

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

**STEW POINT**  
**(including Coal Hill)**



**Report prepared for Timaru District Council by Mike Harding**  
**April 2016**

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### PROPERTY DETAILS:

**Owner:** ..... Gary Rooney  
**Valuation Reference:** ... 24640/016.00  
**Address:** ..... Rangitata Gorge Road, Geraldine 7992  
**Location:**..... Southwest side of upper Rangitata River  
**Ecological District:**..... Orari

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### ECOLOGICAL CONTEXT:

The property lies on the southwest (true right) side of the Rangitata Gorge, inland from Peel Forest in South Canterbury. It covers moderately-steep to very steep hill country rising to an altitude of 1617m at Coal Hill, and includes lower-altitude terraces along Rangitata Gorge Road adjacent to the Rangitata River. The underlying geology of the hill country is sandstone (greywacke) and mudstone (argillite), with areas of andesite/dacite (Mount Somers Volcanics) at the west of the property. Lower-altitude terraces comprise glacial and river deposits, with an area of limestone and calcareous mudstone at Coal Creek (Cox and Barrell, 2007).

The property is in Orari Ecological District (McEwen, 1987). Most low altitude (below 900m) slopes on the property lie within the E1.4d Level IV Land Environment as defined by Leathwick *et al* (2003). Terraces and lower-altitude areas along the Rangitata River boundary lie within J2.2b and K3.1b land environments. Indigenous vegetation within the J2.2b land environment is regarded as ‘acutely threatened’; and within K3.1b as ‘chronically-threatened’ (Walker *et al*, 2006).

It is unclear how much of this part of Orari Ecological District was forested in pre-human times. Forested areas were most likely dominated by mountain beech (*Nothofagus solandri*), though mountain totara (*Podocarpus cunninghamii*), kowhai (*Sophora microphylla*), broadleaf (*Griselinia littoralis*) and kanuka (*Kunzea ericoides*) may have been common. Scrub, shrubland, treeland and tussockland would have occupied steeper slopes and disturbed sites. Sedgeland, rushland and reedland (wetland vegetation) would have been present at poorly drained sites.

Today the woody vegetation cover in this part of Orari Ecological District is largely confined to regenerating scrub in gullies or on steep rocky slopes. Small areas of wetland vegetation are present at lower altitudes. Likewise, habitats of indigenous fauna have been depleted or modified. However, the property is likely to provide habitat for karearea/eastern falcon (*Falco novaeseelandiae*), a species listed as ‘at risk’ (recovering) by Robertson *et al* (2012), and for ‘at risk’ and ‘threatened’ lizard species listed by Hitchmough *et al* (2012), such as jewelled gecko (*Naultinus gemmeus*) (declining), common skink (*Oligosoma polychroma*) (declining) and possibly Rangitata skink (*Oligosoma* aff. *longipes* “Rangitata”) (nationally critical).

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### SIGNIFICANT AREAS ON THE PROPERTY:

This property was not surveyed as part of the District-wide survey of Significant Natural Areas because permission for access was declined by the landowner. However, other properties in Orari Ecological District have been surveyed and there are good recent aerial images of the area. So it is possible to determine what indigenous vegetation is likely to be present on the property.

Indigenous vegetation on steeper parts of the property appears to comprise relatively extensive areas of young (regenerating) shrubland and fernland, probably dominated by matagouri (*Discaria toumatou*), mingimingi (*Coprosma propinqua*) and bracken (*Pteridium esculentum*). Steep shady or rocky slopes appear to support older shrubland and scrub, and possibly some small areas of low-canopied hardwood forest.

Indigenous plant species will be present on sparsely vegetated rock bluffs: plant communities that are representative of the original vegetation.

Lower-altitude terraces on the property are largely developed as farmland, except for shrubland/scrub along lower Coal Creek and sedgeland-rushland at a wetland on a lower terrace. Riparian (river-side) vegetation along the Rangitata River is not considered as part of this assessment, as that area lies outside the property boundary.

Without the benefit of a field survey it is difficult to accurately determine the extent of significant indigenous vegetation on the property. Aerial images and roadside views indicate the presence of three areas of indigenous vegetation that are likely to be Significant Natural Areas (SNAs) when assessed against the Timaru District Plan and/or Canterbury Regional Policy Statement criteria. Only areas at altitudes lower than 900m were assessed, as activities at higher-altitude areas are covered by other plan rules.

| <b>Area No.</b> | <b>Map ref. (NZTM)</b> | <b>Aprox. size(ha)</b> | <b>Vegetation/habitat type</b>            |
|-----------------|------------------------|------------------------|---|
| 756             | 1451231E-5154054N      | 29                     | shrubland; scrub                          |
| 757             | 1448480E-5155774N      | 6                      | sedgeland; rushland                       |
| 758             | 1446022E-5156689N      | 7                      | tussockland; shrubland; scrub; low forest |

The likely values and boundaries of these areas are described on the SNA Forms in this report. Note that the boundaries of the SNAs are indicative, rather than precise. These areas are likely to 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 be listed in the District Plan by way of a plan review.

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.

There may be other areas of significant indigenous vegetation or habitat on the property. This report should not be regarded as a comprehensive assessment; instead, it describes areas that are readily assessed from aerial photography and roadside views. Other possible significant sites include areas of woody vegetation (shrubland and scrub) on lower hill slopes, rock bluff vegetation, smaller seepages and flushes (wetlands), and habitats of threatened plant or animal species.

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|   |   |
|---|---|
| <b>Area Name:</b> Coal Creek                      | <b>Property:</b> Stew Point                               |
| <b>Ecological District:</b> Orari                 | <b>Nearest Locality:</b> Peel Forest                      |
| <b>Central map ref. (NZTM):</b> 1451231E-5154054N | <b>Area Size (ha):</b> c. 29 <b>Altitude (m):</b> 460-600 |
| <b>Assessor:</b> Mike Harding                     | <b>Survey Time:</b> n/a <b>Survey Date:</b> 08-04-16      |

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### General Description:

This SNA is located in the lower part of Coal Creek, upstream from Rangitata Gorge Road. It was viewed from the road and from aerial photographs. Permission for access for a ground survey was denied by the landowner. The SNA encompasses areas of shrubland and scrub on the valley floor and terrace scarps of lower Coal Creek. The down-valley (northeast) part of the SNA lies on limestone; the up-valley part lies on calcareous mudstone and recently-deposited stream gravels (Cox and Barrell, 2007). The area includes two small tarns.

This SNA lies within Orari Ecological District (McEwen, 1987). It is within the K3.1b Level IV Land Environment (Leathwick *et al*, 2003), in which indigenous vegetation is listed as ‘chronically threatened’ (Walker *et al*, 2006). Calcareous scarps, upon which part of the SNA lies, are regarded as ‘originally rare’ ecosystems, in which indigenous vegetation is listed as ‘threatened’ (nationally vulnerable) (Holdaway *et al*, 2012).

### Plant Communities:

Shrubland on the limestone scarp slope adjacent to the road is dominated by dense low-growing matagouri (*Discaria toumatou*). Other species present are prostrate kowhai (*Sophora prostrata*), scrub pohuehue (*Muehlenbeckia complexa*), lawyer (*Rubus schmidelioides*) and elder\* (*Sambucus nigra*)<sup>1</sup>. A small patch of fine-leaved shrubs (presumably a species of *Olearia*) is present just upstream.

As far as can be determined from aerial photographs, other parts of the SNA support shrubland and scrub dominated by matagouri. Other small-leaved shrub species likely to be present are mingimingi (*Coprosma propinqua*), korokio (*Corokia cotoneaster*), native broom (*Carmichaelia australis*) and porcupine shrub (*Melicytus alpinus*).

Survey of indigenous fauna was not possible. However, it is most likely that the area provides suitable habitat for lizards, including common skink; a species listed as ‘at risk’ by Hitchmough *et al* (2012).



*Matagouri scrub and prostrate kowhai on calcareous scarp at lower part of SNA 756*

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<sup>1</sup> Naturalized (exotic) species are indicated with an asterisk\*.

### **Notable Flora, Fauna and Habitats:**

Notable features of this SNA are the presence of indigenous vegetation in an 'originally rare' ecosystem, within a 'chronically threatened' land environment. Also important is the extent of indigenous woody vegetation at relatively low altitude in an area where woody vegetation is substantially depleted.

### **Notable Plant and Animal Pests:**

Assessment of plant and animal pests was not possible. However, elder is present in shrubland near the road and likely present elsewhere at the site.

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

The boundaries of this SNA have been drawn to include the main areas of shrubland and scrub within the lower Coal Creek valley and on adjacent scarps. Ground survey would be required to confirm the accuracy of these proposed boundaries.

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### **ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

| <b>Primary Criteria</b>          | <b>Rank</b> | <b>Notes</b>   |
|----------------------------------|-------------|--|
| Representativeness               | <b>M</b>    | Indigenous vegetation which is representative of seral woody vegetation originally present in the ecological district, and typical of that remaining in the ecological district. |
| Rarity                           | <b>M/H</b>  | Indigenous vegetation within a 'chronically threatened' land environment and part of a 'nationally vulnerable' ecosystem.  |
| Diversity and pattern            | <b>?</b>    | Plant species diversity could not be accurately assessed.  |
| Distinctiveness/special features | <b>?</b>    | The area appears likely to provide favourable habitat for lizards.   |
| <b>Other Criteria</b>            |             |  |
| Size/shape                       | <b>M/H</b>  | A relatively large area of indigenous vegetation for this altitude.  |
| Connectivity                     | <b>M/H</b>  | Appears to be connected to higher-altitude vegetation by shrubland along the valley.   |
| Long-term Sustainability         | <b>?</b>    | Unclear.   |

### **ASSESSMENT AGAINST REGIONAL POLICY STATEMENT CRITERIA:**

| <b>Criteria</b>        | <b>Yes/No</b> | <b>Comments</b>   |
|------------------------|---------------|---|
| Representativeness     | <b>Yes</b>    | Indigenous vegetation that is moderately representative and is typical/characteristic of the natural diversity of the ecological district. A relatively large example of its type within the ecological district. |
| Rarity/Distinctiveness | <b>Yes</b>    | Indigenous vegetation which is reduced to less than 20% of its former extent in the land environment. Indigenous vegetation within an originally rare ecosystem.  |
| Diversity and Pattern  | <b>?</b>      | Unclear.  |
| Ecological Context     | <b>Likely</b> | Likely to provide important habitat for lizards.  |

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

This area appears to have been set aside from farm development and has only limited potential for further development. The site has undoubtedly been modified but now supports strongly regenerating indigenous woody vegetation. It does not appear seriously affected by plant or animal pests.

### **Discussion:**

If the above assessment is accurate, this site meets the Timaru District Plan and Canterbury Regional Policy Statement criteria for a significant natural area. Important values are the presence of indigenous vegetation on calcareous scarps and within a chronically threatened land environment.



*SNA 756, presumed extent*



*Upper part of SNA 756, viewed from roadside*

|   |  |
|---|--|
| <b>Area Name:</b> Stew Point Wetland              | <b>Property:</b> Stew Point                          |
| <b>Ecological District:</b> Orari                 | <b>Nearest Locality:</b> Peel Forest                 |
| <b>Central map ref. (NZTM):</b> 1448480E-5155774N | <b>Area Size (ha):</b> c. 6 <b>Altitude (m):</b> 410 |
| <b>Assessor:</b> Mike Harding                     | <b>Survey Time:</b> n/a <b>Survey Date:</b> 08-04-16 |

### General Description:

This SNA is located on a river terrace between the Rangitata River and Rangitata Gorge Road. It was viewed from the road and from aerial photographs. Permission for access for a ground survey was denied by the landowner. The SNA encompasses an area of sedgeland-rushland (wetland) on the valley floor adjacent to a terrace scarp. It lies on recently-deposited gravels of the Rangitata River floodplain (Cox and Barrell, 2007).

This SNA lies within Orari Ecological District (McEwen, 1987). It is within the J2.2b Level IV Land Environment (Leathwick *et al*, 2003), in which indigenous vegetation is listed as ‘acutely threatened’ (Walker *et al*, 2006). Seepage wetlands are regarded as ‘originally rare’ ecosystems, in which indigenous vegetation is listed as ‘threatened’ (nationally endangered) (Holdaway *et al*, 2012).

### Plant Communities:

As far as can be determined from roadside views, the wetland is dominated by pukio (*Carex secta*) and bog rush (*Schoenus pauciflorus*). Other indigenous sedge (*Carex*) and rush (*Juncus*) species are present.

Survey of indigenous fauna was not possible. However, it is most likely that the area provides suitable habitat for indigenous bird species.



*Wetland vegetation at SNA 757*

### Notable Flora, Fauna and Habitats:

Notable features of this SNA are the presence of indigenous vegetation in an ‘originally rare’ ecosystem, within an ‘acutely threatened’ land environment. Also important is the size of the wetland, at an altitude in which wetlands are substantially depleted.

### Notable Plant and Animal Pests:

Assessment of plant and animal pests was not possible. However, pasture grasses are present and appear dominant at the wetland margins.

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

The boundaries of this SNA have been drawn to include the main areas of sedgeland-rushland. Ground survey would be required to confirm the accuracy of these proposed boundaries.

## ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

| Primary Criteria                 | Rank | Notes  |
|----------------------------------|------|--|
| Representativeness               | M/H  | Indigenous vegetation which is representative of wetland vegetation originally present in the ecological district, and typical of that remaining in the ecological district. |
| Rarity                           | H    | Indigenous vegetation within an 'acutely threatened' land environment and part of a 'nationally endangered' ecosystem.   |
| Diversity and pattern            | ?    | Plant species diversity could not be accurately assessed.  |
| Distinctiveness/special features | ?    | The area appears likely to provide favourable habitat for birds.   |
| Other Criteria                   |      |  |
| Size/shape                       | M/H  | A relatively large area of indigenous vegetation at this altitude.   |
| Connectivity                     | M    | The wetland is within developed land, though lies close to an extensive area of bird habitat on the Rangitata River bed.   |
| Long-term Sustainability         | ?    | Unclear.   |

## ASSESSMENT AGAINST REGIONAL POLICY STATEMENT CRITERIA:

| Criteria               | Yes/No | Comments   |
|------------------------|--------|--|
| Representativeness     | Yes    | Indigenous vegetation that is representative and is typical/characteristic of the natural diversity of the ecological district.                                  |
| Rarity/Distinctiveness | Yes    | Indigenous vegetation which is reduced to less than 10% of its former extent in the land environment. Indigenous vegetation within an originally rare ecosystem. |
| Diversity and Pattern  | ?      | Unclear.   |
| Ecological Context     | Likely | Likely to provide important habitat for birds.   |

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

This area appears to have been set aside from farm development. It has potential for further development, though that would require substantial drainage as the site is low-lying. Vegetation at the site does not appear seriously affected by plant or animal pests.

### Discussion:

If the above assessment is accurate, this site meets the Timaru District Plan and Canterbury Regional Policy Statement criteria for a significant natural area. Important values are the presence of indigenous wetland vegetation within an acutely threatened land environment.



*SNA 757, presumed extent*



|   |  |
|---|--|
| <b>Area Name:</b> Stew Point volcanics            | <b>Property:</b> Stew Point                              |
| <b>Ecological District:</b> Orari                 | <b>Nearest Locality:</b> Peel Forest                     |
| <b>Central map ref. (NZTM):</b> 1446022E-5156689N | <b>Area Size (ha):</b> c. 7 <b>Altitude (m):</b> 600-750 |
| <b>Assessor:</b> Mike Harding                     | <b>Survey Time:</b> n/a <b>Survey Date:</b> 08-04-16     |

### General Description:

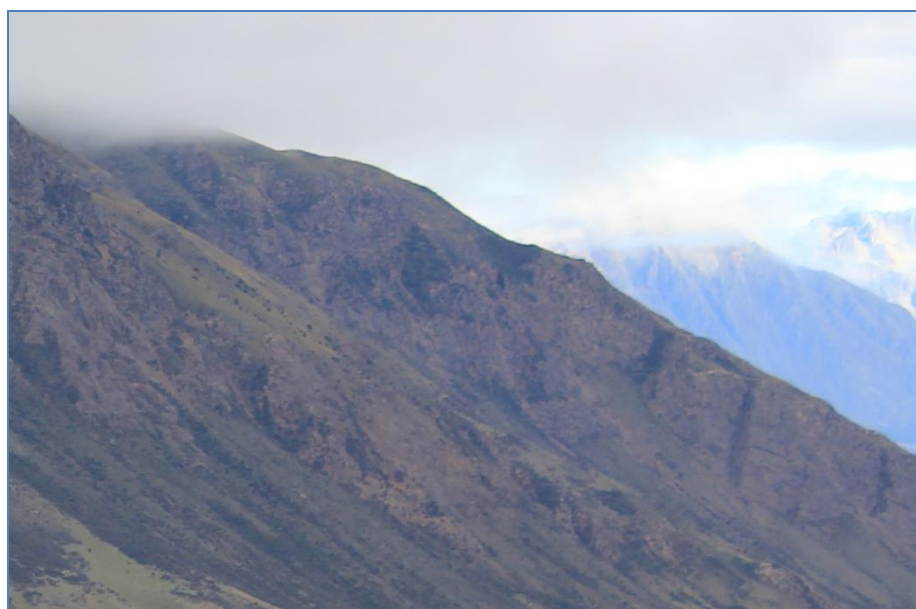
This SNA is located on steep rocky slopes of a prominent ridge above (west of) Stew Point Station buildings. It was viewed from the road and from aerial photographs. Permission for access for a ground survey was denied by the landowner. The SNA encompasses areas of shrubland, scrub and possibly low forest on steep rocky slopes. These slopes comprise flows and dikes of andesite or dacite rock of the Mt Somers Volcanics Group (Cox and Barrell, 2007).

This SNA lies within Orari Ecological District (McEwen, 1987). It is within the E1.4d Level IV Land Environment (Leathwick *et al*, 2003), in which indigenous vegetation is listed as ‘critically under-protected’ (Walker *et al*, 2006). Cliffs and scarps of mafic (volcanic) rocks are regarded as ‘originally rare’ ecosystems, in which indigenous vegetation is ‘threatened’ (nationally vulnerable) (Holdaway *et al*, 2012).

### Plant Communities:

As far as can be determined from roadside views and aerial photographs, the cliffs and some adjacent slopes support indigenous woody vegetation (shrubland/scrub), possibly including patches of low-canopy forest. These communities are separated by areas of tussockland (presumably *Chionochloa rigida*) and sparsely-vegetated rockland. It is not possible to determine species composition without closer inspection.

Survey of indigenous fauna was not possible. However, it is possible that the area provides suitable habitat for indigenous lizard species.



*Indigenous woody vegetation at SNA 758 (centre of image)*

### Notable Flora, Fauna and Habitats:

Notable features of this SNA are the presence of indigenous vegetation in an ‘originally rare’ (nationally vulnerable) ecosystem. Further analysis requires ground survey.

### Notable Plant and Animal Pests:

Assessment of plant and animal pests was not possible, although one pine tree is visible.

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

The boundaries of this SNA have been drawn to include the main areas of woody vegetation, as determined from aerial photographs. Ground survey would be required to confirm the accuracy of these proposed boundaries.

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

| Primary Criteria                 | Rank | Notes   |
|----------------------------------|------|---|
| Representativeness               | M/H  | Indigenous vegetation which is likely to be representative of that originally present in the ecological district, and typical of that remaining in the ecological district. |
| Rarity                           | M/H  | Indigenous vegetation within a 'nationally vulnerable' ecosystem.   |
| Diversity and pattern            | ?    | Plant species diversity could not be accurately assessed.   |
| Distinctiveness/special features | ?    |   |
| Other Criteria                   |      |   |
| Size/shape                       | M/H  | A relatively large area of indigenous woody vegetation at this altitude.  |
| Connectivity                     | M    | The site lies within an extensive area of bluffs and screes.  |
| Long-term Sustainability         | ?    | Unclear.  |

**ASSESSMENT AGAINST REGIONAL POLICY STATEMENT CRITERIA:**

| Criteria               | Yes/No | Comments   |
|------------------------|--------|--|
| Representativeness     | Yes    | Indigenous vegetation that is likely to be representative and is typical/characteristic of the natural diversity of the ecological district. |
| Rarity/Distinctiveness | Yes    | Indigenous vegetation within an originally rare ecosystem.   |
| Diversity and Pattern  | ?      | Unclear.   |
| Ecological Context     | ?      |  |

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

This area appears to have been set aside from farm development and has no potential for development. Vegetation at the site does not appear seriously affected by plant or animal pests.

**Discussion:**

If the above assessment is accurate, this site meets the Timaru District Plan and Canterbury Regional Policy Statement criteria for a significant natural area. Important values are the presence of indigenous woody vegetation within a nationally vulnerable ecosystem (volcanic cliffs).



*SNA 758, presumed extent*

## References Cited

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