

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

WHITEROCK
(WHITEROCK LAND LTD)

Report prepared for Timaru District Council by Mike Harding
November 2015

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Ross and Sally Stevens/Bob and Mary Sierra
Valuation Reference: ... 24640/021.00
Address: Rangitata Gorge Road, Geraldine 7992
Location: West side of Rangitata Gorge, between Rangitata River, Boundary Stream and Rangitata Gorge Road
Ecological District: Orari
Land Environments: E1.4c, E3.1a, K1.1b, K3.1b, P1.2d and Q2.1a

ECOLOGICAL CONTEXT:

The property lies on the west (true right) side of the Rangitata Gorge, inland from Peel Forest in South Canterbury. It covers moderately-steep to steep hill country rising to an altitude of 860m and includes lower-altitude terraces along Rangitata Gorge Road and adjacent to the Rangitata River. The underlying geology of the hill country is fine-medium grained sandstone-mudstone of the Mount Taylor Group. The main terrace along Rangitata Gorge Road comprises glacial till deposited during the last glacial maximum with some areas of alluvium (fan deposits). And, a small area around and west of the homestead comprises calcareous quartz sandstone (Cox and Barrell, 2007).

The property is in Orari Ecological District (McEwen, 1987). Most parts of the property lie within the E1.4c Level IV Land Environment as defined by Leathwick *et al* (2003). Smaller high-altitude areas are within P1.2d and Q2.1a land environments. Terraces and lower-altitude areas along the western property boundary lie within E3.1a, K1.1b and K3.1b land environments. Indigenous vegetation within E3.1a and K3.1b land environments is regarded as 'chronically-threatened'; and within K1.1b as 'at risk' (Walker *et al*, 2006).

It is likely that the original vegetation of this part of Orari Ecological District was predominantly podocarp-hardwood forest, dominated by totara (*Podocarpus totara*), kowhai (*Sophora microphylla*), broadleaf (*Griselinia littoralis*) and other hardwood trees. Mountain beech (*Nothofagus solandri*) forest may have been present at western (inland) parts of the property. Scrub, shrubland, treeland and tussockland may have occupied steeper slopes and disturbed sites. Sedgeland 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 and trees 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).

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, a neighbouring property has been surveyed and there are good recent aerial photo 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, with some small areas of hardwood forest or treeland (scattered trees), dominated by broadleaf or mountain ribbonwood (*Hoheria lyallii*). Other tree species likely to be present are cabbage tree (*Cordyline australis*), kowhai and kohuhu (*Pittosporum tenuifolium*). 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 appear to be developed as farmland and are unlikely to support indigenous plant communities, except at poorly drained sites where there appear to be areas of sedgeland and rushland. No substantial areas of outcropping limestone were evident in aerial photographs. If limestone habitats are present, they are likely to support specialized plants, including 'at risk' and 'threatened' species.

Riparian (river-side) vegetation along the Rangitata River, through Rangitata Gorge, 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 indicate the presence of four areas of wetland vegetation and/or open water at lower-altitude terraces, and three main areas of scrub/treeland/rockland on steeper slopes at the south and east parts of the property. These areas are likely to be Significant Natural Areas (SNAs) when assessed against the District Plan criteria.

The boundaries of these areas are illustrated on the aerial photograph below and the likely values 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 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.

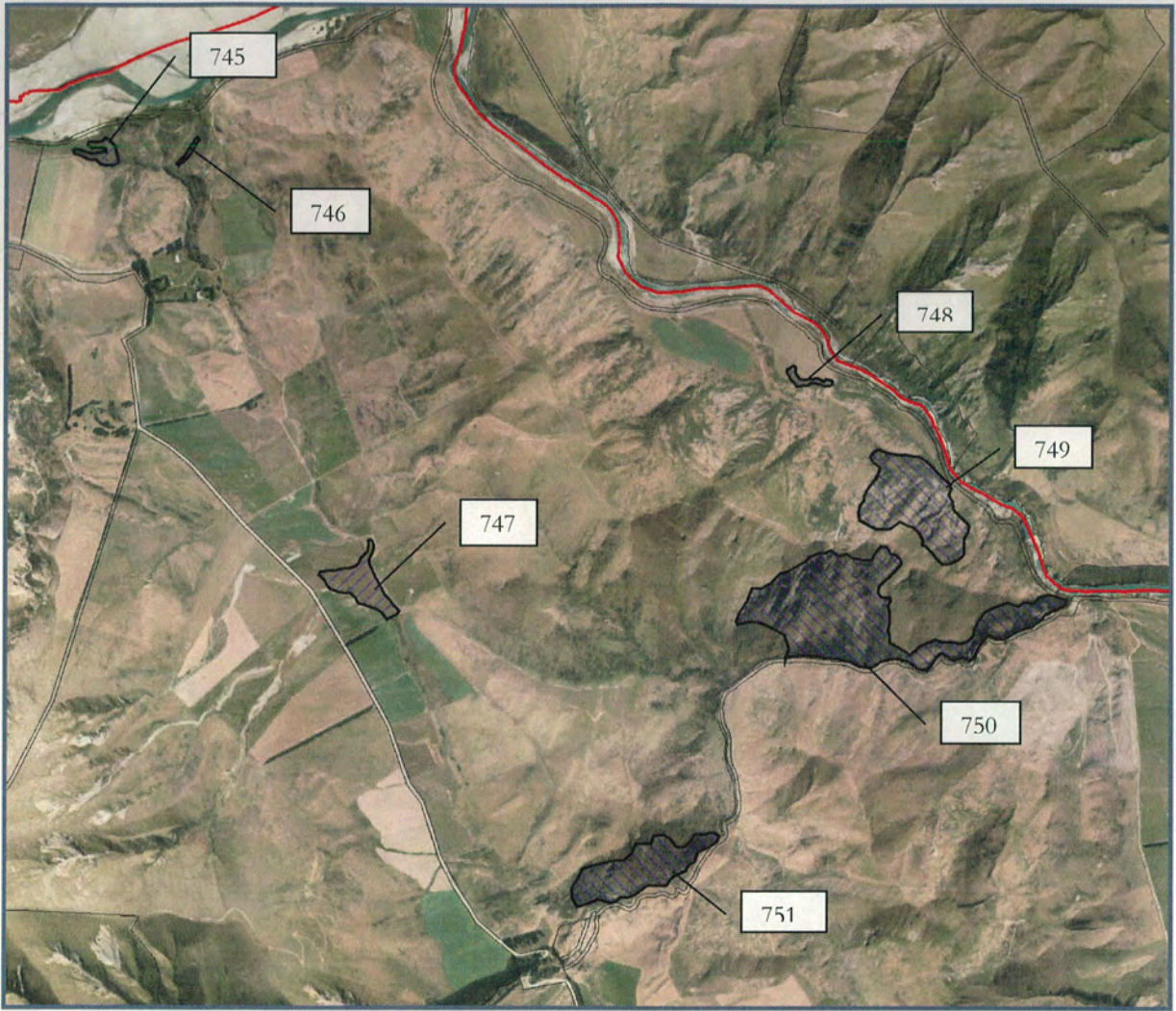
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Whiterock Station
24640/021.00





Whiterock Station: presumed SNAs

Area Name: Whiterock wetlands	Property: Whiterock Station	
Ecological District: Orari	Nearest Locality: Peel Forest	
745 Central map ref. (NZTM): 1451591E-5155201N	Area Size (ha): 1.67	Altitude (m): c.400
746 Central map ref. (NZTM): 1452097E-5155207N	Area Size (ha): 0.67	Altitude (m): c.420
747 Central map ref. (NZTM): 1453040E-5152859N	Area Size (ha): 6.20	Altitude (m): c.560
748 Central map ref. (NZTM): 1455498E-5153981N	Area Size (ha): 0.97	Altitude (m): c.400
Assessor: Mike Harding	Survey Time: n/a	Survey Date: n/a

General Description:

These SNAs comprise areas that appear to support wetland vegetation and (at SNA 748) an area of open water. SNA 745 lies on the floodplain of the Rangitata River. SNA 746 lies on a low terrace (glacial bench?) just above the Rangitata River floodplain. SNA 747, the largest of the wetlands, lies in the broad valley alongside Rangitata Gorge Road. And, SNA 748 occupies a shallow gully/swale at the inland edge of a broad terrace above the Rangitata River.

Plant Communities:

As far as can be determined from aerial photographs, it appears that these four areas support wetland vegetation. An extensive area of sedgeland appears to be present at SNA 747, which is apparently fenced from grazing animals. Smaller areas of sedgeland and/or rushland appear to be present at the other wetlands. Willows (*Salix* sp.) are present at the first three SNAs, but appear absent from SNA 748. SNA 748 appears to have intact indigenous shrubland/scrub along part of its margin.

Notable Flora, Fauna and Habitats:

Important features of these SNAs are: the presence of indigenous wetland vegetation; the habitats they provide for wetland birds; and that wetlands are nationally rare ecosystems that are regarded as a priority for protection. The first three wetlands (745, 746 and 747) lie within land environments (K1.1b and K3.1b) in which indigenous vegetation is regarded as 'chronically-threatened' or 'at risk' (Walker *et al*, 2005). SNA 747 appears to be one of the largest wetlands remaining in this part of Orari Ecological District.

Notable Plant and Animal Pests:

Assessment of plant and animal pests was not possible. However, willow, presumably crack willow (*Salix fragilis*), is present in three of the wetlands.

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

The boundaries of these areas are drawn to include the main areas of wetland vegetation and the wetland margins, though accurate definition of the wetland boundaries is difficult from aerial photographs. The wetlands are isolated from one another, though SNA 747 is apparently fenced and SNA 748 appears relatively well buffered by indigenous shrubland.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M to M/H	Indigenous vegetation which appears moderately to highly representative of the original vegetation and is probably typical of that remaining in the ecological district.
Rarity	H	Wetlands are nationally rare ecosystems and are uncommon in the ecological district; three are within 'chronically threatened' or 'at risk' land environments.
Diversity and pattern	?	
Distinctiveness/special features	?	
Other Criteria		
Size/shape	L/M to M/H	Small to moderate-sized wetlands, all of which appear relatively well buffered.
Connectivity	L/M	The wetlands are isolated from each other, though contribute to a network of wetland habitat (including the riverbed) in the wider area.
Long-term Sustainability		Unclear.

H=high; M=moderate; L=low

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

These areas appear to have been set aside from farm development and, in the case of SNA 747, deliberately protected from grazing animals. The areas have only limited potential for farm development.

Discussion:

If the above assessment is accurate, these sites very easily meet the District Plan criteria for SNAs. Important values are the presence of wetland vegetation, the habitat they provide for birds and the presence of indigenous vegetation in a chronically-threatened/at risk land environments.

TIMARU DISTRICT SNA SURVEY

SNA 749 to 751

Area Name: Whiterock scrub/treeland

Ecological District: Orari

749 Central map ref. (NZTM): 1456064E-5153261N

750 Central map ref. (NZTM): 1455997E-5152707N

751 Central map ref. (NZTM): 1454612E-5151274N

Assessor: Mike Harding

Property: Whiterock Station

Nearest Locality: Peel Forest

Area Size (ha): 17.1 **Altitude (m):** c.400-600

Area Size (ha): 46.7 **Altitude (m):** c.400-700

Area Size (ha): 14.9 **Altitude (m):** c.500-600

Survey Time: n/a **Survey Date:** n/a

General Description:

These SNAs comprise areas that appear to support relatively large areas of indigenous shrubland, scrub and trees on steep rocky slopes. SNA 749 lies on northeast-facing slopes above Rangitata Gorge, at the east corner of the property. SNA 750 lies on steep south-facing slopes above Boundary Stream, at the east corner of the property. SNA 751 lies on moderately-steep southeast-facing slopes above Boundary Stream at the south corner of the property. These three SNAs are separated by discontinuous areas of shrubland, scrub and possibly tussockland. These intervening areas may support significant indigenous vegetation, though it is not possible to determine that from the aerial photographs.

Plant Communities:

Indigenous vegetation at these SNAs appears to be predominantly scrub, with lesser areas of forest/treeland, shrubland, rockland, tussockland and fernland. Small forest patches are present in incised gullies at SNA 749 and on lower slopes at SNAs 750 and 751. These patches are likely to be dominated by broadleaf (*Griselinia littoralis*). Other tree species likely to be present are mountain ribbonwood (*Hoheria lyallii*), lancewood (*Pseudopanax crassifolius*), fuchsia (*Fuchsia excorticata*), kohuhu (*Pittosporum tenuifolium*), kowhai (*Sophora microphylla*) and possibly five-finger (*Pseudopanax arboreus*) (or three-finger: *P. colensoi*). Totara (*Podocarpus totara*) may be present.

Treeland is present on higher slopes at SNA 750. This appears to be dominated by mountain ribbonwood. Some areas of cabbage tree (*Cordyline australis*) treeland appear to be present on lower slopes.

Scrub and shrubland communities on lower slopes are likely to be dominated by mingimingi (*Coprosma propinqua*), *Coprosma rugosa*, mountain wineberry (*Aristotelia fruticosa*) and matagouri (*Discaria toumatou*). Other shrub species possibly present are *Coprosma tayloriae*, *Coprosma rigida*, *Olearia bullata*, native broom (*Carmichaelia australis*) and, on drier slopes, prostrate kowhai (*Sophora prostrata*), korokio (*Corokia cotoneaster*) and *Coprosma crassifolia*. Additional shrub species on higher slopes are likely to be inaka (*Dracophyllum uniflorum*), turpentine shrub (*Dracophyllum longifolium*) and possibly snowberry (*Gaultheria*) species and *Hebe* species.

Open vegetation between areas of scrub and forest is, on shady slopes, likely to be dominated by narrow-leaved snow-tussock (*Chionochloa rigida*) and golden speargrass (*Aciphylla aurea*). Other species likely to be commonly present are prickly shield fern (*Polystichum vestitum*), mountain kiokio (*Blechnum montanum*), cotton daisy (*Celmisia spectabilis*), mountain flax (*Phormium cookianum*), scrambling fuchsia (*Fuchsia perscandens*), tutu (*Coriaria sarmentosa*) and bracken (*Pteridium esculentum*).

Rock outcrops and bluffs are likely to be sparsely vegetated, though plant species present will be highly representative of the original vegetation.

Birds/Fauna Observed:

Native birds typically present at similar sites are bellbird, grey warbler, fantail, silvereye, welcome swallow and harrier. Karearea/eastern falcon is likely to be present.

Notable Flora, Fauna and Habitats:

Important features of these areas are: the presence of indigenous woody vegetation (now uncommon in this part of the ecological district), the habitat this vegetation provides for birds (and probably lizards), the buffering this vegetation provides to Boundary Stream, and the size of the areas.

Notable Plant and Animal Pests:

Assessment of plant and animal pests was not possible.

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

The boundaries of these areas are drawn to include the main areas of denser woody vegetation. These boundaries must be regarded as tentative, as they have not been ground-surveyed. The sites do not appear to be fenced and are grazed as part of large paddocks.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M to M/H	Woody vegetation at these sites is moderately representative of the original vegetation (moderate-high for forest) and typical of that remaining in the ecological district.
Rarity	M	Indigenous woody vegetation (especially forest) is now rare in this part of the ecological district.
Diversity and pattern	?	
Distinctiveness/special features	M	Vegetation at these sites helps buffer Boundary Stream.
Other Criteria		
Size/shape	M/H	Moderate-sized to large sites that are well buffered by their locations on steep rocky slopes.
Connectivity	M	Appear connected to each other by discontinuous shrubland, scrub and tussockland, providing a network of fauna habitat.
Long-term Sustainability		Unclear.

H=high; M=moderate; L=low

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

These areas appear generally unsuitable for farm development. They appear to have been set aside from farm development and informally protected by the landowners. The areas are at or near the property boundary and do not appear to provide important access through the property.

Discussion:

If the above assessment is accurate, these sites meet the District Plan criteria for SNAs. Important values are the presence of indigenous woody vegetation, habitat for birds and probably lizards, buffering of Boundary Stream, and the size of the areas. The values of these areas would be enhanced by the presence of 'at risk' or 'threatened' plant or animal species, but this is not possible to determine without a field survey.

References Cited

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