

TIMARU DISTRICT
SIGNIFICANT NATURAL AREAS
SURVEY

GEE PROPERTY



Report prepared for Timaru District Council
by
Mike Harding and Mark Davis
March 2012 (edited October 2015)

TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

PROPERTY REPORT

PROPERTY DETAILS:

Owner: Joseph Gee
Valuation Reference: 24860/174.04
Address: Normanby Road, Timaru 7971.
Location:..... North of Pig Hunting Creek, South Canterbury coast.
Ecological District: Makikihi Ecological District.
TDC Land Type:..... 'Plains'
Land Environment:..... N3.1b (eastern South Island plains).

ECOLOGICAL CONTEXT:

The property covers a low-lying terrace and associated stream channels land just north of Pig Hunting Creek, on the South Canterbury coast north of Pareora. It lies in Makikihi Ecological District (McEwen, 1987) and within the N3.1b Level IV Land Environment (Leathwick *et al*, 2003). Indigenous vegetation in the N3.1b Land Environment is regarded as 'acutely threatened' (Walker *et al*, 2006).

It is likely that the original vegetation of this area was predominantly wetland vegetation adjacent to the streams, grading to coastal and/or lowland forest on higher ground. Widespread loss of indigenous vegetation in this part of Timaru District makes it difficult to determine the precise nature of the original vegetation.

The adjacent Pig Hunting Creek is an important area of open water and wetland habitat on the South Canterbury coast. It has been previously identified as a Site of Special Wildlife Interest (SSWI) and a Wetland of Ecological and Representativeness Importance (WERI). A detailed survey of indigenous fauna was not possible during this survey, though the stream and adjacent vegetation are likely to provide regionally important habitat for migratory, wading and coastal birds.

SIGNIFICANT AREAS ON THE PROPERTY:

Indigenous vegetation and habitat on the property comprises areas of sedgeland and herbfield vegetation along stream channels and adjacent to Pig Hunting Creek. This vegetation and habitat is separated by pasture with some indigenous species present.

The property was surveyed as part of the District-wide survey of Significant Natural Areas by ecologist Mark Davis during February 2012. Three areas (SNAs 95b, c and d) are regarded as 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 Form 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.

OTHER AREAS INSPECTED ON THE PROPERTY:

Other parts of the low terrace on the property support pasture dominated by exotic grasses such as creeping bent*, crested dogstail*, sweet vernal* and salt barley grass*. Other plants among these grasses include buck's horn plantain*, white clover*, orache*, salt grass and coastal goosefoot. Herbfield communities largely occur within these paddocks, especially in central and northeast areas. These plant communities do not presently meet the significance criteria in the District Plan, though do have some ecological value and have potential for restoration.

Gee Property
24860/174.04

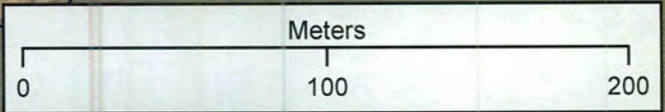
Normanby Road



95b

95d

95c



1:2,500



Area Name: North Pig Hunting Creek

Ecological District: Makikihi

95b Map Ref. (NZTM): 1460227E-5075537N

95c Map Ref. (NZTM): 1460246E-5075335N

95d Map Ref. (NZTM): 1459903E-5075415N

Surveyor: Mark Davis

Property: Gee

Nearest Locality: Normanby

Area Size (ha): 1.35

Altitude (m): 2-3

Area Size (ha): 0.29

Altitude (m): 2-3

Area Size (ha): 0.28

Altitude (m): 2-3

Survey Time: 4½ hours

Survey Date: 16-02-12

General Description:

The property lies immediately north of Pig Hunting Creek on the South Canterbury coast near Normanby. It comprises a low-lying terrace with meandering stream channels. Indigenous vegetation in the stream channels is linked to other areas of indigenous vegetation and habitat along Pig Hunting Creek by paddocks which support a mosaic of exotic pasture grasses and smaller areas of salt-tolerant native herbfield. A drainage system has reduced the extent and naturalness of low-lying areas.

Plant Communities:

Significant indigenous vegetation and habitat on the property is described below as three Significant Natural Areas (SNAs). Naturalised (exotic) species are indicated with an asterisk*.

Northern Stream Channels (SNA 95b):

This SNA comprises channels of a small unnamed creek that meanders through the property. The creek has been dammed at two points (one immediately beyond the property and one within the property) and straightened into a wide drain at its eastern end. Several other drains are connected to it, while smaller ones help drain low-lying paddocks. Herbfield is associated with the stream channel, adjacent low-lying areas and smaller low-lying areas elsewhere in the paddocks. The stream contains water for much of its length, with retoreto and duckweed on its surface.



Salt tolerant herbfield with stock trampling

The herbfields are characterised by glasswort, remuremu, orache*, coastal goosefoot, salt grass, bachelor's button, *Mimulus repens*, arrow grass and less commonly *Samolus repens*, *Limosella lineata*, celery buttercup* and foxtail grass* (probably marsh foxtail*). At the time of survey much bare soil and mud was exposed among the herbfield, reflecting the effects of deer and sheep trampling but also the delay in native herb establishment following higher water levels. These herbfields often extend for about 10m beyond the stream bed before merging into grassland. Salt grass occurs among the pasture grasses, often being uncommon but occasionally in patches up to 15m across. Coastal goosefoot and orache* typically occur among the pasture grasses.

Pig Hunting Creek Margins (SNA 95c):

A small area of Pig Hunting Creek and some of its shoreline near the rail bridge are within the property. The bed was covered with water during this assessment, but during a visit in 2010 its muddy surfaces supported glasswort, *Mimulus repens*, bachelor's button, remuremu, *Samolus repens* and buck's horn plantain*. Aquatic *Ruppia megacarpa*, *Lachnagrostis littoralis* subsp. *salaria* and salt grass were present on higher margins. One plant of native spinach was observed adjacent to the railway bridge. This species is listed as 'at risk' (de Lange *et al*, 2012).

Further inland the creek margins support emerging glasswort, orache*, coastal goosefoot, bachelor's button, *Mimulus repens*, watercress* and broad dock*, which merge into creeping bent* and couch* on the stop-bank above. Native spinach is occasionally present on the upper margin.

Pig Hunting Creek Wetland (SNA 95d):

The western-most paddock contains an open water wetland among tall fescue* and creeping bent*. The wetland is broadly t-shaped with the main pond approximately 45m x 10m. The remainder of the wetland extends for about 120m as a narrow ribbon of water by a fence at the base of a scarp. The perimeter of the wetland supports a continuous but narrow zone of *Bolboschoenus caldwellii*, with less three-square and rare bachelor's button. The water is very dark and a sulphurous smell is suggestive of anaerobic conditions. Three drains are connected to the wetland and these presumably limit water levels.



The open water wetland surrounded by Bolboschoenus caldwellii with some three-square

Birds/Fauna Observed:

Pied stilt, welcome swallow, banded dotterel, feral pigeon, southern black-backed gull, royal spoonbill and spur-winged plover were observed on the property during this survey. Fish are likely to be present in some waterways; possibly including threatened species such as mudfish.

Notable Flora, Fauna and Habitats:

These SNAs lie within an area where indigenous vegetation and habitat is substantially reduced, as indicated by its designation as an acutely-threatened Land Environment. Wetlands are regarded as nationally rare ecosystems. The adjacent open-water habitats of Pig Hunting Creek are listed as a Site of Special Wildlife Interest (SSWI) and a Wetland of Ecological and Representative Importance (WERI) The extent of the indigenous herbfield is notable, along with the open-water wetland and its associated sedgeland.

Notable Plant and Animal Pests:

Gorse* and broom* are common on the two main scarps within or adjacent to the property, and some elderberry* is present on the northwest scarp. Rabbit droppings were seen in several areas.

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

The two adjacent scarps provide some natural buffering, though they are also a potential source of woody weeds. The property is essentially perimeter fenced for the purposes of stock control. Indigenous plant communities and water bodies within the property area are not buffered from the effects of stock and farming activities.

ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:

Primary Criteria	Rank	Notes
Representativeness	M	Indigenous herbfield and wetland vegetation is modified, though typical of that remaining in this part of the ecological district and moderately representative of the original vegetation.
Rarity	H	Lies in an 'acutely-threatened' land environment; wetlands are nationally rare.
Diversity and pattern	M	A moderately diverse range of vegetation, including widespread though discontinuous herbfields and an open-water wetland.
Distinctiveness/special features	M	Lies close to and is effectively part of an area of important wildlife habitat, recognised as an SSWI and WERI.
Other Criteria		
Size/shape	M/H	Relatively large areas for lowland Canterbury, though mostly narrow and poorly buffered.
Connectivity	M/H	Most wetlands are connected within the property, to the wider Pig Hunting Creek complex and are part of a chain of coastal wetlands.
Long-term Sustainability	M/H	Ecological values should persist, providing stock access is carefully managed and natural hydrological processes are maintained or restored.

H=High; M=Moderate; L=Low

Condition and Management Issues:

The condition of most of the wetlands and indigenous plant communities is generally poor except for along the lower reaches of Pig Hunting Creek. The integrity of the unnamed meandering creek and its associated wetlands has been severely compromised by artificial drainage, stock grazing, trampling and stock waste. Smaller isolated wetlands in low-lying areas have been similarly degraded by stock and drainage.

It is clear that the property supported more valuable wetlands in the past, and that these have declined in extent and quality through drainage and the effects of stock. Ideally, these wetlands should be protected by excluding (or carefully managing) stock and through restoration of a natural hydrological regime. This should be done as part of a broader strategy to better protect and improve the vegetation and habitat values of the Pig Hunting Creek wetland complex. In this context the property has a pivotal role.

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

These areas appear too saline or wet to support permanent pasture and therefore have very limited potential for further development.

Discussion:

These areas meet the District Plan criteria for Significant Natural Areas. Though modified, they support indigenous vegetation and are relatively large. The adjacent open-water habitats of Pig Hunting Creek are listed as an SSWI and WERI. Ideally, the wetland plant communities and an adequate buffer should be securely fenced so that any grazing can be carefully managed.

References Cited

de Lange, PJ; Rolfe, JR; Champion, PD; Courtney, SP; Heenan, PB; Barkla, JW; Cameron, EK; Norton, DA; Hitchmough, RA. 2012. *Conservation status of New Zealand indigenous vascular plants, 2012*. Department of Conservation, Wellington, New Zealand. 70p.

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.

Walker, S.; Price, R.; Rutledge, D.; Stephens, R.T.T.; Lee, W.G. 2006. Recent loss of indigenous cover in New Zealand. *NZ Journal of Ecology* 30: 169-177.

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>
broad-leaved dock*	<i>Rumex obtusifolius</i>
broom*	<i>Cytisus scoparius</i>
buck's horn plantain*	<i>Plantago coronopus</i>
coastal goosefoot	<i>Chenopodium glaucum</i> ssp. <i>ambiguum</i>
couch*	<i>Elytrigia repens</i>
creeping bent*	<i>Agrostis stolonifera</i>
crested dogtail*	<i>Cynosurus cristatus</i>
duckweed	<i>Lemna minor</i>
elderberry*	<i>Sambucus nigra</i>
glasswort	<i>Sarcocornia quinquefolia</i>
gorse*	<i>Ulex europaeus</i>
marsh foxtail*	<i>Alepecurus geniculatis</i>
native spinach	<i>Tetragonia trigyna</i>
orache*	<i>Atriplex patula</i>
remuremu	<i>Selliera radicans</i>
retoreto	<i>Azolla filiculoides</i>
salt barley grass*	<i>Critesion marimum</i>
salt grass	<i>Puccinellia stricta</i>
sweet vernal*	<i>Anthoxanthum odoratum</i>
tall fescue*	<i>Schedonorus phoenix</i>
three-square	<i>Schoenoplectus pungens</i>
watercress*	<i>Rorippa microphylla</i>