

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

BARTON (SIMPSON) 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: Neil Barton and Thomas Simpson
Valuation References: 24860/122.00
Address: 21 Ellis Road, RD1, Kingsdown.
Location: Northwest 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 96d) 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>
black nightshade*	<i>Solanum nigrum</i>
Californian thistle*	<i>Cirsium arvense</i>
celery-leaved buttercup*	<i>Ranunculus sceleratus</i>
cleavers*	<i>Galium aparine</i>
coastal goosefoot	<i>Chenopodium glaucum</i> ssp. <i>ambiguum</i>
creeping bent*	<i>Agrostis stolonifera</i>
curled dock*	<i>Rumex crispus</i>
duckweed	<i>Lemna minor</i>
fathen*	<i>Chenopodium album</i>
gorse*	<i>Ulex europaeus</i>
orache*	<i>Atriplex patula</i>
radiata pine*	<i>Pinus radiata</i>
raupo	<i>Typha orientalis</i>
rayless chamomile*	<i>Matricaria dioscoidea</i>
retoreto	<i>Azolla filiculoides</i>
ryegrass*	<i>Lolium perenne</i>
salt grass	<i>Puccinellia stricta</i>
sea spurrey	<i>Spergularia media</i>
toad rush*	<i>Juncus bufonius</i>
twin cress*	<i>Coronopus didymus</i>
twitch*	<i>Elytrigia repens</i>
white clover*	<i>Trifolium repens</i>
willow*	<i>Salix</i> sp.
wireweed*	<i>Polygonum aviculare</i>

Barton/Simpson Property
24860/122.00

Ellis Road

Normanby Road

96d

William Street

Elgin Street

Murray Street

Maberley Street

1:5,000



Area Name: Normanby wetland

Location (NZMS 260): 2370491-5637969

Ecological District: Makikihi

Surveyors: Markus Davis

Property: Neil Barton (Simpson)

Nearest Locality: Normanby

Area Size (ha): 3.25

Altitude (m): 10-20m

Survey Time: 2½ hours **Survey Date:** 19-01-12

General Description:

This SNA lies at the northwest 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:

Five main plant communities or habitats are present in the SNA and are described below. Naturalised (exotic) species are indicated with an asterisk*.

Shoreline benches or beach (herbfield)

The wetland shoreline at the eastern end of the property is mostly in the form of a low bench, or less commonly a narrow silty beach about 0.5 to 1m wide. The margins of the bench support many seedlings and some mature plants of bachelor's button and fewer seedlings of celery-leaved buttercup*, both re-establishing as the water level drops. Further west where the bench is less pronounced and rather muddy, bachelor's button is again prominent with some coastal goosefoot and orache*. Mudflats are beginning to be exposed at the main western embayment adjacent to the bench. This habitat supports abundant algae, *Mimulus repens*, *Lilaeopsis novae-zelandiae* and arrow grass. More extensive mudflats are likely to be exposed as the water level drops. The bench and beach appear to be well used by waterfowl as there are numerous footprints and widespread droppings. Immediately behind the bench or beach, the shoreline is dominated by exotic grasses including twitch* and creeping bent*. Scattered curled dock* and Californian thistle* are present.

Salt meadow and mud turfs (herbfield)

The main western embayment occurs below the fence separating the two eastern-most paddocks. Here a salt meadow turf extends across a flat surface below gently sloping farmland. A turf community occurs locally and also extends from the salt meadow further into the wetland. The salt meadow is characterised by bachelor's button, *Mimulus repens*, *Lilaeopsis novae-zelandiae*, salt grass, sea spurrey and much less coastal goosefoot, orache*, toad rush* and creeping bent*. Moderate sheep pugging has occurred across this turf complex and onto muddy surfaces. Pied stilts were seen here, and their distressed behaviour suggests they were nesting. Adjacent open water areas were being used by more pied stilts, black swans and other waterfowl.

A raised silt ridge occurs adjacent to an old earth dam where the stream enters the wider wetland. It supports scattered sea spurrey, bachelor's button, coastal goosefoot, salt grass, *Mimulus repens*, and creeping bent*. Some twitch* and one gorse* bush occur on the high point next to the dam.

The paddock adjoining this turf area is not fenced from the wetland and consequently sheep have ready access to a substantial area of salt meadow and mud turf. From here they can also move further east along the wetland edge in front of the fence of the eastern-most paddock. As the water level drops, it is likely that sheep will be able to wander further into the wetland.

Stream edge turf (herbfield)

Immediately above the lower dam the stream water is characterised by *Ruppia megacarpa*, algae, retoreto and duckweed, while the bank edge supports *Mimulus repens*, bachelor's button, *Lilaeopsis novae-zelandiae*, creeping bent* and occasionally celery-leaved buttercup*. This turf merges into pasture grasses on the gentle

slope above. Patches of gorse*, several radiata pine* trees and old tree branches also occur on the farmland. A similar turf community occurs in two small upstream embayments, with the addition of salt grass and arrow grass. Adjacent to the pines, small turf patches are still present and support bachelor's button, *Mimulus repens*, arrow grass and celery-leaved buttercup*. The only turf species seen by the upper dam and culvert was bachelor's button. The stream edge is not fenced from adjacent farmland and muddy surfaces have been pugged by sheep. The stream water is brown and murky.

Raupo pond (reedland)

A pond occurs behind the upper dam and culvert, and is notable for supporting an area of raupo (100m x 10-15m). Stagnant open water is covered by duckweed and occasionally retoreto. The raupo is mostly two to three metres tall. The adjoining stream side vegetation is totally dominated by exotic grasses and herbs such as rayless chamomile*, wireweed* and cleavers*. This dominance by exotics continues upstream where willows* are also present. Several waterfowl were glimpsed among the raupo. While the pond in which the raupo occurs is artificial, the vegetation and habitat are representative and significant.



Raupo reedland

Farmland (grassland)

A fence separates farmland from the shoreline bench or beach at the eastern end of the property, but this is only for one of four paddocks. The wetland and stream side margins of the farmland are dominated by exotic grasses such as creeping bent*, twitch* and ryegrass*. Two low-lying areas adjoining the fence support patches of salt grass, 20m x 5m in the east and 15m x 1-5m further west. The eastern one has a cover of more than 95% salt grass, the great majority being fenced within the farmland. Other plants present include ryegrass*, creeping bent*, twitch*, and *Mimulus repens*, with bachelor's button in a patch of exposed mud. The western area is more modified with salt grass comprising about 30-40% of ground cover, the remainder being dominated by exotic grasses.

Between these two areas a terrace riser supports an irregular row of mature radiata pine* trees, and there is a fence at the base of the riser. The vegetation beneath the pines is dominated by exotic grasses, though there is much exposed bare ground due to stock disturbance. Other plants include twin cress*, white clover*,

Condition and Management Issues:

The most important management issue is protection of the wetland/lagoon from the effects of grazing animals. Sheep grazing and pugging are damaging the sensitive wetland plant communities and probably contributing to degradation of water quality. If the shoreline was to be fenced, the fence should be located to provide a buffer between the banks/turfs and the farmland above, perhaps of similar width to the terrace riser. It is acknowledged that stock access to the stream and wetland is a wider issue involving several properties, including properties upstream.

Property Owner Comment:

Mr Barton notes that some areas included in the draft SNA boundaries have been previously worked (cultivated). The final SNA boundaries have been adjusted to reflect this. Mr Barton intends to undertake additional fencing along the lagoon margin, in part to prevent Canada geese venturing onto his pastures.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M/H	The open water, salt meadow and mudflats are representative of the original wetland habitats.
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	A wide range of communities and habitats are present.
Distinctiveness/special features	M/H	Regionally important habitat for water birds. The presence of a wetland of this nature and size in an intensively farmed area is notable. The raupo is also notable.
Other Criteria		
Size/shape	M	The wetland portion of the property is quite compact, and a substantial length of stream margin is in the property.
Connectivity	M/H	The wetland and stream are connected to adjoining portions of the wetland and stream on other properties.
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 wetland 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:

This SNA is central to the integrity of the wider Normanby Lagoon as it contains a substantial portion of the wetland and its feeder stream. The upstream end of the raupo represents the upper limit of significant values seen on the property. Fencing, to protect the wetland from the effects of stock, would allow recovery of wetland margin vegetation and improve habitat quality for birds. Secure protection of the values within this SNA is probably dependent on similar protective management at other SNAs identified on the wetland/lagoon margins.

fathen*, black nightshade* and occasionally gorse*. Two shags were roosting in the pine tress but no nests were seen. Droppings suggest considerable use is made of the pines by shags.

Birds/Fauna Observed:

Shags, ducks, swans and pied stilts were seen on mudflats, on open water or among raupo within the property boundaries.

Notable Flora, Fauna and Habitats:

Patches of mud turf are present on the margins of the main wetland and more are likely to be exposed during periods of lower water levels. The salt meadow and associated mud turfs between the lower dam and farmland comprise some of the more extensive turf habitats associated with the wetland. They are notable because they represent original wetland communities of this coast. The raupo is also notable as little is present on the coast south of Timaru. All of these habitats, the shallow water and the beach are likely to be used by a variety of water birds, waders and invertebrates. The pines provide roosting and potential nesting habitat for shags.



Salt meadow and mud turfs

Notable Plant and Animal Pests:

The main plant pest is gorse* which could spread in dryland habitats, but poses only a minor threat to the wetland.

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

Some dense grass and herbs help buffer the stream in the vicinity of the raupo, but otherwise the stream and wetland are vulnerable to stock trampling and stock waste, as was obvious in more open areas where sheep have easy access. If the cropping paddocks are bare at any stage, it is also possible that sediment could enter the stream or wetland during periods of heavy rain. The only section where a fence helps to keep stock out of the wetland is by the terrace riser, though the fence is at the base rather than the top of the bank.