

SOME INDIGENOUS VASCULAR PLANTS OF WETLAND SOUTH OF LAKE KOHANGATERA AND EAST OF FARM BUILDINGS, CENTRED ON NZMS 260 MAP R28 TURAKIRAE, G.R. 66257975; LIST COMPILED ON 7-7-97 BY B.J. MITCALFE AND J. C. HORNE.

MONOCOT TREES

<i>Cordyline australis</i>	tii koouka	cabbage tree
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DICOT TREES AND SHRUBS

<i>Carmichaelia arborea</i>	neinei	broom
<i>Cassinia leptophylla</i>	tauhinu	tauhinu
<i>Coprosma rhamnoides</i>		
<i>Coprosma propinqua</i>	mingimingi	
<i>Leptospermum scoparium</i>	maanuka	manuka
<i>Olearia solandri</i>	mingimingi	
<i>Urtica ferox</i>	ongaonga	nettle

FERNS

<i>Asplenium bulbiferum</i>	manamana	hen and chicken fern
<i>Asplenium flabellifolium</i>		necklace fern
<i>Asplenium terrestre</i>		
<i>Blechnum minus</i>		
<i>Hypolepis ambigua</i>		
<i>Paesia scaberula</i>	maataa	ring fern
<i>Polystichum richardii</i>	pikopiko	shield fern
<i>Pyrrosia eleagnifolia</i>	ota	leatherleaf fern

ORCHIDS

<i>Thelymitra longifolia</i>	maaikuku	sun orchid
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GRASSES

<i>Cortaderia toetoe</i>	toetoe	toetoe
<i>Poa anceps</i>		

SEDGES

<i>Carex flagellifera</i>	maanaia	
<i>Carex secta</i>	puurei	
<i>Carex virgata</i>		
<i>Isolepis cernua</i>		
<i>Isolepis prolifer</i>		

RUSHES

<i>Juncus sarophorus</i>	wii	
<i>Juncus</i> sp. 1	"	
<i>Juncus</i> sp. 2	"	
<i>Luzula picta</i>	"	

MONOCOT HERBS

<i>Phormium cookianum</i>	wharariki	coastal flax
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Phormium tenax harakeke swamp flax

DICOT HERBS

Aciphylla squarrosa taramea spaniard
Craspedia uniflora woollyhead
Crassula sp.
Dichondra repens
Hydrocotyle elongata
Leptinella squalida
Pseudognaphalium sp.
Raoulia aff. hookeri
Typha orientalis raupo raupo

Total: 41 species.

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INDIGENOUS BIRDS

riroriro grey warbler
pihoihoi pipit
spur-winged plover
welcome swallow

PEST PLANTS

Plantago sp. plantain
Ulex europaeus gorse

NOTES ON A RAPID RECONNAISSANCE OF S.N.A. (PART) SITE 29, (SOUTHERNMOST KOHANGATERA WETLAND)

(Part-Site 28e in Biological Resources Survey, 1984).

FOR REASONS OUTLINED BELOW, THIS SITE IS CONSIDERED ECOLOGICALLY SIGNIFICANT UNDER THE TERMS OF THE RESOURCE MANAGEMENT ACT 1991.

Note: Only the southernmost arm of Site 29 was surveyed, situated immediately northeast of the beach ridge, centred on NZMS 260 Map R27 28 Pt Q27, Wellington, GR 663797.

BOUNDARY

That the site is secluded, fenced and grazed should not obscure the fact that it is ecologically and geologically part of the Kohangatera wetland.

The S.N.A. boundary should include all of the area currently included and be extended to include:

the nearby site of the cryptic, prostrate shrub *Muehlenbeckia ephedroides*, listed as high priority in the Department of Conservation's "Plant Conservation Strategy". The approximate site is marked "X" on the map;

and the breeding site, marked "Z", of *Charadrius bicinctus*, banded dotterel, the only NZ endemic plover to breed in the Wellington Conservancy.

HISTORY/CULTURAL VALUES

The site has significant geological, ecological, and cultural values.

On the 1974 inch-to-the-mile Wellington map, the site is shown as having a larger patch of open water which drained to the north i.e. directly into Lake Kohangatera.

The Kohangatera gravel bar, a raised beach ridge occupying the mouth of a valley, and showing 1450 and 1855 uplifts, is a nationally-important geological feature (East Harbour Regional Park Management Plan, 1995) as well as a breeding site of Banded Dotterel, a protected endemic.

At the southwestern edge of the wetland and divided in two by a fence constructed in recent times, is the Maori archaeological site recorded as Site No. 10, or part Site No. 10, Fitzroy Bay, (DoC Archaeological database). Heat-fractured stones and several opercula lie scattered on the surface of an area about 50 metres by 20 metres. The presence of this material is evidence that the site was used in early times, probably in relation to eeling, fishing and catching water-fowl, since the water level was higher then. Raupo pollen may also have been harvested there in season. The site is now so badly degraded by stock and sheep that "...it would be impossible to sort out which pieces of material originated in which part of the site." (pers. comm. Tony Walton, Dept of Conservation Archaeological Section.)

(Part) Site 29, Page 2.

FLORA/FAUNA

"The diversity of environments is matched by a corresponding diversity of plant communities and plant species." (East Harbour Management Plan" 1995.) Site 29 is part of the Kohangatera complex, the subject of the quote.

Approximately 100 x 200 metres in extent, this (raupo)-Carex-sedgeland has small patches of open water. Fringed by a band of rushes and sedges, and with patches of *Olearia solandri* and *Coprosma propinqua*, toetoe, ti kouka and swamp flax, it is virtually 100% indigenous.

Spur-winged Plover and Welcome Swallow, both protected, self-introduced native birds, were seen at the site, as were pihoihoi (pipit) and riroriro (greywarbler). The wetland, with its fringe of shrubs and occasional trees, is significant habitat for these species, and for banded dotterel, in the midst of the predominantly pastoral surroundings. "Banded dotterel feed on a variety of terrestrial and aquatic invertebrates, supplemented by occasional berries of prostrate plants..." ("Field Guide to the Birds of New Zealand"). The wetland's proximity to the breeding site makes it therefore a significant resource for this species.

CONDITION

Stock and sheep trample the edges of the site, and browse the vegetation: "The most significant animal threats... are from cattle and sheep. Damage being done to the wetlands, lake margins and coastal dune vegetation needs to be monitored and controlled." (Page 30, East Harbour Park Management Plan, 1995.)

"There is little doubt that removal of stock from the lake edges will allow a hinterland of marsh ribbonwood, manuka, cabbage tree and native broom to develop as a natural buffer for this floristically rich habitat". ("Wellington's Living Cloak, A Guide to the Natural Plant Communities", Isobel Gabites, 1993, writing about the whole Kohangatera complex.).

REPRESENTATIVENESS/RARITY

The vegetation is a representative association of indigenous, coastal, wetland plants at a later successional stage than the other, coastal reaches of the Kohangatera wetland complex.

Indigenous wetlands are rare in the Wellington region. Site 29 derives significant, intrinsic value from this.

A biological survey of the site may reveal the presence of some of the rare biota known to be in the main Kohangatera wetland, e.g. the aquatic plant *Potamogeton ochreatus*, and giant kokopu.

DIVERSITY

The site contributes to the overall diversity of ecosystems and habitat in the Pencarrow Lake area. Diversity of habitat is discussed in the "East Harbour Park Management Plan" 1995, as follows: "The coastal area... includes a considerable variety of different habitats, particularly in the vicinity of Lakes

Kohangatera and Kohangapiripiri. These include mobile wind deposits, gravel beaches, coastal cliffs, lakes and freshwater swamps..." Site 29 is a significant part of this diversity.

DISTINCTIVENESS/CONTINUITY/LINKAGE

Along with the Lake Kohangapiripiri bar, the Kohangatera gravel bar is considered the "best-equal example of a beach ridge raised by tectonic activity, in the Wellington Region." (Draft Wellington Regional Landscape Plan). The bar is contiguous with the study site, and both are ecologically and physically continuous with the Lake Kohangatera complex.

LANDSCAPE INTEGRITY

Invisible from the beach because of the bar, and tucked in behind the remains of a spur toe which has been bulldozed to make a farm road, the site's significance in the landscape is that is a readily-accessible example of the continuing, tectonic and ecological processes which have shaped the region.

The two sedge species which constitute the main vegetation component, the bands of rushes and the fringe of shrubs at the edges provide indigenous, textural and colour contrast to the surrounding pasture.

ECOLOGICAL RESTORATION

Site 29's ecosystem would readily restore itself, given time, protection from grazing animals, and retention of the water table. In broad terms, the likely vegetation succession would be towards an increase in flax and a decrease in raupo and other plants of open water habitat.

SUSTAINABILITY

Unless animal incursions are prevented, it is highly unlikely the site will retain its indigenous character.

OTHER CONSERVATION BENEFITS

The site is a compact, accessible example of an indigenous wetland undergoing a largely natural, successional process.

THREATS

Drainage; damage by stock; invasion by exotic species brought in by stock or other means; alteration of topography.

The *cumulative* effects of local land-use practices need to be taken into account.

RECOMMENDATION

That a means be negotiated to adequately protect the wetland, the archaeological site, the nearby Muehlenbeckia ephedroides site and the banded dotterel breeding site, from preventable, deleterious effects.