

TIMARU DISTRICT COUNCIL
SIGNIFICANT NATURAL AREAS
SURVEY
WASHDYKE FLAT WETLAND
LIST PROPERTY



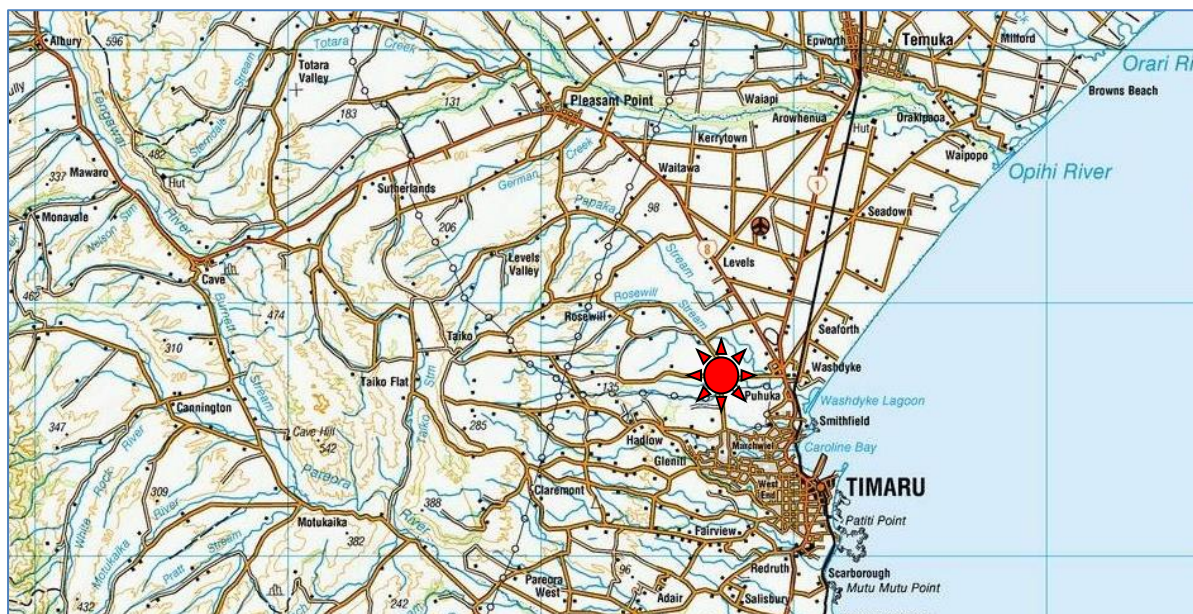
Report prepared for Timaru District Council
Mike Harding
April 2022

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY PROPERTY REPORT

PROPERTY DETAILS:

Owner: List
Valuation Reference: ... 24840-14301
Location:..... Washdyke Flat Road, Timaru
Ecological District:..... Makikihi
Land Environment: N3.1b

LOCATION AND DESCRIPTION:



Location of List Property (red star).

The List property is located on low-lying country inland (west of) Washdyke, at the northern edge of Timaru. Underlying geology is unconsolidated mud, sand, gravel and peat of alluvial origin (GNS Science, NZ Geology Web Map.). It is drained by a small tributary of Oakwood Stream, which flows via Washdyke Creek to the coast at Washdyke Lagoon.

ECOLOGICAL CONTEXT:

The property lies in Makikihi Ecological District (McEwen, 1987), and within the N3.1b Level IV Land Environment as defined by Leathwick *et al* (2003).

It is likely that the original vegetation of this low-lying part of the ecological district was podocarp-broadleaved forest, dominated by kahikatea, totara, lowland ribbonwood, kowhai, broadleaf and other broadleaved trees, with sedgeland-rushland-reedland at poorly-drained sites.

Today the original vegetation cover in this part of Makikihi Ecological District is largely confined to small remnants in gullies or on steep slopes, with occasional much-depleted valley-floor wetlands. 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.

SURVEY METHOD AND COVERAGE:

The field survey upon which this report is based was undertaken over one hour on 6th April 2022. The purpose of the field survey was to determine the presence and extent of significant indigenous vegetation and significant habitats of indigenous fauna.

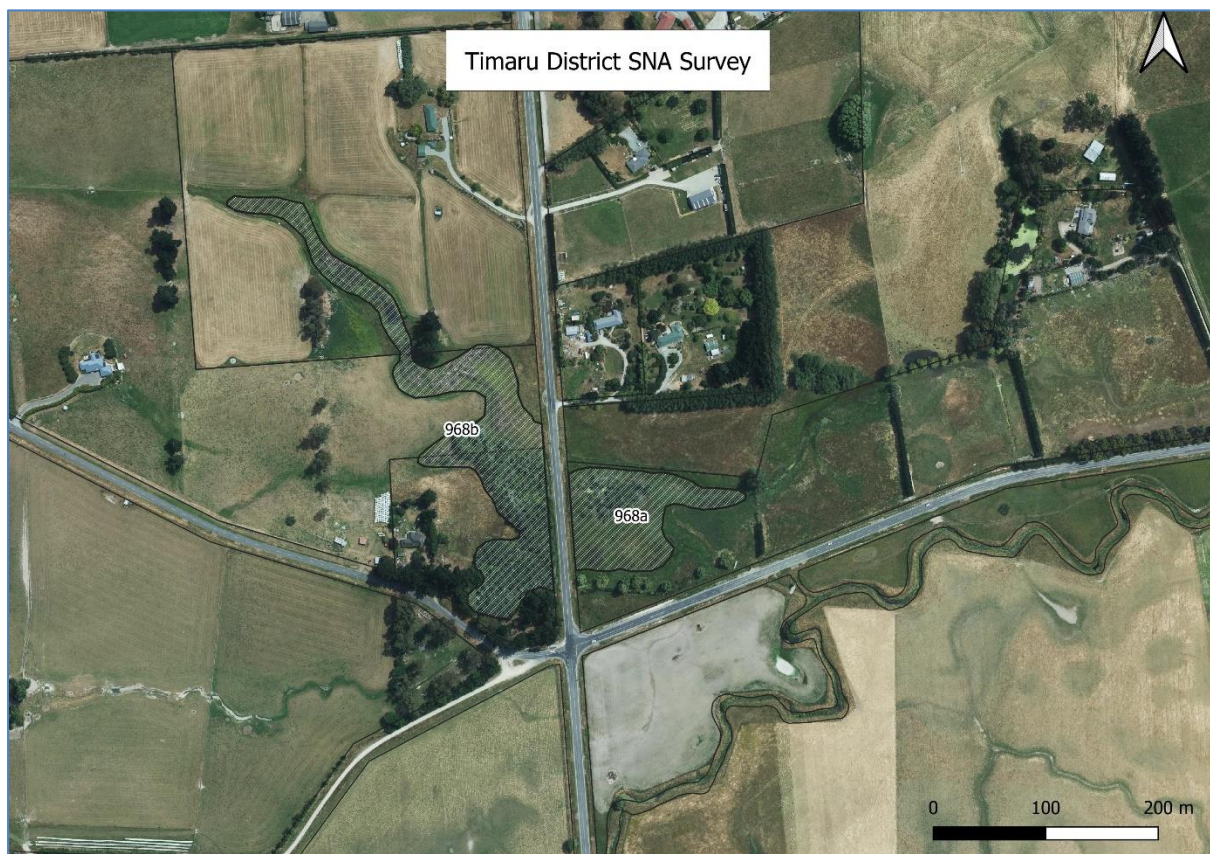
Names of indigenous plant species cited in this report are as listed on the Ngā Tipu o Aotearoa-New Zealand Plants database (Manaaki Whenua-Landcare Research). Plant community names follow the method proposed by Atkinson (1985). The threat status of indigenous species is as listed in publications of the Department of Conservation, as referenced in this report.

SIGNIFICANT NATURAL AREAS ON THE PROPERTY:

One area is assessed as a significant natural area (SNA) under the Timaru District Plan and Canterbury Regional Policy Statement (RPS) criteria. This area is a wetland which extends across four properties. It is separated into two parts by Rosewill Valley Road. SNA 968a lies on the List property, east of Rosewill Valley Road.

SNA No.	Central Map Reference (NZTM)	Aprox. size(ha)	Vegetation/habitat type
968a	1457062E-5087014N	0.88	<i>Typha</i> reedland; <i>Carex</i> sedgeland; willow forest
968b		1.89	

The extent of this SNA is illustrated on the aerial photograph below. The SNA is described in greater detail on the SNA Survey Form in this report.



Washdyke Flat Wetland SNA 968a (right-hand white-hatched area).

TIMARU DISTRICT SNA SURVEY

SNA 968a

Ecological District: Makikihi	Nearest Locality: Washdyke	
Map ref. (NZTM): 1457062-5087014N	Size (ha): 0.88	Altitude (m): 10
Surveyor/Assessor: Mike Harding	Survey Time: 1 hour	Survey Date: 06-04-22

GENERAL DESCRIPTION:

This SNA comprises a poorly-drained area (wetland) on the valley floor of a small un-named stream in the Oakwood Stream/Washdyke Creek catchment. It is part of a larger area of wetland vegetation that extends upstream on the west side of Rosewill Valley Road (SNA 968b). The wetland is part of a farm paddock that appears to have been previously modified by excavated drains.

VEGETATION/HABITAT TYPES:**Vegetation**

Three main vegetation types are present at this part of the wetland: raupo reedland; *Carex* sedgeland; and willow forest. This vegetation is described below. Naturalised (exotic) species are indicated with an asterisk*. A list of species recorded at the site is appended to this report.

Most parts of the wetland comprise sedgeland, dominated by *Carex sinclairii*. Other plant species commonly present are rautahi (*Carex coriacea*), jointed rush* (*Juncus articulatus*), soft rush* (*Juncus effusus*), sharp spike-sedge (*Eleocharis acuta*), creeping buttercup* (*Ranunculus repens*), celery buttercup* (*Ranunculus sceleratus*), water cress* (*Rorippa* sp.), Yorkshire fog* (*Holcus lanatus*) and stitchwort* (*Stellaria graminea*). Also present in areas of open water are duckweed (*Lemna minor*) and retoreto (*Azolla filiculoides*).



Carex sedgeland (centre) and willow forest (right rear) at SNA 968a.

The sedgeland vegetation grades to grassland at better drained sites (largely excluded from the SNA). Additional species present at the sedgeland margin are pasture grasses*, white clover* (*Trifolium repens*), bachelor's button (*Cotula coronopifolia*), narrow-leaved plantain* (*Plantago lanceolata*), broad-leaved dock* (*Rumex obtusifolius*), great bindweed* (*Calystegia silvatica*), Chewings fescue (*Festuca rubra*), Scotch thistle* (*Cirsium vulgare*) and Californian thistle* (*Cirsium arvense*). Other species present at the paddock edge are gorse* (*Ulex europaeus*) and willow* trees (*Salix* sp.).

A small area of low-forest is present at the centre of the wetland. This was not inspected closely. It is dominated by grey willow* (*Salix cinerea*).

A small patch of raupo (*Typha orientalis*) reedland is present between the patch of grey willow and the wetland edge at Rosewill Valley Road.



Raupo reedland (left centre) and willow forest (centre) at SNA 968a.

Habitats of Indigenous Fauna

Native bird species observed at or adjacent to the SNA during this survey were fantail (*Rhipidura fuliginosa*), grey warbler (*Gerygone igata*), harrier (*Circus approximans*), paradise shelduck (*Tadorna variegata*) and pukeko (*Porphyrio porphyrio*).

RARE/NOTABLE SPECIES, HABITATS OR COMMUNITIES:

The site supports wetland vegetation; an ecosystem which is depleted nationally and listed as a priority for protection (MfE & DOC, 2007). The Level IV Land Environment (N3.1b) in which the SNA lies is an ‘acutely threatened’ land environment, with less than 10% of indigenous cover remaining nationally (Cieraad *et al*, 2015). No ‘threatened’ or ‘at risk’ plant or bird species were recorded at the site during this survey.

ASSESSMENT OF ECOLOGICAL SIGNIFICANCE:

Significant Natural Areas (SNAs) are determined by assessing indigenous vegetation and habitats of indigenous fauna against the criteria in Appendix 3 of the Canterbury Regional Policy Statement (RPS), with reference to the guidelines for application of these criteria (Wildlands, 2013); and by criteria in the Timaru District Plan, with reference to assessment guidelines (Harding, 2012).

Selecting boundaries for SNAs can be problematic, as vegetation boundaries are not precise (plant communities frequently grade from one type to another) and habitats of indigenous fauna are not easily determined through brief site surveys. In this assessment the SNA boundary is drawn to encompass the main areas of wetland vegetation. This includes areas of grey willow but excludes areas dominated by pasture grasses.

Assessment against Canterbury Regional Policy Statement Appendix 3 criteria:

Criteria	Yes/No Rank	Assessment
Representativeness	Yes M	1. A degraded example of indigenous vegetation, representing one of the best that remains in this part of the ecological district.
Rarity/Distinctiveness	Yes H	3. Indigenous vegetation/habitat that has been reduced to less than 20% of its former extent in the ecological district.
Diversity and Pattern	No L	7. A low diversity of indigenous ecosystems, habitat types, or taxa.
Ecological Context	Yes	9. A riparian wetland on a stream that flows into a coastal lagoon.

Assessment against Timaru District Plan Part B criteria:

Primary Criteria	Rank	Assessment
Representativeness	M	A depleted example of indigenous vegetation which is typical of that remaining in the ecological district.
Rarity	H	The area supports indigenous vegetation that has been reduced to <10% of its former extent; The area supports a nationally-depleted ecosystem (wetland).
Diversity and Pattern	L/M	A substantially depleted indigenous plant community.
Distinctiveness/Special Features	L	The area does not support species at distributional limits, intact sequences, or other special features. Fauna habitat

		was not thoroughly surveyed.
Other Criteria		
Size/Shape	M	The area is moderate-sized and partly buffered.
Connectivity	M	The area is isolated from other areas of indigenous vegetation/habitat but is part of a lowland stream system.
Sustainability	M	The area is modified, but the indigenous vegetation appears resilient.

The area is significant when assessed against the Canterbury Regional Policy Statement criteria, principally because it supports indigenous vegetation that has been reduced to less than 20% of its former extent in the ecological district, and supports a riparian wetland in the catchment of a coastal lagoon. It is part of a larger wetland that supports the largest known area of raupo reedland in this part of the ecological district.

CONDITION AND MANAGEMENT:

This part of the wetland is quite modified. It lies within a grazed paddock and is likely to be affected by the presence of a drainage ditch at its southern margin and possibly other older drains. Exotic plant species are common, as is typical for lowland wetlands, though the reedland and sedgeland communities are dominated by indigenous species. Important invasive exotic species present are gorse and grey willow.

Ecological and hydrological values of the wetland would be improved by removal of grazing, and removal or control of grey willow and gorse.

REFERENCES CITED:

Atkinson, I.E.A. 1985. Derivation of mapping units for an ecological survey of Tongariro National Park, North Island, New Zealand. *NZ Journal of Botany* 23: 361-378.

Harding, M.A. 2012. Survey and assessment of significant natural areas (SNAs) Timaru District: Guidelines for application of the District Plan criteria. *Unpublished Report*, Timaru District Council. 10p.

Cieraad, E.; Walker, S.; Price, R.; Barringer, J. 2015. An updated assessment of indigenous cover remaining and legal protection in New Zealand's land environments. *NZ Journal of Ecology* 39: 309-315.

Leathwick, J.; Wilson, G.; Rutledge, D.; Wardle, P.; Morgan, F.; Johnston, K.; McLeod, M.; Kirkpatrick, R. 2003. *Land Environments of New Zealand*. David Bateman, Auckland. 184p.

McEwen, W.M. (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.

MfE and DOC, 2007. Protecting Our Places. Ministry for the Environment and Department of Conservation, Wellington.

Wildlands. 2013. Guidelines for the application of ecological significance criteria for indigenous vegetation and habitats of indigenous fauna in Canterbury Region. *Contract Report 2289i*. Environment Canterbury, Christchurch.



Raupo reedland at the SNA boundary beside Rosewill Valley Road

Species List

Species' scientific names are as listed in the Manaaki Whenua/Landcare Research Nga Tipu o Aotearoa New Zealand Plants database.

Abundance classes:

: r=rare; o=occasional; m=moderate numbers; lm= locally moderate; c=common; lc=locally common; f=frequent; lf=locally frequent; e=present only at edge/margin; x=present but abundance not noted; p=planted; a=adjacent/nearby (birds)

Indigenous Plant Species

Scientific name	Common name	Abundance
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Ferns and Fern Allies

Azolla filiculoides	retoreto	lm
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Herbaceous (non-woody) plants

Carex coriacea	rautahi	lc
Carex sinclairii	sedge	lc
Cotula coronopifolia	bachelor's button	o
Eleocharis acuta	spike sedge	m
Lemna minor	duckweed	o
Typha orientalis	raupo	lc

Naturalised (exotic) Plant Species

Cirsium arvense	Californian thistle	lm
Cirsium vulgare	Scotch thistle	o
Festuca rubra ssp. commutata	Chewings fescue	e
Juncus articulatus	jointed rush	lc
Juncus effusus	soft rush	o
Plantago lanceolata	narrow-leaved plantain	m
Ranunculus repens	creeping buttercup	lm
Ranunculus sceleratus	celery-leaved buttercup	o
Rorippa sp.	watercress	o
Rumex obtusifolius	broad-leaved dock	o
Salix cinerea	grey willow	lc
Stellaria graminea	stitchwort	o
Trifolium repens	white clover	lc
Ulex europaeus	gorse	e

Bird Species

Circus approximans	harrier
Gerygone igata	grey warbler
Rhipidura fuliginosa	fantail
Tadorna variegata	paradise shelduck
Porphyrio porphyrio	pukeko