 3=medium, 2=high, 1=v. high, 0=extreme

<sup>2</sup> Assign pressure scores as follows: 5=very high, 4=high, 3=medium, 2=low, 1=very low, 0=none



## 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)     |   |
| blue tussock.....             | <i>Poa colensoi</i>                       |
| broadleaf .....               | <i>Griselinia littoralis</i>              |
| broad-leaved dock* .....      | <i>Rumex obtusifolius</i>                 |
| burdock* .....                | <i>Arctium minus</i>                      |
| cabbage tree/ti rakau .....   | <i>Cordyline australis</i>                |
| Californian thistle* .....    | <i>Cirsium arvense</i>                    |
| cleavers* .....               | <i>Galium aparine</i>                     |
| cocksfoot* .....              | <i>Dactylis glomerata</i>                 |
| elderberry* .....             | <i>Sambucus nigra</i>                     |
| fierce lancewood .....        | <i>Pseudopanax ferox</i>                  |
| five-finger .....             | <i>Pseudopanax arboreus</i>               |
| gooseberry* .....             | <i>Ribes uva-crispa</i>                   |
| gorse* .....                  | <i>Ulex europaeus</i>                     |
| hairy pennywort .....         | <i>Hydrocotyle moschata</i>               |
| horehound* .....              | <i>Marrubium vulgare</i>                  |
| hound's tongue fern .....     | <i>Microsorium pustulatum</i>             |
| Khasia berry* .....           | <i>Cotoneaster simonsii</i>               |
| koromiko .....                | <i>Hebe salicifolia</i>                   |
| kowhai.....                   | <i>Sophora microphylla</i>                |
| leafless lawyer.....          | <i>Rubus squarrosus</i>                   |
| Lombardy poplar* .....        | <i>Populus nigra</i>                      |
| lowland ribbonwood .....      | <i>Plagianthus regius</i>                 |
| mahoe/whiteywood .....        | <i>Melicytus ramiflorus</i>               |
| male fern* .....              | <i>Dryopteris filix-mas</i>               |
| matagouri .....               | <i>Discaria toumatou</i>                  |
| matai .....                   | <i>Prumnopitys taxifolia</i>              |
| mountain akeake .....         | <i>Olearia avicenniifolia</i>             |
| mouse-ear hawkweed* .....     | <i>Pilosella officinarum</i>              |
| narrow-leaved plantain* ..... | <i>Plantago lanceolata</i>                |
| native broom .....            | <i>Carmichaelia</i> aff. <i>australis</i> |
| pennywort .....               | <i>Hydrocotyle</i> sp.                    |
| plum* .....                   | <i>Prunus</i> sp.                         |
| pohuehue .....                | <i>Muehlenbeckia australis</i>            |
| poroporo.....                 | <i>Solanum laciniatum</i>                 |
| sand spurrey* .....           | <i>Spergularia rubra</i>                  |
| Scotch thistle* .....         | <i>Cirsium vulgare</i>                    |
| scrambling fumitory* .....    | <i>Fumaria muralis</i>                    |
| silver tussock.....           | <i>Poa cita</i>                           |
| toatoa.....                   | <i>Haloragis erecta</i>                   |
| totara .....                  | <i>Podocarpus totara</i>                  |
| water cress* .....            | <i>Rorippa microphylla</i>                |
| weeping mapou .....           | <i>Myrsine divaricata</i>                 |
| wire moss .....               | <i>Polytrichum juniperinum</i>            |
| Yorkshire fog* .....          | <i>Holcus lanatus</i>                     |