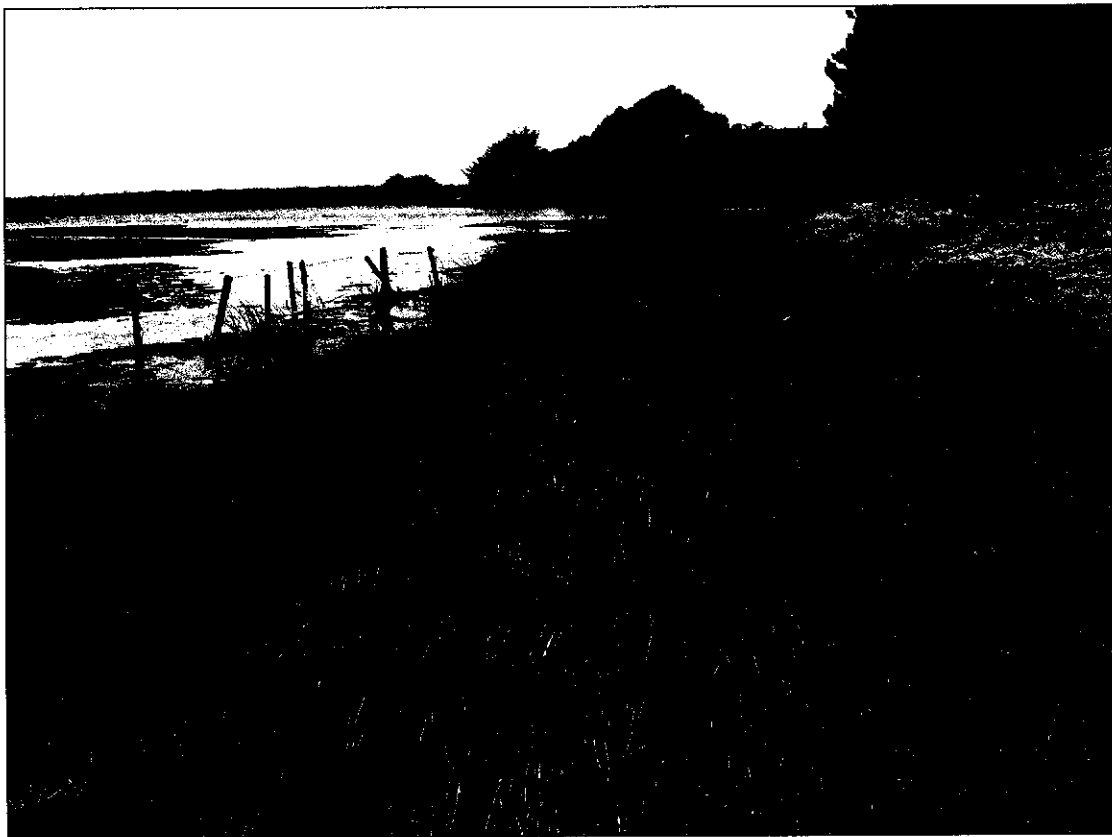


TIMARU DISTRICT

SIGNIFICANT NATURAL AREAS
SURVEY

KEYS (ATKINSON) PROPERTY



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

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Paul Keys and Alan Atkinson
Valuation References: 24860/169.00
Address: 23 William Street, RD1, Normanby.
Location: Southwest edge of Normanby Lagoon.
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 slopes adjacent to 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 stream/lagoon, 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. The area 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 and other wetland vegetation on a muddy substrate at the lagoon/wetland margin. This vegetation and habitat is an integral part of a much larger area of wetland vegetation and habitat that includes a DOC-administered conservation area and vegetation and habitat on other lagoon-margin properties.

The property was surveyed as part of the District-wide survey of Significant Natural Areas by ecologist Mark Davis during January 2012. One relatively large area (SNA 96b) is regarded as a Significant Natural Area (SNA) when assessed against the District Plan criteria.

This SNA is illustrated on the attached aerial photograph and described in greater detail on the SNA Form in this report. Note that the boundaries of the SNA are indicative, rather than precise. This area meets the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19) and is 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

(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)

arrow grass	<i>Triglochin striatum</i>
bachelor's button.....	<i>Cotula coronopifolia</i>
coastal goosefoot.....	<i>Chenopodium glaucum</i> ssp. <i>ambiguum</i>
creeping bent*	<i>Agrostis stolonifera</i>
duckweed	<i>Lemna minor</i>
glasswort	<i>Sarcocornia quinqueflora</i>
gorse*	<i>Ulex europaeus</i>
orache*	<i>Atriplex patula</i>
retoreto	<i>Azolla filiculoides</i>
salt grass.....	<i>Puccinellia stricta</i>
three-square.....	<i>Schoenoplectus pungens</i>
twitch*	<i>Elytrigia repens</i>
Yorkshire fog*	<i>Holcus lanatus</i>

Atkinson Property
24860/169.00

1:2,500



TIMARU DISTRICT SNA SURVEY

SNA 96b

Area Name: Normanby wetland

Location (NZMS 260): 2370406-5637909

Ecological District: Makikihi

Surveyors: Markus Davis

Property: Paul Keys

Nearest Locality: Normanby

Area Size (ha): 1.85

Altitude (m): 10-20m

Survey Time: ¾ hour

Survey Date: 19-01-12

General Description:

This SNA lies at the southwest 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:

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

Salt meadow or mud turf

These turfs occur on the shoreline of the wetland extending from above the old earth dam to near the pine plantation. They also extend towards the wetland interior, though this area was not surveyed as it was partly under water and would have been very wet and fragile.

The shoreline turfs are mostly dominated by arrow grass, *Lilaeopsis novae-zelandiae*, *Mimulus repens* and salt grass. Seedlings of bachelor's button are locally common and as the plants grow and colonise further substrate surfaces, this species will become very common. Approximately 12 clumps of *Juncus edgariae* occur near the earth dam and the small channel which cuts behind the 'island' between this property and the Fincham property to the northwest. Near the base of the turf ridge extending east into the wetland, there is a substantial area of three-square on the shoreline which is about 50m x 1-5m. Many of the plants have been grazed by sheep and some have been trampled. The extent of this area is likely to increase when the water level falls as further plants emerge from the mud.

Based on a visit to the wetland in February 2010, the interior mudflats support a diversity of turf species including bachelor's button, three-square, *Mimulus repens*, coastal goosefoot, glasswort, *Lilaeopsis novae-zelandiae* and occasionally orache*.

Open water

Shallow water adjacent to the shoreline turfs supports algae, *Ruppia megacarpa*, retoreto and duckweed. *Bolboschoenus caldwellii* is sparsely scattered along an old fenceline in shallow water adjacent to the pine plantation. The extent of this species is also likely to increase as the water level falls. During a previous visit curly pondweed (*Potamogeton crispus**) was seen at the interior of the wetland.

Grassland

The land adjacent to and behind the shoreline turfs is dominated by exotic grasses including twitch*, creeping bent* and Yorkshire fog*. Some scattered gorse* is present on the area previously referred to as the 'island'. Discontinuous but sometimes substantial patches of salt grass occur within these grasslands, though they have been heavily grazed and trampled by sheep.

Birds/Fauna Observed:

A variety of water birds and waders were seen including ducks, pied stilt, black swans and what appear to be feral geese.

Notable Flora, Fauna and Habitats:

This property contains substantial areas of salt meadow, mud turf and open water and thus makes an important contribution to the biodiversity values of the wider wetland. The vegetation is notable because it represents original wetland communities and habitats of this coast. The area is used by a variety of waterbirds and waders and it also provides habitat for a range of invertebrates.

**Notable Plant and Animal Pests:**

Some gorse is present, but no animal pests or evidence of any were seen.

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

Part of the boundary fence shared with the Fincham property has been damaged by falling branches and this could allow stock to move further inland beyond the property. Much of the fence bordering the wetland margin is in poor condition and does not exclude stock from the wetland. The lower part of this fence is partly missing. The fence also includes wetland vegetation within the farmland, such as salt meadow and salt grass. At the southern corner of the plantation there is a small gap in the fence which may allow stock to move from the property to another part of the wetland. At the time of survey sheep were in the wetland, before moving back through the fence and onto grassland.

Condition and Management Issues:

The salt meadow, mud turfs and salt grass turf have been damaged by sheep trampling, pugging and grazing. In one area where a sheep track runs alongside the wetland margin, approximately 75% of the turf has been damaged. The area of three-square has also been grazed and trampled. Continued sheep access will cause further damage to the wetland, especially when water levels fall.

Adequate protection of the wetland vegetation would require the shoreline fence to be located further back from the wetland and to include a buffer area to reduce edge effects on the wetland such as sediment and nutrient inputs during periods of high rainfall.

Property Owner Comment:

My Keys is sympathetic to the natural values of the area and interested in further protection through fencing and/or planting.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	The salt meadow and mud turfs are representative 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/H	The full range of communities and habitats is present.
Distinctiveness/special features	M/H	Regionally important habitat for water birds. A wetland of this nature and size in an intensively farmed area is notable.
Other Criteria		
Size/shape	M/H	The property contains a substantial part of the wetland and includes a compact central portion.
Connectivity	M/H	Adjoins, links and buffers other areas of wetland habitat.
Long-term Sustainability	M/H	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):

This part of the property has very limited potential for further development, whereas it forms an integral part of this important coastal wetland.

Discussion:

This area meets the District Plan criteria for a Significant Natural Area. Important values are the presence of a relatively large area of indigenous wetland vegetation and the contribution this makes to habitat values of the wider wetland/lagoon. This property contains a substantial part of the wetland, and sympathetic management would improve the integrity of the wetland.

