

**TIMARU DISTRICT**  
**SIGNIFICANT NATURAL AREAS**  
**SURVEY**  
**CROWN LAND**  
**(adjacent to SILVER FERN FARMS)**



**Report prepared for Timaru District Council**  
**by**  
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**March 2012 (edited October 2015)**

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT

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### PROPERTY DETAILS:

**Owner:** ..... Crown Land (adjacent to Silver Fern Farms)  
**Valuation References:** ....n/a  
**Address:** .....  
**Location:**.....Between Pareora and Normanby, South Canterbury coast.  
**Ecological District:** .....Makikihi Ecological District.  
**TDC Land Type:** ..... 'Plains'  
**Land Environment:** .....N3.1b (eastern South Island plains).

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### ECOLOGICAL CONTEXT:

The area lies within gently sloping, low-lying land along the South Canterbury coast between Pig Hunting Creek and Pareora. The property lies in Makikihi Ecological District.

It is likely that the original vegetation of this area was predominantly wetland vegetation at low-lying sites, 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 nearby 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).

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### SIGNIFICANT AREAS ON THE PROPERTY:

Indigenous vegetation and habitat on the property comprises areas of depleted herbfield wetland vegetation along an ephemeral creek bed adjacent to the coast.

The property was surveyed as part of the District-wide survey of Significant Natural Areas by ecologist Mark Davis during February 2012. One area (SNA 95f) 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)

bachelor's button .....	<i>Cotula coronopifolia</i>
buck's horn plantain* .....	<i>Plantago coronopus</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 quinquefolia</i>
orache* .....	<i>Atriplex patula</i>
retoreto .....	<i>Azolla filiculoides</i>
salt barley grass* .....	<i>Critesion marinum</i>
salt grass .....	<i>Puccinellia stricta</i>
sea spurrey .....	<i>Spergularia media</i>
three-square .....	<i>Schoenoplectus pungens</i>
toad rush* .....	<i>Juncus bufonius</i>
watercress* .....	<i>Rorippa microphylla</i>

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**Area Name:** Seafield

**Location (central map reference):** 2369029-5635372

**Ecological District:** Makikihi

**Surveyors:** M Davis

**Property:** Crown Land adjacent to Silver Fern Farms

**Nearest Locality:** Kingsdown

**Area Size (ha):** 0.98

**Altitude (m):** 2m

**Survey Time:** 2 hours

**Survey Date:** 17-02-12

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### General Description:

The Silver Fern Farms property occupies most of the coastal land east of State Highway 1 between Kingsdown and Half Chain Road, a little north of Pareora. The land is gently rolling and is intensively farmed. An unnamed creek occurs on and adjacent to the property and two low-lying areas contain evidence of remnant native communities. Other than these areas, the vegetation on the property is dominated by exotic pasture grasses. SNA 95f covers the small creek, almost all of which lies on Crown Land adjacent to the property.

### Plant Communities:

The main plant community at SNA 95f is herbfield, as described below. Naturalised (exotic) species are indicated with an asterisk\*.

At the time of this survey the lower creek contained nutrient rich brown water and it was not possible to see what might be in or under the water. On an earlier visit (February 2010) the creek was dry and the bed supported herbfield which was dominated by glasswort, with less salt grass and salt barley grass\*. During this survey herbfield on the true left bank a little above the railway bridge was dominated by glasswort, with less buck's horn plantain\*, coastal goosefoot, orache\*, creeping bent\* and salt barley grass\*. Sea spurrey\*, toad rush\*, bachelors button and watercress\* were uncommon. A flat area on the true right is also dominated by glasswort.

The lower 100m or so of the creek is separated from the adjacent paddock by a temporary electric fence, though minor recent pugging suggests it is not completely effective. Immediately upstream of the fence the banks and water margin have been severely pugged. Plants present in lower numbers include orache\*, coastal goosefoot, bachelors button, watercress\* and creeping bent\*. Where the creek enters a pine plantation, patches of three square and uncommon bachelors button are severely pugged on water margins. This is effectively the upstream limit of substantial occurrences of salt tolerant plants. Upstream of the plantation, the stream is dry except for a few tiny stagnant ponds covered in retoreto and duckweed. A few clumps of *Juncus edgariae* are also present. The margins of a larger dry pond are totally dominated by exotic grasses and herbs and are accessible to sheep from the surrounding paddock.



SNA 95f, at low water levels (February 2010)

**Birds/Fauna Observed:**

Two mallard/grey ducks and four ducklings were seen in the creek, and black-backed gulls were nesting in the low lying area north-east of the creek.

**Notable Flora, Fauna and Habitats:**

The assumed presence of salt tolerant herbfield is of interest as there are relatively few of these habitats along this coastline.

**Notable Plant and Animal Pests:**

Tree lupin\* is common on the railway embankment.

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

Apart from the section near the rail bridge, the creek is not fenced out from farmland. When the creek was dry during a previous visit, ATV's had accessed the creek bed from the nearby beach.

**Condition and Management Issues:**

The creek is severely degraded with its banks damaged by cattle and its water polluted. An adjacent remnant herbfield (on the Silver Fern Farms property) has all but been destroyed and another has been severely damaged. Other wetland sites identified from aerial photos were visited, but they were no longer present.

When the creek water drains away or evaporates, it is likely that salt tolerant herbfield will again appear on its bed. However, if cattle continue to have access to the creek the herbfield is likely to become badly damaged too. A partial remedy is to fence out the creek from all stock and include a buffer zone inside the fenceline. Upstream sediment, effluent and fertiliser is still likely to enter the creek and be flushed downstream during significant rainfall events. This is problematic though it could be ameliorated by developing an upstream planted wetland to filter at least some of the sediment and nutrients.

In this context, Silver Fern Farm's suggestion of restoring a wetland to the northeast of the lower creek has merit. Rather than planting a 'new' wetland, it would be better to fence out the area as part of a buffer to the creek and to fill in or block any drainage channels to the creek. Because of the area's low-lying nature, it is likely that some salt-tolerant herbfield would re-establish. Perimeter planting around the area and alongside the creek may help to limit the ingress of nutrients from the adjoining paddocks. This would also have the benefit of providing some cover for waterfowl in the creek.

Secure barriers at the mouth of the creek should be provided to prevent access by ATV's or motorbikes, to prevent damage to the creek bed herbfield and any restoration efforts that may be undertaken.

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

<b>Primary Criteria</b>	<b>Rank</b>	<b>Notes</b>
Representativeness	<b>M</b>	Salt tolerant herbfield is an original community type in these habitats
Rarity	<b>H</b>	Lies in/adjacent to an 'acutely-threatened' Land Environment; wetlands are nationally rare.
Diversity and pattern Distinctiveness/special features	<b>L</b>	One small creek and limited areas of degraded herbfield.
<b>Other Criteria</b>		
Size/shape	<b>L/M</b>	The creek is small but a restored herbfield would broaden the site
Connectivity	<b>L/M</b>	The creek is ephemeral but there will be intermittent upstream linkages. The low-lying former herbfields are immediately adjacent.
Long-term Sustainability	<b>M</b>	Providing the area is fenced, an upstream wetland is developed and the adjoining low-lying herbfields are restored

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

This area is low-lying and subject to periodic inundation. It is unsuitable for farm development. It lies adjacent to the Silver Fern Farms property but is effectively managed as part of that property.

**Discussion:**

The creek has been severely degraded by cattle so that its banks are heavily pugged and its water is polluted. The adjoining low-lying herbfields have also been badly damaged. If these low-lying areas are fenced out with the lower section of the creek, and riparian restoration planting is undertaken there should be some level of recovery. However, this alone is unlikely to result in sufficient recovery of the creek because of upstream nutrient and sediment inputs. These could be ameliorated by developing an upstream wetland to filter and remove some of the inputs. There is also a need to ensure there is no overland flow of effluent or nutrient laden water into the creek. A suitable barrier is needed near the rail bridge to prevent access by off-road vehicles. The possible presence of mudfish in the creek should be investigated.

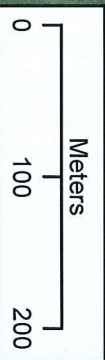


*Cattle-pugged ground along the upper reaches of the stream*

Silver Fern Farms  
(Crown Land adjacent to)

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