

# **Assessment of coastal dune management priorities for Palmerston North Area Office.**

Graeme La Cock. Technical Support Officer, Flora; Wanganui Conservancy  
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## **Introduction**

During recent discussions on the priorities for the coastal place in Whanganui Conservancy's Draft Natural Heritage Strategy for 2010 to 2015, it became evident that not all staff were aware of the values of the main dune areas in the conservancy, and how this information was used to influence the direction of future dune work in the conservancy.

This report focuses on the main intact active dunefields of the Palmerston North Area, irrespective of their current management agency and ownership.

For the purposes of this exercise the following are excluded:

- dune forests (e.g. Round Bush Scenic Reserve, Himatangi Scientific Reserve)
- dune lakes (e.g. Pukepuke Lagoon)
- the narrow strip of dunes between the sea and the pine plantations that are a feature of this coast.
- The air force's live firing range in the middle of Santoft Forest.

It includes assessments of and recommendations on dunefields that are not managed by the Department.

This assessment is based on current knowledge, and no new surveys or studies have been undertaken to complement this information. The intention is not to pick between sites, but rather to identify how sites can be managed to complement each other where appropriate.

## Relevant extracts from draft Natural Heritage Strategy

### Coastal dune country

This area stretches from the Manawatu Estuary to Patea, and forms a large component of the Foxton Ecological District. Several sites that are important for conservation are not protected by the Department.

### **CMS outcomes**

1. The natural values of the dune systems, associated wetlands and coastal forest remnants are recognised and New Zealanders engage in their conservation.
2. Representative populations of priority species and habitats are protected through control of key plant, human and animal threats.

### **CMS objectives**

1. To advocate for the protection of natural values and coastal processes with landowners, other agencies and recreational users.
2. To retain and improve the protection of the natural areas currently managed by the Department.
3. To increase the area of natural dune lands under protection and the quality of the habitat within them by seeking partnerships with tangata whenua, other land managers, land owners and community groups.

### **Goals**

#### **Goal CD 1**

*Natural coastal dune ecosystems and their associated processes and biodiversity values are maintained or enhanced at key sites as per figure 7.*

#### **Actions**

- CD 1.a. Control weeds to a level that allows natural processes to proceed, and limit the spread of introduced sand stabilisers.
- CD 1.b. Advocate for the restriction or closure of vehicular access that threatens coastal dune processes and biodiversity.
- CD 1.c. Create wetlands and manipulate habitat for plants reliant on ephemeral wetlands, where these are not being formed through natural processes.
- CD 1.d. Protect and rehabilitate foredunes with native sandbinders where marram dunes have collapsed or blowouts have been created, to prevent loss of rear dune habitat.

- CD 1.e. Actively manage and translocate threatened plants as per Appendix 2 and monitor threatened species to ensure that management in these areas is effective.

**Goal CD 2**

*Natural inland coastal country ecosystems and their associated processes and biodiversity are maintained or restored at key sites as per figure 7.*

Actions

- CD 2.c. Investigate by June 2011 the feasibility of linking Tawhirihoe with Pukepuke Lagoon as one conservation unit.

**Goal CD 4**

*The dunes between Foxton and Himatangi are protected.*

Actions

- CD 4.a. Document the values of the area to strengthen the case for its conservation and to raise awareness of the value of the site, by June 2010.
- CD 4.b. Actively advocate for the protection of this site, and support other agencies in discussions with the landowners.

**Main coastal sites considered in this exercise.**

The main dunefields assessed here are:

- Foxton- Himatangi
- Tawhirihoe
- Moanaroa
- Koitiata

For each dunefield the following information will be collated:

- Current management/ownership
- Key actions as per NH strategy
- Partridge (1992) evaluation
- Number of indigenous plant species
- Number of weeds
- Special plant values
- Special faunal values
- Contribution to overall dune management for PNAO coastline
- Pertinent documents

## **Foxton-Himatangi**

Current ownership: mainly private (Sexton); RAP

Key actions: CD 1a-e; CD 2c; CD 4a,b.

Partridge evaluation: Himatangi Beach – 9  
North of Foxton Beach - 13

Number of indigenous plant species: not known. Gill Rapson has been contracted to produce a report on the values of the site.

Number of weeds: not known

Special plant values: *Pimelea actea* – type locality; only known site in NI. Several other threatened and rare plant species.

Special faunal values: katipo, skinks?

Contribution to overall dune management for PNAO coastline:

- intact foredune dominated by spinifex.
- Great ephemeral wetlands
- Generally not backed by pine forest
- Active dunefield
- Geomorphology well studied and understood

Pertinent documents:

PNA report, Hesp studies, Shepherd geomorphology and history, rare ecosystems.

**Personal assessment:** This is one of the best examples of a spinifex foredune backed by an actively mobile dunefield in the conservancy. It is also the only expanse of dunes along this coast that is not planted right up to the foredunes in pines. Currently conserved areas are associated with river mouths.

Several authors have recommended it for protection (e.g. Partridge 1992, Ravine 1986, Ogden undated, draft natural heritage strategy). Dunes are given a chance to move, and ephemeral wetlands are allowed to establish and disestablish. The main plant values are associated with these wetlands, and include *Pimelea actea*, which was until recently only known from this stretch of coastline, although it was originally found at Koitiata. It hasn't been found there for over 20 years despite several visits by botanists. There are also historic records of *Sebaea ovata* from here, plus what I consider to be highly suitable habitat for future reintroductions. Conversion for farming remains a threat.

Horizons also see this as a very important natural area, and are prepared to work closely with the department to see it conserved.

Gill Rapson (Massey U.) has been contracted to produce a report on the values of the site to aid in any future negotiations with the landowners. This report must still be completed.

The actions in the draft NHS revolve around conserving this site. Once managed as a conservation area it won't require the active weed, wetland and foredune management that other sites do. Rather social issues, e.g. vehicles in dunes, will be the focus.

## **Tawhirihoe**

Current management/ownership: DOC

Key actions as per NH strategy: CD 1a-e; CD 2c.

Partridge (1992) evaluation: Rangitikei River - Himatangi Beach: 10

Number of indigenous plant species: 49

Number of weeds: 86

Special plant values: *Pimelea actea* transplanted here. Only currently known site of *Carex litorosa* in conservancy. Other sites were in N Taranaki.

Special faunal values: ?

Contribution to overall dune management for PNAO coastline:

S bank of Rangitikei River

Good ephemeral wetlands, and sites for artificial ephemeral wetlands.

Pertinent documents:

PNA report, Singers, management plan

**Personal assessment:** This site is managed as a scientific reserve, which has allowed experimentation with wetland construction. There is also fernbird habitat that needs to be maintained. These original and experimental wetlands do contain several threatened plants. Weeds are a major problem, but there is an effective weed management programme in place.

The mouth of the Rangitikei River changes, especially during times of heavy flow, therefore foredunes are not necessarily stable and longlasting. The erosion of foredunes following the 2004 floods was a good example of this. There may have been a large pulse of sand introduced to the system as well. Ultimately a massive mobile dune started moving, ultimately covering the road. This was controlled largely through Kelley's efforts with volunteer groups. The site is backed by pine plantations, but in some areas there is a link through to Pukepuke Lagoon. This is worth investigating.

## **Moana Roa**

Current management/ownership: DOC

Key actions as per NH strategy: CD 1a-e

Partridge (1992) evaluation: not assessed, but Waimahora Stream – Rangitikei River (15.5. km) = 5.

Number of indigenous plant species: not known, but apparently doesn't have high diversity.

Number of weeds: not known

Special plant values: low weed impacts

Special faunal values: ?

Contribution to overall dune management for PNAO coastline:

Low, wide foredunes dominated by spinifex.

Minimal impact to rear dunes.

Limited weed impacts

Lagoon (previous course of Rangitikei)

Pertinent documents

**Personal assessment:** Great example of lowlying dune system. Doesn't have the huge mobile dunes present on other side of river. Different type of wetland in a lagoon.

Not sure of specific botanical values, but well worth conserving. Some minor weed issues, but generally the most unmodified of our dunefields.

## **Koitiata**

Current management/ownership: District Council (vested?)

Key actions as per NH strategy: CD 1a-e

Partridge (1992) evaluation: Turakina River – Waimohana Stream = 8

Number of indigenous plant species: 98 (plus 1 hybrid)

Number of weeds: 172 (incl pypgrass)

Special plant values: 6 threatened or rare species, with a further 3 with historic records (incl *Sebaea ovata* and *Pimelea actea*).

Special faunal values: ?

Contribution to overall dune management for PNAO coastline:

Lagoon (former Turakina R bed)

Good wetland/sedgeland

Pertinent documents

**Personal assessment:** Good restio wetland not present at other sites. Good botanical values. Current management is non-existent other than pypgrass.

From a purely conservation standpoint this site is worth conserving, so I'd advocate for DOC trying to get the council to return it to DOC for management – main issues would be weeds.



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