

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

GRAY PROPERTY



Report prepared for Timaru District Council
by
Mike Harding and Mark Davis
March 2012

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Andrew Gray
Valuation References: 24860/117.00
Address: 74 Scarborough Road, RD1, Timaru.
Location: Normanby Lagoon and Ellis Road
Ecological District:..... Makikihi Ecological District.
TDC Land Type:..... 'Soft Rock Hills and Downs'
Land Environment: N3.1b (eastern South Island undulating plains and hills).

ECOLOGICAL CONTEXT:

The property covers low-lying coastal slopes adjacent to and north of Normanby Lagoon on the coast south of Timaru. The property lies in Makikihi Ecological District.

It is likely that the original vegetation of this area was predominantly wetland and coastal (dune) vegetation adjacent to the lagoon and beach, grading to coastal forest on inland slopes. Widespread loss of indigenous vegetation in this part of Timaru District makes it difficult to determine the precise nature of the original vegetation. An area near Normanby Lagoon was occupied in pre-European times, so there is likely to be a long history of vegetation disturbance. Normanby Lagoon has since been altered by construction of the railway line along the coastal margin of the lagoon/wetland.

Normanby Lagoon/wetland is one of few areas of open water and wetland habitat on the South Canterbury coast. It provides regionally important habitat for migratory, wading and coastal birds. A detailed survey of indigenous fauna was not possible during this survey, though the values of the lagoon/wetland are recognised by protection of part of the lagoon as Normanby Wetland Conservation Area (formerly Normanby Wetland Wildlife Management Area).

SIGNIFICANT AREAS ON THE PROPERTY:

Indigenous vegetation and habitat on the property comprises an area of herbfield on a muddy substrate and open water at the margin of Normanby Lagoon, and a smaller area of modified wetland vegetation at the coastal end of Ellis Road.

The property was surveyed as part of the District-wide survey of Significant Natural Areas by ecologist Mark Davis during January 2012. These two areas (SNA 96e and 96f) are regarded as a Significant Natural Areas (SNAs) when assessed against the District Plan criteria.

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 draining, burning, spraying with herbicides and over-planting. SNAs encompass most, but not necessarily all, areas of vegetation and habitat which meet the Interim Definitions.

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.

Scientific names of species cited by common name in this report	
<i>(Note: this is not a complete species list; it is a list only of species cited by common name in this report)</i>	
Common Name	Scientific name
(* = naturalised species)	
arrow grass.....	<i>Triglochin striatum</i>
bachelor's button.....	<i>Cotula coronopifolia</i>
bindweed*.....	<i>Calystegia sp.</i>
broom*.....	<i>Cytisus scoparius</i>
buck's horn plantain*.....	<i>Plantago coronopus</i>
celery-leaved buttercup*.....	<i>Ranunculus sceleratus</i>
coastal goosefoot.....	<i>Chenopodium glaucum ssp. ambiguum</i>
cocksfoot*.....	<i>Dactylis glomerata</i>
creeping bent*.....	<i>Agrostis stolonifera</i>
curled dock*.....	<i>Rumex crispus</i>
duckweed.....	<i>Lemna minor</i>
glasswort.....	<i>Sarcocornia quinqueflora</i>
gorse*.....	<i>Ulex europaeus</i>
marram grass*.....	<i>Ammophila arenaria</i>
marsh foxtail*.....	<i>Alopecurus geniculatus</i>
marsh ribbonwood.....	<i>Plagianthus divaricatus</i>
orache*.....	<i>Atriplex patula</i>
radiata pine*.....	<i>Pinus radiata</i>
retoreto.....	<i>Azolla filiculoides</i>
salt barley grass*.....	<i>Critesion marimum</i>
salt grass.....	<i>Puccinellia stricta</i>
scrub pohuehue.....	<i>Muehlenbeckia complexa</i>
three square.....	<i>Schoenoplectus pungens</i>
toad rush*.....	<i>Juncus bufonius</i>
tree lupin*.....	<i>Lupinus arboreus</i>
twitch*.....	<i>Elytrigia repens</i>
watercress*.....	<i>Rorippa sp.</i>
white clover*.....	<i>Trifolium repens</i>

1:5,000



Gray Property
24860/117.00

Area Name: Normanby wetland
Location (NZMS 260): 2370686-5637954
Ecological District: Makikihi
Surveyors: Markus Davis

Property: Andrew Gray
Nearest Locality: Normanby
Area Size (ha): 1.26 **Altitude (m):** 10-20
Survey Time: ½ hour **Survey Date:** 19-01-12

General Description:

This SNA lies at the northeast margin of Normanby Lagoon. The lagoon and adjacent wetland vegetation lie at the end of a small un-named stream which drains low-lying country to the northwest. The lagoon/wetland occupies an area of approximately 450m x 300m on the floodplain between stream terraces. A small but central part of the lagoon/wetland is protected as Normanby Wetland Conservation Area, administered by the Department of Conservation. At the time of this survey the wetland was largely under water, though during a visit in February 2010, a substantial area of mud flats were exposed. The wetland is largely bounded by farmland to the north, west and south with a mixed sand/gravel beach and low dunes to the northeast. The main trunk railway line runs between this property and the dunes.

Plant Communities/Habitats:

Three main plant communities or habitats are present within this SNA and these are described below. Naturalised (exotic) species are indicated with an asterisk*.

Shoreline beach

A narrow silty beach about 0.5 to 1m wide is exposed above the water margin. It is gently sloping and supported little vegetation at the time of this survey. The beach appears to be well used by waterfowl as there are numerous footprints and widespread droppings. Plants noted on the beach include moss, seedlings of orache* (?), buck's horn plantain*, celery-leaved buttercup*, occasional bachelor's button, curled dock* and a few small groups of *Bolboschoenus caldwellii*.

Open water

Most of the property within the wetland is comprised of open shallow water. It provides habitat for a range of waterbirds and waders. It is expected that some mudflat vegetation may be present under the water, at least adjacent to the beach. This would be likely to support a range of species characteristic of mudflats in the wetland e.g. bachelor's button, *Mimulus repens*, *Lilaeopsis novae-zelandiae* and arrow grass.

Dryland grassland and pines

The terrace riser above the beach is characterised by exotic grassland and herbs, especially twitch*, creeping bent* and cocksfoot*. Mosses are locally common along with mounds of *Einadia nutans** and patches of scrub pohuehue. Large radiata pines are scattered along the terrace riser rather like an open shelter belt. Pine seedlings, some young gorse* plants, occasional seedlings of tree lupin* and rare plants of *Senecio glomeratus* are present here.

Birds/Fauna Observed:

Several shags were seen roosting in the branches of the pine trees and one nest was present on a branch. A variety of ducks, swans and waders were seen on the open water and some of them would clearly make use of this portion of the property.

Notable Flora, Fauna and Habitats:

Patches of vegetation are likely to be present under the water, at least adjacent to the beach. These comprise the most common plant community of the wider wetland and are notable because of the limited extent of mud turfs along this coast. All of these habitats, the shallow water and the beach are likely to be used by a variety of water birds. The pines provide roosting and nesting habitat for shags.

Notable Plant and Animal Pests:

The main plant pests are tree lupin* and gorse*. Gorse is more common and could spread in dryland habitats, but does not pose a significant threat to the wetland.

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

The grassy terrace riser fulfils a valuable buffering function between the wetland and the farmland above the terrace. The farmland here consists of a paddock currently used for cropping. The riser is fenced off from the paddock and sediment washed off any exposed soil in the paddock would be likely to be intercepted by the grassy vegetation of the riser.



The steep terrace riser largely characterised by exotic grasses, radiata pine and a narrow beach extending into open water. This area is fenced off from the farmland above and fulfils a valuable buffering function.

Condition and Management Issues:

This portion of the wetland is in a relatively natural condition, and it appears that stock do not gain access to the wetland from this property. Retaining the pines here is likely to be of benefit to shags and perhaps some other birds.

Property Owner Comment:

Mr Gray is happy with identification of this site as an SNA.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	The open water and mudflats are characteristic of the original wetland vegetation.
Rarity	H	Lies in an acutely-threatened land environment; wetlands are a nationally rare ecosystem. Provides habitat for threatened bird species.
Diversity and pattern	M	Open water, narrow shore, mudflats and tree roosting habitat.
Distinctiveness/special features	M	Regionally important habitat for water birds. The presence of a wetland of this nature and size in an intensively farmed area is notable.
Other Criteria		
Size/shape	L/M	The wetland portion of the property is quite compact.
Connectivity	M/H	The area is part of a much larger area of wetland vegetation and habitat.
Long-term Sustainability	M	Good, providing the entire wetland and the lower stream is protectively managed as one unit, and stock are excluded.

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

The open water and shore portion of the property, identified as an SNA in this report, has very limited potential for farm development, whereas it is an integral part of an important wetland.

Discussion:

The value of this SNA is two-fold. The first is the shallow open water which provides habitat for birds and invertebrates and is an integral part of the wider wetland. Any mudflats beneath the water and the narrow beach are of similar value to fauna, while the pines are used by shags in particular. Secondly, existing management of the terrace riser contributes to buffering the wetland. Continued exclusion of stock from the wetland will help maintain its habitat values.

Area Name: Ellis Road wetland
Location (NZMS 260): 2370686-5637954
Ecological District: Makikihi
Surveyors: Markus Davis

Property: Andrew Gray
Nearest Locality: Normanby
Area Size (ha): 1.52 **Altitude (m):** 0-10
Survey Time: 2½ hours **Survey Date:** 20-01-12

General Description:

This wetland lies immediately north of Ellis Road, the main portion being about 150m or more across. An old fence crosses the wetland on its northern side, and a farm track is present at the inland boundary of the SNA, parallel to the railway embankment. The main part of the wetland had considerable standing water at the time of this visit, though during a February 2010 visit it was much drier. The wetland is bounded by farmland to the north and west, a mixed sand and gravel beach to the east, and a former refuse dump to the south.

Plant Communities:

Four main plant communities or habitats are present and these are described below. Naturalised (exotic) species are indicated with an asterisk*.

Bolboschoenus caldwellii depressions

Substantial areas of *Bolboschoenus caldwellii* are associated with low-lying depressions between higher surfaces. Many of these areas are muddy underfoot and some contained free standing water. Other common plants in this community are creeping bent* and twitch*. Duckweed is occasionally present. Other plant species may be present in drier periods, but were not apparent during this visit.

Salt meadow turf

This community is present in a small dry depression where there is exposed silt. The depression was dominated by glasswort, with less salt grass, bachelor's button, buck's horn plantain* and coastal goosefoot. *Lachnagrostis littoralis* ssp. *salaria*, orache* and salt barley grass* are present but very uncommon. Surrounding areas are typically dominated by creeping bent* and twitch*.

Open water areas

Channels and large ponds of open water were widespread during this visit. Plant distribution was restricted to a little duckweed, retoretto, *Bolboschoenus caldwellii* and rarely *Mimulus repens*, three-square and bachelor's button seedlings. These areas are mostly surrounded by rough pasture.

During a previous visit in 2010, the channels and ponds were largely dry and they supported a salt meadow community. Prominent species at that time were bachelor's button, *Bolboschoenus caldwellii*, coastal goosefoot, orache*, glasswort, *Lachnagrostis littoralis* ssp. *salaria*, creeping bent*, three-square, toad rush*, celery-leaved buttercup* and rarely *Mimulus repens*.

Rough grassland

Uneven higher ground is totally dominated by twitch* and creeping bent*. Curled dock* occurs locally and one large mound of marsh ribbonwood about 8m across is present. Close to the rear beach, scattered gorse* occurs among the grassland. A variety of exotic grasses and herbs are associated with the old dump area, including bindweed*. Broom* is common among the grasses of the railway embankment.

Birds/Fauna Observed:

A pair of pied stilts was seen, their distressed behaviour suggesting they were nesting. Several waterfowl and ducklings were also seen, probably mallards.

Notable Flora, Fauna and Habitats:

The wetland provides some relatively small areas of salt meadow habitat and limited habitat for waders and waterfowl.

Notable Plant and Animal Pests:

The main plant pests are broom*, gorse* and marram grass*, all being present on adjacent land. Some plants may be able to establish among the rough grassland but they do not pose a significant threat to the wetland. Marsh foxtail* is present nearby. It is an invasive grass of mud surfaces and wetland turfs and may threaten the wetland.

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

Adjoining farmland is used for cropping, and the farm track is important to provide continued access to the northern paddocks (Andrew Gray, *pers.comm.*). Buffering of the wetland would help protect its ecological values. The railway embankment harbours a considerable amount of broom, and this could spread into drier parts of the wetland i.e. rough grassland on ridges and mounds. Gorse could spread to similar parts of the wetland from the rear beach.

Condition and Management Issues:

The main issue for the wetland is the dominance of exotic grasses beyond the wet areas. Providing the water supply is maintained from the stream and groundwater from tidal pressure, the brackish water of the channels and ponds should be maintained for the foreseeable future. The presence of marsh foxtail* is a concern, and it certainly is worth checking to see if it is present in the main wetland.

Property Owner Comment:

Mr Gray requires continued use of the farm track to gain access to parts of his property. This track and areas on the inland side of the railway embankment have been excluded from the SNA.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	L/M	Limited areas of open water, sedge habitat and salt meadow
Rarity	H	The wetland lies in an acutely-threatened land environment. Wetlands are a nationally rare ecosystem.
Diversity and pattern	L/M	There is some habitat diversity, but the area is small.
Distinctiveness/special features	L/M	The presence of a wetland in an intensively farmed area is notable, but it is small and weedy.
Other Criteria		
Size/shape	L/M	The wetland is fairly small and compact, but is in two parts.
Connectivity	L/M	A culvert provides some hydrological connectivity for the wetland. Birds can move between here and other nearby wetlands such as Normanby Lagoon.
Long-term Sustainability	M	Providing the water supply is maintained and weeds do not take over the wetland.

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

This small modified wetland only just meets the District Plan's significance criteria. The primary significance of the site is that it is an area of open water, with some wetland plant communities, in a part of the District in which natural habitats are substantially depleted. A large part of this SNA lies outside the property boundary.

Discussion:

This wetland is of some value as it contains small areas of indigenous plant communities or habitats, and it is used by a limited number of birds. Water is the key to the wetland's future, and providing the small ephemeral stream continues to supply water the wetland should persist. The stream has a small catchment in a farmed landscape and the low-lying nature of the wetland may mean it will be maintained by groundwater. The wetland may be influenced by tidal pressure and storm waves may also occasionally supply sea water to the wetland.



Open water, *Bolboschoenus caldwellii* and emergent mud surfaces, with the railway embankment and broom behind.