

**TIMARU DISTRICT**  
**SIGNIFICANT NATURAL AREAS**  
**SURVEY**

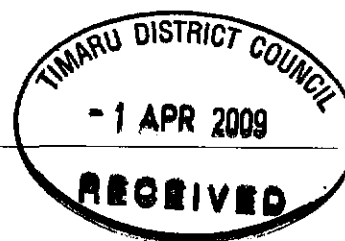
**GRANT PROPERTY**  
**(KAPUNATIKI CREEK)**



Report prepared for the Timaru District Council by Mike Harding  
March 2009

# TIMARU DISTRICT SIGNIFICANT NATURAL AREAS SURVEY

## PROPERTY REPORT



### PROPERTY DETAILS:

**Owner:** ..... Ross and Sue Grant  
**Valuation Reference:** ..... 24710/080.00  
**Address:** ..... Parke Road, Temuka  
**Location:** ..... On the floodplain of Kapunatiki Creek, at the coast east of  
Clandeboye  
**Ecological District:** ..... Low Plains  
**TDC Land Type:** ..... Plains  
**Land Environment:** ..... L1 (southern lowlands)

### ECOLOGICAL CONTEXT:

The property lies within the Low Plains Ecological District on a recent alluvial surface (floodplain) of Kapunatiki Creek. The original vegetation of this area would probably have been low-stature turf vegetation dominated by herbs, grasses, sedges and rushes. However, as so few undisturbed sites remain in this part of Timaru District it is difficult to determine the exact nature of the original vegetation. The indigenous fauna would probably have been more numerous and diverse, with a greater range of birds, lizards and invertebrates than is presently found in the area.

Indigenous vegetation on this property comprises a modified remnant of herbfield vegetation, with a high proportion of naturalized species. It is one of very few remnants of indigenous vegetation on uncultivated soils in lowland Canterbury. It is isolated from other areas of indigenous vegetation.

### SIGNIFICANT AREAS ON THE PROPERTY:

The property was surveyed as part of the District-wide survey of Significant Natural Areas in February 2009. One area, in the bed of Kapunatiki Creek at the coastal margin of the property, is regarded as significant when assessed against the District Plan criteria.

This Significant Natural Area (SNA) is illustrated on the attached aerial photograph and described in greater detail in this report. This SNA meets the ecological criteria in the Timaru District Plan (criteria i-vi, pages B18-B19). The SNA is considered to be sustainable in the long term (criterion vii, page B19), though will require conservation management to maintain its ecological values. The SNA is subject to confirmation by Council after regarding the matters listed under Final Considerations (pages B19-B20).

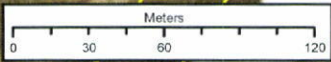
The implication of an area being listed as an SNA is that consent is required from Council for clearance by any means (including cultivation, burning and spraying with herbicides) or over-planting. It places no obligation on the landowner to provide public access. To assist with the protection and management of any SNA, landowners can apply to Council for financial assistance. It is expected that SNAs will eventually be listed in the District Plan by way of notified plan change. Any questions regarding the protection, management and use of SNAs should be directed to the District Planner.



Grant Bros  
Kapunatiki Creek  
24710/080.00



726



1:3,000

**Area Name:** Kapunatiki Creek

**Location (central map reference):** K38: 861-645

**Ecological District:** Low Plains

**Surveyors:** Mike Harding and Mark Davis

**Property:** Ross and Sue Grant

**Nearest Locality:** Clandeboye

**Area Size (ha):** 1.38

**Altitude (m):** 1-5

**Survey Time:** 3 hours

**Survey Date:** 19-02-09

### General Description:

This SNA lies on the floodplain of the ephemeral Kapunatiki Creek, at the coastal boundary of the property. It is buffered from the sea by low dunes, though is partly affected by storm-wash over the dunes and salt spray. The site is inundated on rare occasions when Kapunatiki Creek flows. The last time this occurred was in 2000 (Ross Grant, *pers.comm.*). Spring-fed water ponds at parts of the site, as indicated by the presence of wetland vegetation. This site is one of very few areas of uncultivated soil in this part of the ecological district. Soils at this site have not been cultivated and have only been grazed by sheep for three generations of the Grant family (Ross Grant, *pers.comm.*).

### Plant Communities:

The site supports low-stature grassland-herbfield vegetation dominated in most places by exotic species. Species dominance over the site varies (it appears) due to moisture availability. These main plant communities are described separately below. Naturalized (exotic) species are indicated with an asterisk\*.

#### Channel banks/terrace risers:

This habitat is present around the northern and western edges of the site, forming the boundary between the cultivated surface on the adjacent terrace and the apparently uncultivated surface on the stream bed/floodplain. Vegetation (mostly pasture grasses) on parts of this surface was dead at the time of survey, presumably as a result of herbicide used to prepare ground on the adjacent terrace for direct-drilling.

Plant species forming the dominant cover on this surface are pasture grasses\*, moss, buck's horn plantain\*, narrow-leaved plantain\*, white clover\*, sheep's sorrel\*, storksbill\* and bare ground. Other species present are *Oxalis exilis*, moth mullein\*, curled dock\*, nodding thistle\*, Californian thistle\*, hawksbeard\*, mallow\*, bushy peppergrass\* and clumps of the native creeping pohuehue.

#### Floodplain islands/ridges:

This habitat is present on the drier, free-draining surfaces on the floodplain of the creek. It is the most extensive habitat present, and the most variable. Inland parts of this surface, where the influence of the sea is less pronounced, are dominated by buck's horn plantain\* and pasture grasses. Other species present are creeping pohuehue, sheep's sorrel\*, *Oxalis exilis*, narrow-leaved plantain\*, *Carex cirrhosa*, *Galium* aff. *perpusillum*, sand spurrey\*, nodding thistle\* and patches of Californian thistle\*.

Parts of the floodplain surface closer to the dunes, where the conditions are more saline, are dominated by buck's horn plantain\* and pasture grasses\* (including creeping bent\* and *Poa annua*\*). Also common are *Carex cirrhosa*, *Leptinella dioica*, *Oxalis exilis*, *Hydrocotyle sulcata*, *Euchiton involucratus*, sea holly, hawksbeard\*, *Rumex flexuosus*, *Lilaeopsis novae-zelandiae*, scarlet pimpernel\*, catsear\*, suckling clover\* dandelion\*, patches of Californian thistle\* and an (as yet) unidentified sedge.

#### Floodplain channels/hollows:

Some low-lying parts of the creek channel appear to be perpetually damp. These sites support wetland vegetation including spike rush, jointed rush\*, *Juncus bufonius*\*, *Juncus distegus*, *Montia fontana*\*, *Limosella lineata*, *Potamogeton cheesemanii*, *Myriophyllum propinquum*, *Lilaeopsis novae-zelandiae*, *Potentilla* sp., *Hydrocotyle sulcata* and *Leptinella dioica*.

Also present on the lower floodplain is an (as yet) unidentified species of *Centipeda*.

**Notable Flora, Fauna and Habitats:**

The most important feature of this site is that it contains a lowland/coastal alluvial surface that appears to have never been cultivated. This has allowed indigenous species to persist, despite the dominance of naturalised pasture species. The site supports a relatively diverse range of indigenous lowland herbfield/turf species, including at least two threatened species: sea holly/*Eryngium vesiculosum* (threat status: gradual decline) and *Carex cirrhosa* (gradual decline). There are good populations of both these species at this site.

Birds and smaller animals were not surveyed. However, the uncultivated soil of the site may support an interesting invertebrate fauna.

**Notable Plant and Animal Pests:**

Buck's horn plantain and pasture grasses are the two most important naturalized species present. These species are dominant and form a high proportion of the plant cover over most of the area. Also present are nodding thistle and Californian thistle. Rabbits are present.

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

This SNA covers the low-lying part of a larger paddock. It represents the part of the paddock that remains uncultivated. It is grazed as part of the larger paddock. The site is sheltered on its southwest boundary by a row of tall pine trees. A fence along the southeast boundary separates the area from the coastal dunes. There is a small (constructed) wetland at the northeast corner of the larger paddock. The wetland margin supports some of the turf species present in the SNA. The SNA is otherwise isolated from other areas of indigenous vegetation.

**Condition and Management Issues:**

It is difficult to assess the condition of the SNA, as there are no other known examples of this habitat remaining in this part of the ecological district. While the SNA supports a good number of indigenous plant species, including threatened species, the vegetation is generally dominated by naturalized pasture species. The effects of grazing are difficult to assess, though it is likely that indigenous species have benefitted from the apparent absence of cattle grazing and trampling. Fencing to exclude stock-grazing would probably encourage growth of both indigenous and exotic species, though it is quite likely to result in some exotic species out-competing and smothering indigenous species. This site offers potential to study the effects of grazing and other influences (such as rabbit browse and invasion of naturalized species) on indigenous species.

Meanwhile the most important management issues are control of taller naturalised plants, such as thistles, and continuation of the present management regime, i.e. no cultivation of the soil and limiting grazing to extensive sheep grazing.

**Property Owner Comment:**

The landowners support protection of the site and are interested in managing the site to protect indigenous species.

---

**ASSESSMENT AGAINST DISTRICT PLAN CRITERIA:**

Primary Criteria	Rank	Notes
Representativeness	M	A depleted/modified example of the vegetation originally present at such sites in the ecological district.
Rarity	H	This site is the only known area of uncultivated lowland/coastal soil in this part of the Low Plains Ecological District. It supports good populations of two threatened (gradual decline) plant species: sea holly and <i>Carex cirrhosa</i> .
Diversity and pattern	M	This site is predominantly part of the floodplain of an ephemeral creek. There is variation in the habitat due to soil moisture and salinity.
Distinctiveness/special features	M/H	The presence of uncultivated soil in an otherwise highly modified landscape is a special feature.

---

**Other Criteria**

---

Size/shape	<b>H</b>	A large site for a herbaceous plant community in the Low Plains Ecological District.
Connectivity	<b>L/M</b>	The area is isolated from other similar sites, though adjoins a dune system (albeit dominated by marram) on its seaward boundary.
Long-term Sustainability	<b>M</b>	Indigenous species will presumably persist under the present management regime. However the site is very vulnerable to any change in land use or to invasion of introduced plants.

---

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

The vulnerability of the site to flooding and the actions of the landowners to not cultivate the site and to limit grazing to extensive grazing by sheep have enabled the survival of an interesting range of indigenous plant species in an area that is otherwise highly modified. The presence and condition of the site are a direct result of the sensitive land management of the Grant family. This is the only known example of this type of vegetation in this part of the Low Plains Ecological District.

**Discussion:**

This area meets the District Plan criteria for a Significant Natural Area. Important features of the area are the presence of uncultivated soils, the presence of indigenous lowland/coastal floodplain species including threatened plant species, and the relatively large size of the area. The site offers good potential for management trials to help determine the most effective way of maintaining and protecting indigenous species.



### 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)	
buck's horn plantain*	<i>Plantago coronopus</i>
bushy peppergrass*	<i>Lepidium desvauxii</i>
Californian thistle*	<i>Cirsium arvense</i>
catsear*	<i>Hypochoeris radicata</i>
creeping bent*	<i>Agrostis stolonifera</i>
creeping pohuehue	<i>Muehlenbeckia axillaris</i>
curled dock*	<i>Rumex crispus</i>
dandelion*	<i>Taraxacum officinale</i>
hawksbeard*	<i>Crepis capillaris</i>
jointed rush*	<i>Juncus articulatus</i>
mallow*	<i>Malva</i> sp.
moth mullein*	<i>Verbascum virgatum</i>
narrow-leaved plantain*	<i>Plantago lanceolata</i>
nodding thistle*	<i>Carduus nutans</i>
sand spurrey*	<i>Spergularia rubra</i>
scarlet pimpernel*	<i>Anagallis arvensis</i>
sea holly	<i>Eryngium vesiculosum</i>
sheep's sorrel*	<i>Rumex acetosella</i>
spike rush	<i>Eleocharis acuta</i>
storksbill*	<i>Erodium cicutarium</i>
suckling clover*	<i>Trifolium dubium</i>
white clover*	<i>Trifolium repens</i>



Sea holly (*Eryngium vesiculosum*)