

## MAKETU SPIT - 9 AUGUST 2014

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A keen group of twelve botanists from the greater Bay of Plenty and the Waikato gathered at the mouth of the Kaituna River. There was not a cloud in the sky and it was a glorious day for a botanical foray, although there was a very cold wind! Julian Fitter from the Maketū Ongatoro Wetland Society generously gave an overview of the work that the group had been undertaking on the Spit, and also of the actions that Bay of Plenty Regional Council has developed for redevelopment of the lower Kaituna River and the Maketū Estuary.

We explored the seaward margin of the Spit, working our way to the eastern end from the Kaituna River mouth. One of the most notable features was the change to the dune vegetation brought about by the hard work of the Maketū Ongatoro Wetland Society. I have been a regular visitor to the spit, several times a year, since 1985, and have noticed many changes in the vegetation cover. The cover and density of weeds - including marram, pampas, African boxthorn, gorse, pines, lupins, purple groundsel (*Senecio elegans*), and Italian evergreen buckthorn - had slowly increased until weeds had become very well established. However, over recent years, the Maketū Ongatoro Wetland Society has greatly reduced the extent of weeds on the dunes. Behind the crest of the foredune the predominant vegetation cover is now mainly *Muehlenbeckia complexa* and *Ficinia nodosa*, with local *Carex testacea*, scattered *Carex pumila*, *Oxalis rubens*, and local patches of *Senecio biserratus* scattered amongst the *Muehlenbeckia complexa*. The front of the foredune is covered by spinifex, with local *Lachnagrostis billardierei* and scattered pingao, *Calystegia soldanella*, and *Oxalis rubens*.

After reaching the end of the Spit we returned via the southern (estuary) side. There are small herbfields of *Sarcocornia quinqueflora* along the estuary margins, along with local areas of sea rush. Small patches of arrow grass herbfield were also present.

One small population of *Austrostipa stipoides* was found, and this is not known from elsewhere in the estuary. A couple of small dense swards of *Zoysia pauciflora* were also found, and with some searching we located a *Zoysia* seed head. An exciting find was six large *Melicytus novae-zealandiae* (two to three metres tall) beneath some radiata pine near the estuary which did not appear to have been planted, but have probably established naturally. This is one of few natural mainland populations of coastal mahoe in the Bay of Plenty. It also occurs on Matakana Island, on the Rangitāiki dunes east of the Rangitāiki River, and at Pāpāmoa where it may have naturalised from plantings.

The Maketū Ongatoro Wetland Society is well down the track with weed control on the dunes. Key species which still require control effort are *Rhamnus*, and *dimorphotheca*, and we also found two small infestations of two monocotyledonous plants in the Iridaceae family. Of course, marram, pampas, African boxthorn, gorse, and saltwater paspalum will still require ongoing control for probably many years yet, along with the ambitious control of purple groundsel. At the eastern end of the Spit there were numerous adventive herbaceous species, including silverbeet, sea radish, sea rocket, *dimorphotheca*, and local examples of tomato and other exotic species. Many of these are probably present as a result of the increased fertility of the soil from the abundance of sea birds.

We were all very impressed with the results that the Maketū Ongatoro Wetland Society has achieved, and the Spit is a fantastic example of what can be done by a relatively small group of committed people. It was a very interesting and enjoyable day out.

# CHECKLIST OF VASCULAR PLANT SPECIES OF MAKETU SPIT

## Key

P = Planted.

N = Naturally occurring at the site.

## **INDIGENOUS SPECIES**

### **Monocot. trees and shrubs**

*Cordyline australis* (N, P)                      tī kōuka, cabbage tree

### **Dicot. trees and shrubs**

*Coprosma repens* (N<sup>1</sup>, P)                      taupata  
*Coprosma robusta* (N, P)                      karamū, kāramuramu  
*Dodonaea viscosa* (P)                          akeake  
*Hebe stricta* var. *stricta* (P)                      koromiko, kōkōmuka  
*Leptospermum scoparium* agg. (P)                      mānuka  
*Melicytus novae-zelandiae* (N, P)                      coastal māhoe  
*Metrosideros excelsa* (P)                          pōhutukawa  
*Myoporum laetum* (P)                              ngaio  
*Ozothamnus leptophyllus* (P)                      tauhinu  
*Pittosporum crassifolium* (P)                      karo  
*Pittosporum eugenioides* (P)                      tarata; lemonwood  
*Plagianthus divaricatus* (N)                      marsh ribbonwood, mākaka

### **Dicot. lianes**

*Calystegia soldanella* (N)                      panahi, shore bindweed  
*Calystegia sepium* subsp. *roseata* (N)                      pōhue  
*Muehlenbeckia australis* (N)                      puka  
*Muehlenbeckia complexa* (N)                      pōhuehue  
*Muehlenbeckia australis* × *M. complexa* (N)

### **Ferns**

*Asplenium polyodon* (N)                      petako  
*Pteridium esculentum* (N)                      rārahu, bracken  
*Pyrrosia eleagnifolia* (N)                      leather-leaf fern

### **Grasses**

*Austroderia fulvida* (P)                          toetoe  
*Austrostipa stipoides* (N)  
*Lachnagrostis billardierei* (N)                      sand wind grass  
*Microlaena stipoides* (N)                      pātītī, meadow rice grass

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<sup>1</sup> Also establishing from plantings.

<i>Poa billardierei</i> (P)	sand tussock, hinarepe
<i>Spinifex sericeus</i> (N)	kōwhangatara, spinifex
<i>Zoysia pauciflora</i> (N)	

### Sedges

<i>Carex dipsacea</i> (N)	
<i>Carex testacea</i> (N)	
<i>Cyperus ustulatus</i> f. <i>ustulatus</i> (N)	toetoe upoko-tangata
<i>Eleocharis gracilis</i> (N)	
<i>Ficinia nodosa</i> (N)	wīwī
<i>Ficinia spiralis</i> (N)	pīngao
<i>Isolepis cernua</i> (N)	
<i>Machaerina juncea</i> (N)	
<i>Schoenoplectus pungens</i> (N)	

### Rushes

<i>Apodasmia similis</i> (N)	oioi
<i>Juncus kraussii</i> var. <i>australiensis</i> (N)	wī, wīwī sea rush
<i>Juncus pallidus</i> (N)	wī, wīwī
<i>Juncus sarophorus</i> (N)	

### Monocot. herbs (other than orchids, grasses, sedges, and rushes)

<i>Phormium tenax</i> (N, P)	harakeke, flax
<i>Triglochin striata</i> (N)	arrow grass

### Composite herbs

<i>Cotula coronopifolia</i> (N)	bachelor's button
<i>Senecio biserratus</i> (N)	
<i>Senecio glomeratus</i> (N)	pukatea

### Dicot. herbs (other than composites)

<i>Apium prostratum</i> subsp. <i>prostratum</i> var. <i>filiforme</i> (N)	tūtae-kōau, New Zealand celery
<i>Haloragis erecta</i> subsp. <i>erecta</i> (N)	toatoa
<i>Lobelia angulata</i> (N)	pānakenake
<i>Oxalis rubens</i> (N)	sand oxalis
<i>Samolus repens</i> var. <i>repens</i> (N)	māakoako
<i>Sarcocornia quinqueflora</i> (N)	ureure, glasswort
<i>Selliera radicans</i> (N)	remuremu, rekoreko, raumangu
<i>Tetragonia implexicoma</i> (N)	kōkihi, rengamutu, rengarenga, tūtae-ikamoana

## NATURALISED AND EXOTIC SPECIES

### **Gymnosperms**

*Pinus radiata* radiata pine

### **Dicot. trees and shrubs**

*Lupinus arboreus* lupin  
*Lycium ferocissimum* boxthorn  
*Metrosideros kermadecensis* (P)  
*Myoporum insulare* (P) Australian ngaio  
*Rhamnus alaternus* Italian evergreen buckthorn  
*Rubus* sp. (*R. fruticosus* agg.) blackberry  
*Salix cinerea* (dead) grey willow  
*Ulex europaeus* gorse

### **Dicot. lianes**

*Rumex sagittatus* climbing dock

### **Grasses**

*Agrostis stolonifera* creeping bent  
*Aira caryophylla* subsp. *caryophylla* silver hairy grass  
*Ammophila arenaria* marram  
*Anthoxanthum odoratum* sweet vernal  
*Bromus diandrus* ripgut brome  
*Bromus willdenowii* prairie grass  
*Catapodium rigidum* hard grass  
*Cortaderia selloana* pampas  
*Cynodon dactylon* Indian doab  
*Dactylis glomerata* cocksfoot  
*Ehrharta erecta* veldt grass  
*Holcus lanatus* Yorkshire fog  
*Lagurus ovatus* harestail  
*Lolium perenne* rye grass  
*Paspalum vaginatum* saltwater paspalum  
*Poa annua* annual poa  
*Poa pratensis* Kentucky bluegrass  
*Schedonorus arundinaceus* tall fescue  
*Sporobolus africanus* ratstail

### **Rushes**

*Juncus articulatus* jointed rush

## Monocot. herbs (other than orchids, grasses, sedges, and rushes)

*Sparaxis* sp.

Unidentified monocot. (i) (iridaceae family)

Unidentified monocot. (ii)

## Composite herbs

*Arctotheca calendula*

cape weed

*Aster subulatus*

sea aster

*Cirsium vulgare*

Scotch thistle

*Conyza parva*

smooth fleabane

*Conyza sumatrensis*

broad-leaved fleabane

*Crepis capillaris*

hawksbeard

*Hypochaeris radicata*

catsear

*Osteospermum fruticosum*

rain daisy, dimorphotheca

*Senecio elegans*

purple groundsel

*Senecio skirrhodon*

gravel groundsel

*Senecio vulgaris*

groundsel

*Sonchus oleraceus*

puha, sow thistle

## Dicot. herbs (other than composites)

*Amaranthus powellii*

redroot

*Anagallis arvensis*

scarlet pimpernel

*Arenaria serpyllifolia*

sandwort

*Atriplex prostrata*

orache

*Beta vulgaris*

beet

*Cakile edentula*

sea rocket

*Cakile maritima*

sea rocket

*Cerastium glomeratum*

annual mouse-ear chickweed

*Daucus carota*

wild carrot

*Eschscholzia californica*

Californian poppy

*Foeniculum vulgare*

fennel

*Fumaria muralis*

scrambling fumitory

*Galium aparine*

cleavers

*Lepidium africanum* agg.

pepper cress

*Lotus pedunculatus*

lotus

*Lythrum hyssopifolia*

hyssop loosestrife

*Malva dendromorpha*

tree mallow

*Malva neglecta*

dwarf mallow

*Medicago lupulina*

black medick

*Medicago nigra*

bur medic

*Melilotus indica*

King Island melilot

*Myosotis arvensis*

field forget-me-not

*Oenothera stricta*

evening primrose

<i>Orobanche minor</i>	broomrape
<i>Oxalis pes-caprae</i>	Bermuda buttercup
<i>Phytolacca octandra</i>	inkweed
<i>Plantago australis</i>	swamp plantain
<i>Plantago coronopus</i>	buck's-horn plantain
<i>Plantago lanceolata</i>	narrow-leaved plantain
<i>Plantago major</i>	broad-leaved plantain
<i>Polycarpon tetraphyllum</i>	allseed
<i>Ranunculus repens</i>	creeping buttercup
<i>Rumex acetosella</i>	sheep's sorrel
<i>Rumex obtusifolius</i>	broad-leaved dock
<i>Solanum chenopodioides</i>	velvety nightshade
<i>Solanum lycopersicum</i>	tomato
<i>Solanum nigra</i>	black nightshade
<i>Stellaria media</i>	chickweed
<i>Trifolium pratense</i>	red clover
<i>Trifolium repens</i>	white clover
<i>Verbena bonariensis</i>	purple-top