

MAHANGA RESERVES MAHIA PENINSULA



Reserves Management Plan

FINAL REPORT ADOPTED BY COUNCIL



Final report prepared for the wairoa district council
by eastern earth landscape architects

8 march 2011



MAHANGA RESERVES

MAHIA PENINSULA

Reserves Management Plan

FINAL REPORT ADOPTED BY COUNCIL

**Final report prepared for the wairoa district council
by eastern earth landscape architects
8 march 2011**

CONTENTS

PREFACE1

LEGISLATIVE FRAMEWORK.....3

PLANNING FRAMEWORK5

PART A INTRODUCTION.....7

1.0 Reserve Inventory & Location8

 1.1 Location8

 1.2 Site Context8

 1.3 Reserve Inventory.....8

PART B THE ENVIRONMENT15

2.0 The Natural & Physical Environment.....16

 2.1 Ecological District16

 2.2 Topography & Aspect16

 2.3 Geology & Landform.....16

 2.4 Climate.....16

 2.5 Vegetation/Landcover.....16

3.0 Landscape – Natural & Cultural.....17

 3.1 Natural & Physical Features /Landscapes.....17

 3.2 Cultural Significance17

PART C RESOURCE STATEMENT-current21

4.0 Mahanga Reserves Inventory.....22

 4.1 Introduction22

 4.2 Mahanga Reserves.....23

PART D MANAGEMENT OBJECTIVES & POLICY43
SECTION 1 GENERIC POLICY44
SECTION 2 SPECIFIC MAHANGA RESERVES POLICY44

PART E DEVELOPMENT PROJECTS.....51

PART F APPENDICES57

Appendix 1 Reserves Act 1997
Appendix 2 Master List of Mahia Reserves
Appendix 3 Mahanga Reserves Aerials & Development Concept Plans
Appendix 4 Mahanga Dune Restoration Management Plan: Hawke's Bay Regional Council
Appendix 5 Mahanga Erosion Photographs

PREFACE

On 25 June 2009, the Wairoa District Council notified its intention in the Wairoa Star to prepare a Reserve Management Plan for its remaining reserves at Mahia including the Mahanga Reserves.

A preliminary management plan grouping a range of Mahia Reserves together (including the Mahanga Reserves) was prepared in 2009. This plan was approved for release for public appraisal, consultation and submission at a Council meeting on 8th December, 2009. Consultation occurred via a series of caravan days and public meetings over the summer holiday season (2009-2010) when a greater number of reserve users were in the Mahia area. A cultural consultation hui with Mahanga tangata whenua was held as follows:

- 23 March 2010 Mahanga Marae

Mahanga residents were active in their attendance at the caravan consultation and the submission process. All submissions and information received at consultation meetings were summarised and a summary table of issues for adoptions or debate prepared for Council's consideration at the hearing. A Council hearing was held on 10th August 2010 where submitters spoke to their submissions. A significant submission from Mahanga e Tu included a draft Dune Restoration Plan prepared by the Hawke's Bay Regional Council. Mahanga e Tu is a community group based at Mahanga who are motivated to undertake the collection of seed, organise the propagation of plants and undertake the spraying of exotic weeds and the planting of dune plants under the guidance/supervision of the Hawke's Bay Regional Council.

As a result of the hearing submissions and the new dune restoration proposal, Council recommended the following three steps:

- That the Mahanga Reserves be separated from the other Mahia Reserves into a stand-alone reserve management plan;
- That the proposal to restore the dunes at Mahanga be taken to the Mahanga community again as they have not had the opportunity to be made aware of the restoration proposal and there are repercussions from the proposal that require community buy-in;
- That Eastern Earth Landscape Architects (EELA) prepare a landscape concept plan incorporating the amenity elements sought by submitters and approved by Council in August 2010, including:
 - The removal of the pines along Happy Jack's Road, setting out and fencing the re-surveyed boundary;
 - Provision of a formed pathway along the landward margin of Happy Jack's Road;
 - Provision of a wider berm for parking along the seaward side of Judges Parade;
 - Discussion and set-out of staged growth of car park facilities;
 - Confining vehicle access (including farm bikes, beach quad bikes etc) to the single route near the stream mouth, requiring signage to this effect and the closing of the walkways through the dunes to vehicles;

- Suggestions regarding recommended improved surfaces for the car parks.

In addition, the landscape concept will address the interface between the dune restoration plan and the existing northern reserve landscape, including the grassed area at the front of the northern car park, the urupa, Happy Jack's Road and the provision of fenced floating ramps through the restoring dunes. The location and type of fencing to restrain public entry to the restoration planting will be determined.

Following this directive, the following further work was completed:

1. EELA prepared a separate Mahanga RMP (incorporating the up-dated Hawkes Bay Regional Council dune restoration plan) and landscape concept and presented them to Council at the December 14th Council meeting. Approval was given for these draft documents to go to public consultation over January.
2. A letter-box distribution of submission brochures was made to Mahanga properties in late December and the reports were loaded to the WDC web-site prior to Christmas. Council caravan open days were held at Mahanga on the 6th, 7th and 8th January focusing on both the draft dune restoration plan and the draft landscape concepts. The submissions closing date was Friday 31st January.
3. The Wairoa District Council held a submissions hearing on 21st February where submitters were heard. The Hearing Committee gave its support to the draft documents. Edits recommended by the Hearing Committee have been adopted into this final report which was adopted formally by the WDC Council meeting on 8th March 2011.

The Council confirmed that a District-wide Coast Care group will be formed with community representation being drawn from local individuals and groups such as Mahanga E Tu for the local Mahanga dune restoration project.

LEGISLATIVE FRAMEWORK

The Reserves Act 1977

The Reserves Act has three main functions. These are:

- To provide for the preservation and management for the benefit and enjoyment of the public, areas of New Zealand with some special feature or value.
- To ensure as far as practicable, the preservation of representative natural ecosystems or landscapes and the indigenous species of flora and fauna.
- To ensure, as far as practicable, the preservation of access for the public to coastline, islands, lakeshore and riverbanks and to ensure the protection and preservation of the natural character of these areas.

Definition and Purpose of a Management Plan

The Act requires (s.41(3)) that a management plan **‘provide for and ensure’** the following:

- the principles set out in ss.17 to 23 that apply to a reserve of the relevant classification
- compliance with those principles
- use, enjoyment, maintenance, protection, and preservation of the reserve(s) as the case may require.

The Management Plan Preparation Process

The process of preparing a management plan provides the public with opportunities to take part in the decision making which will affect the future of the reserves. The management plan process is outlined below. The plan, once adopted, can be amended so that it may be adapted to changing circumstances, or in accordance with increased knowledge.

The process followed in the production of this plan is in accordance with the provisions of the Reserves Act. The steps involved in this process are as follows:

1. Wairoa District Council decision to prepare a management plan for the Mahia Reserves
2. Public notification of intention to prepare draft management plan and request for submissions (minimum of 1 month)
3. Issues identified from research and consultation
4. Preparation of a draft management plan

5. Draft management plan endorsed by Council and advertised for public comment (minimum of 2 months)
6. Council hearing of submissions
7. Modifications to draft management plan resulting from submissions and hearing and adoption of final management plan by Council.

Reserve Types

The Reserves Act provides for the acquisition of land for reserves, and the classification and management of reserves. Reserve areas covered by this Mahia Reserves Management Plan are classified as Recreation Reserves and Esplanade Reserves. Appendix 1 includes the management objectives that apply to each of these reserve types as noted in the Reserves Act 1977.

Review Required

In accordance with the Reserves Act 1977, Council is required to keep management plans under continuous review or review at 5-yearly intervals. Council will review this plan regularly and revise it as necessary.

Implementation of a Management Plan or Development Concept

Management Plans often contain suggestions for various works or improvements. Once the management plan is adopted these proposals are costed and incorporated into long-term financial strategies. However, inclusion of a suggestion in an adopted plan doesn't necessarily mean that the work will happen immediately and in some cases, may be deleted as a consequence of future review.

Other Legislation

This Management Plan must provide for the specific purpose of reserves under the Reserves Act. However, there are other pieces of legislation that must be taken into account. These are now noted:

Resource Management Act 1991 (RMA)

The Resource management Act sets up a framework for the sustainable management of natural and physical resources. The Wairoa District Council must work towards achieving the purpose of the Act – sustainable management – when exercising their powers and functions under that Act.

Historic Places Act 1993

Under Section 10 of the Historic Places Act 1993, all archaeological sites, whether recorded or not, are protected and may not be destroyed, damaged or modified without authority from the New Zealand Historic Places Trust.

PLANNING FRAMEWORK

In July 2004 the Wairoa District Council adopted the Wairoa Coastal Strategy and then in September the same year, the Mahia Beach Township Structure Plan. Following this the draft Mahia Isthmus Communities Structure Plan was prepared in 2006, but has never been adopted formally by Council. Plan Change 1B resulted in further changes to the Mahia planning environment with the Coastal (Mahia) Zone being developed with specific rules applying to proposed development within this zone.

These strategies involved major consultation with tangata whenua, resident and bach-owner communities and were intended to encapsulate the vision of locals for protecting and shaping the future of these sensitive communities on the Peninsula. It is important that the vision regarding Mahia's growth and development are carried forward where appropriate into Reserve Management Plans. Findings from these strategies and structure plans are relevant and will be mentioned in Section [A] of each individual Reserve Management Plan.

PART A INTRODUCTION

1.0 RESERVE LOCATION & INVENTORY

1.1 Location

Mahia Peninsula is located within the Regional District known as Hawke's Bay or the geological area known as Raukumara Peninsula. Mahia Peninsula is an hour's drive from Gisborne and two and a half hours drive from Napier. Wairoa District Council, whose administrative centre is located in Wairoa, has territorial authority over the area.

1.2 Site Context

Wairoa is the nearest town situated approximately 40 kilometres to the west. The Peninsula is dotted with small settlements: Mahia Beach approximately 500 baches; Mahanga Beach approximately 80 baches or homes; Oraka Beach, 20 baches; Te Mahia, a ribbon of coastal houses; Opoutama, Waikokopu and Whangawehi. Several marae and coastal urupa are a feature of the Mahia environment and the isthmus has a golf course and one camping ground at Mahia Beach. The Mahia reserves to be included in this Reserve Management Plan adjoin every one of these settlements, (excluding Opoutama whose reserves have been covered in a separate reserve management plan; only two Mahia Beach reserves will be included within this reserve management plan as the others have also been included in a separate reserve management plan. [Note: the Mahanga and Waikokopu reserves are to be withdrawn from this reserve management plan into separate reports]

1.3 Reserve Inventory

Master List of Mahia Reserves

In 2004, the Wairoa district Council produced a master list of reserves within the Mahia Peninsula, together with CTs, cadastral plans and gazette notices. The numbered list of reserves is attached as Appendix 2 and these numbers are referred to in the individual profiles of the Mahia Reserves. Since 2004, the Wairoa District Council has made steady progress with producing reserve management plans for clusters of reserves noted on the master list. These are summarised below:

1) Pohutukawa Reserve Management Plan

In February 2008 the Wairoa District Council adopted a Reserve Management Plan for the group of Reserves within the Mahia Beach area. The Reserves included in this Reserve Management Plan are listed in Appendix 3.

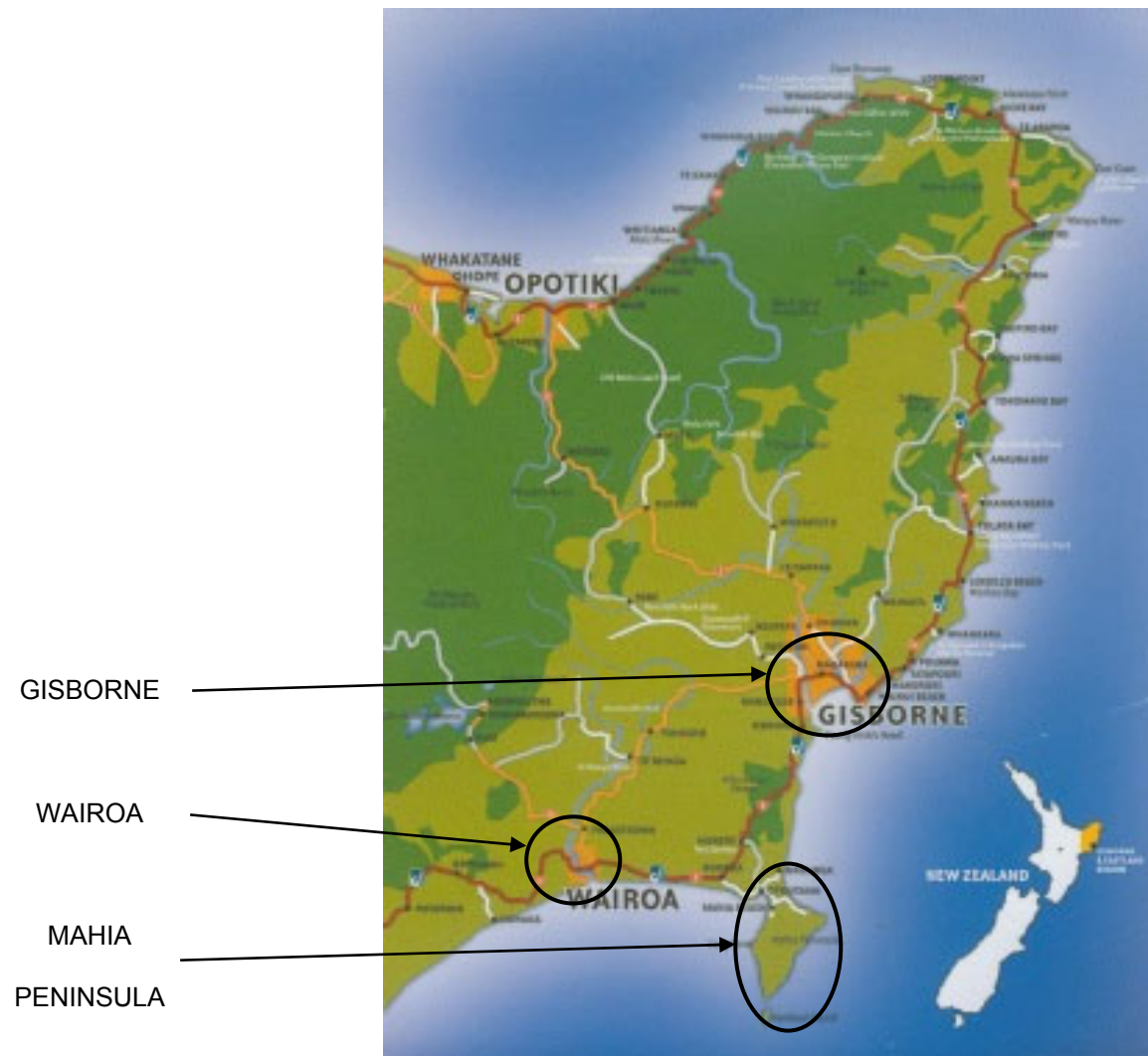


FIGURE 1 LOCATION

2) Opoutama Reserve Management Plan

In 2006 a Reserve Management Plan was prepared for the cluster of reserves at Opoutama. To date the adoption of this Reserve Management Plan has been stalled pending resolution of some significant road alignment issues within or adjoining reserve land at Opoutama. This resolution is now proceeding with a road re-alignment of the main road access to Mahia beach. The Reserves included in this Reserve Management Plan are listed in Appendix 3.

3) Grouped Mahia Reserves Management Plan

The remaining cluster of Mahia reserves were initially described in this plan - 13 Reserves in total - and work commenced in June 2009. These are listed in Table 1 below. Road Reserves are in addition to these reserves and are included in this report in the order shown on the master list or following the text of the nearest related reserve (eg Oraka Road road reserve following the other Oraka Reserves). The road reserves are listed in Table 2 below. Burial Grounds are excluded from the Grouped Mahia Reserves Management Plan. The legal descriptions and reserve status and size of the reserves are summarized in Section 4 and in Table 3 in Appendix 2. The location of all these reserves is shown on Figure 2.

However, following the Reserves hearing on 10th August 2010, two clusters of Mahia Reserves were withdrawn from the grouped Mahia RMP: the Mahanga Reserves and the Waikokopu Reserves. These clusters were seen as sufficiently complex in their own right as to deserve preparation of separate reserve management plans and accompanying reserve landscape plans.

4) Mahanga Reserves Management Plan

The draft Mahanga Reserves Management Plan was completed in December 2010 and was issued for consultation in December 2010. The list of relevant reserves is shown in Table 1 and their location on Figures 2 and 3.

5) Waikokopu Reserves Management Plan

This is going to public consultation in March 2011.

Table 1:- Reserves for Inclusion in Mahanga Reserves Management Plan

Master List Number	Reserve_Name	Reserve_Status_and_Purpose	District Plan Classification	Legal Appellation	Area	Certificate of Title
20	Mahanga Beach Reserve	Local Purpose Reserve	Not Listed	Lot 24 DP 22739 BLK II Mahanga SD	0.1700 Ha	HBP3/124
20	Mahanga Beach Reserve	Esplanade Reserve	R29	Lot 55 DP 12744 BLK II Mahanga SD	0.8549 Ha	HBRESE/9552
20	Mahanga Beach Reserve	Recreation Reserve	R29	Lot 54 DP 12744 BLK II Mahanga SD	2.1400 Ha	HBRESE/9552
20	Mahanga Beach Access	Vesting on Deposit for Local Purpose Reserve - Pedestrian Access	Not Listed	Lot 13 DP 359131 BLK II Mahanga SD	0.00459 Ha	241014
20	Judges Parade	Legal Road Reserve		Legal Road Reserve		
20	Happy Jack's Road	Legal Road Reserve		Legal Road Reserve		

Table 2:- Reserves for Inclusion in Grouped Mahia Reserves Management Plan

# on Master List	NUMBER & name on District Plan	NAME/ LOCATION	OMISSION on District Plan	NAME of Publication	DATE RMP commenced	DATE adopted by Council
20		Mahanga Beach Recreation & Esplanade Reserve		Withdrawn from this Mahia Grouped RMP		For further consultation
22	R36 Oraka Reserve	Oraka Beach Reserve also called Oraka Domain		Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
23		Oraka Conservation Reserve	Not noted as a Reserve on the Plan	Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
25	R37 Kaiuku Reserve	Kaiuku Reserve 1.		Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
26	R38 2 lots - western & eastern Lot.	Kaiuku Reserve 2A & 2B	Only the western lot is listed on the Plan.	Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
27		Kaiuku Reserve 3 'Foreshore Reserve'	Not listed as a Reserve on the Plan	Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
28	R39 Esplanade Reserve & Segregation Strips	Tokaroa Reef Reserve Local Purpose (Esplanade) Reserve		Grouped Mahia Reserves RMP	June 2009	Adopted August 2010

# on Master List	NUMBER & name on District Plan	NAME/ LOCATION	OMISSION on District Plan	NAME of Publication	DATE RMP commenced	DATE adopted by Council
31	R40 Coronation Reserve	Coronation Reserve Historic Reserve		Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
33	R8 Esplanade Reserve & two other Esplanade Reserves	Kinikini Esplanade Reserves	2 not listed as Reserves on the Plan	Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
34		Mokotahi Hill Reserve. Esplanade Reserve	Not listed as a Reserve on the Plan	Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
36	R33 Ormond Memorial Camping ground	Ormond Memorial Reserve		Grouped Mahia Reserves RMP	June 2009	Adopted August 2010
39		Waikokopu Plantation		Withdrawn from this Mahia Grouped RMP		For further consultation
40		Waikokopu Harbour Esplanade Reserve & Recreation Reserve		Withdrawn from the Mahia Grouped RMP		For further consultation

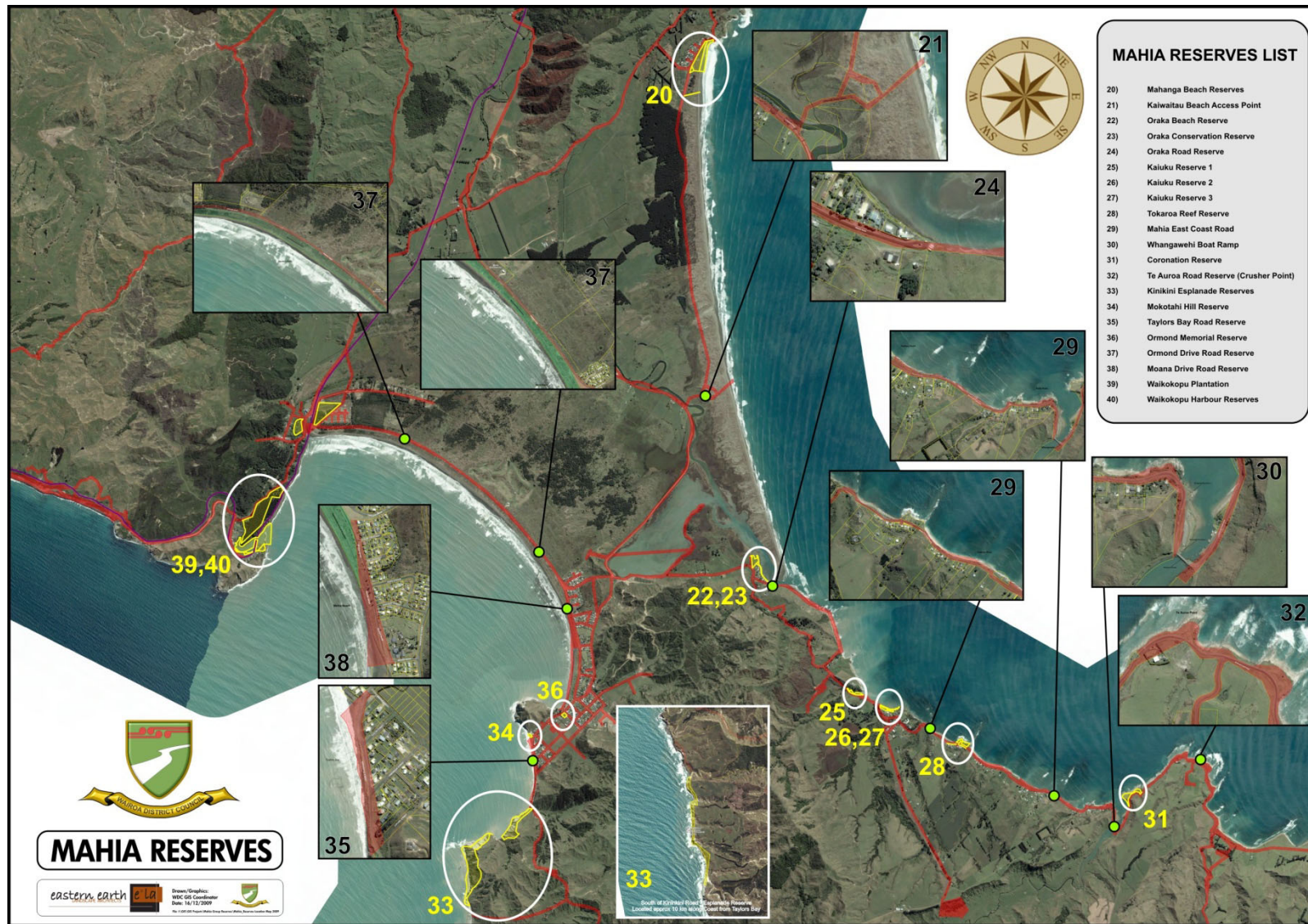


FIGURE 2 MASTER AERIAL OF MAHIA RESERVES INCLUDING MAHANGA RESERVES

PART B THE ENVIRONMENT

2.0 THE NATURAL & PHYSICAL ENVIRONMENT

2.1 Ecological District

The Mahia Peninsula and all the reserves found on the peninsula fall within the Mahia Ecological District of the Wairoa Ecological Region.

2.2 Topography & Aspect

The topography of the coast and peninsula is varied with reserves being found in quite disparate topographical areas including: beach dune systems, coastal escarpments of mudstone, coastal rock ledges, stream or lagoon mouths, small harbour margins, grassed foreshore ledges etc.

2.3 Geology & Landform

Mahia Peninsula is part of a rising structural high¹, partly formed by ancient up-lifted marine terraces cut into late Miocene Rocks. The isthmus itself is aggrading beach gravel and sand, forming ancient beach ridges and Holocene fixed dunes in an area that was once sea. Mahanga Beach forms the north-eastern edge of the natural tombolo or isthmus connecting the mainland with the Mahia Peninsula and reaches approximately 6 kilometres along the coast. Opoutama Beach forms the southern margin of the tombolo, between Opoutama and Mahia settlement, enclosing a shallow blue bay. The peninsula itself was once an island.

2.4 Climate

Mahia has a moderate coastal climate² with very warm, windy, dry summers. Most of the area's rainfall (1,000 mm around the coast) falls in the autumn and winter. High temperatures are frequent in summer which may be accompanied by dry foehn winds from the north –west.

2.5 Vegetation / Landcover

Land on the isthmus and peninsula is characterised by a predominantly 'working', pastoral landscape with cattle, sheep and deer grazing being the most common uses. On the hills in and around the peninsula, goat grazing is common. Feral goats are also evident. A small plantation of *Pinus radiata* lies to the south of Mahanga Beach settlement and this extends approximately 2 kilometres parallel

¹ Mazengarb C & Speden IG. Geology of the Raukumara Area. Institute of Geological & Nuclear Sciences, 2000

² Ibid P 29.

to Mahanga Beach within the back-dune environment. A significant wilding pine problem is evident near Opoutama spreading east through the isthmus dunes. Scattered wilding pines and shrubby exotic weeds such as boxthorn, blackberry and lupin are also apparent. Pockets of wetland reeds and cabbage trees contribute to natural character.

3.0 LANDSCAPE – NATURAL & CULTURAL

3.1 Natural & Physical Features/Landscapes

The natural features at Mahia include harbours, streams, beach dune systems and geological high points and marine terraces with steep coastal cliffs.

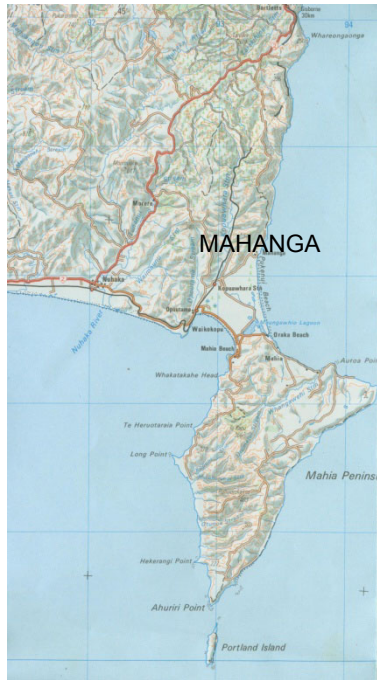
The Kopuawhara Stream flows in a north-south direction to the west of Mahanga Beach and bisects the tombolo and its associated dune system, creating a series of inter-connected back-swale wetlands and small lakes as it meanders towards the Maungawhio Lagoon at its southern-most point before entering the sea at Oraka Beach. This lagoon and its associated wetlands together with the Mahanga Beach dune system forms a significant natural environment now recommended for protection (RAP MAH 2) by the Department of Conservation³. These low-lying areas frequently become inundated in heavy rain causing surface flooding.

Other natural features include Mokotahi Point which lies immediately south of the Mahia Beach settlement, separating Mahia Beach from Taylors Bay. Two small natural harbours lie on opposite sides of the peninsula: one at Waikokopu which is the deepest natural harbour; and one at Whangawehi.

3.2 Cultural Significance

Mahia is of great significance for Maori. Several small marae occur around the coast each with its own formation history, its local kai moana collecting sites and its archaeological sites. There is oral history relating to the arrival of two canoes: The Takitimu waka arrived at Opoutama Beach and became the foundation of the Opoutama area and the Ruawharo marae and its people. The Takitimu and the Kurahaupo waka are both recorded as landing at the mouth of the Waihakeke Stream within the Kaiuku 1 Reserve. It is recorded that the Takitimu waka landed at Oraka Beach, where Ruawharo visited the Wahatoa pa on the hills above Oraka.

³ Whaley, K J (et al). Tiniroto, Waihua, Mahia and Matawai Ecological Districts. Survey Report for the Protected Natural Areas Programme Dept of Conservation June 2001 PP 322-324.



MAHIA PENINSULA



DETAIL OF MAHIA ISTHMUS & PENINSULA

FIGURE 3 SITE CONTEXT



DETAIL OF MAHIA ISTHMUS & PENINSULA

FIGURE 4 MAHIA: TOPOGRAPHICAL FEATURES

PART C RESOURCE STATEMENT (CURRENT)

4.0 MAHANGA RESERVES INVENTORY

4.1 Introduction

This section sets out a summary of the resources pertaining to the Mahanga Reserves. For each reserve the following matters are outlined:

- A formal description including the legal description and Reserve status.
- A brief physical description of the reserve including a summary of issues and options for the Reserve.
- Key management objectives.
- An aerial of the subject parcel.
- A table showing the range of improvements on site, including built structures and hard landscape. The intention here is to describe the significant built elements within the Reserve; however this should not be considered as an exhaustive database of built elements and will be expanded on by the Assets Manager of the Wairoa District Council.
- A table giving an overview of the natural resources (natural features, trees, shrubs, groundcover) within each reserve, including a recommendation, where appropriate, of areas that would benefit from an inventory and surveyed map of special Reserve trees (heritage trees). Exotic tree and weed encroachment is an issue noted in certain areas.



4.2 Master List # 20




Mahanga

reserves

R29 MAHANGA BEACH ESPLANADE, RECREATION & LOCAL PURPOSE RESERVES, MAHIA PENINSULA

[A] DESCRIPTION

DISTRICT PLAN CLASSIFICATION	NAME	LOCATION	LEGAL DESCRIPTION	AREA	RESERVE STATUS & PURPOSE	PHOTO
R29 Recreation Reserve ZONE: Conservation & Reserves	Mahanga Beach Reserve	Mahanga Beach Foreshore, Judges Parade, Mahanga	Lot 54 DP 12744 BLK II Mahanga SD	2.1400 Ha	Recreation Reserve	 <p>Access to Mahanga Beach</p>
R29 Esplanade Reserve ZONE: Conservation & Reserves	Mahanga Beach Reserve	Mahanga Beach Foreshore, Judges Parade, Mahanga	Lots 55 DP 12744 BLK II Mahanga SD	0.8549 Ha	Esplanade Reserve	 <p>Local stream</p>
R29 This is a triangular piece to the south of the other 2 lots and is unlisted.	Mahanga Beach Reserve	Mahanga Beach Foreshore, Judges Parade, Mahanga	Lot 24 DP 22739 BLK II Mahanga SD	0.1700 Ha	Local Purpose Reserve.	

DISTRICT PLAN CLASSIFICATION	NAME	LOCATION	LEGAL DESCRIPTION	AREA	RESERVE STATUS & PURPOSE	PHOTO
						 <p>Southern triangle of land</p>
Not listed	Mahanga Beach Access	Pukenui Road	Lot 13 DP 359131 BLK II Mahanga SD	0.00459 Ha	Vesting on Deposit. Local Purpose Reserve – Pedestrian Access	
	Judges Parade Road Reserve	Mahanga foreshore	N/A	N/A	Road Reserve	
	Happy Jack's Road	Mahanga foreshore	N/A	N/A	Road Reserve	

Physical description

This longitudinal reserve area comprises a linear foreshore esplanade reserve and, backing this, a wide recreation reserve, totalling nearly 3 hectares. A third lot lies to the south of these two and contains higher back dunes. The reserves are made up of the partially

modified fore-dunes and back-dunes of Mahanga Beach, a six kilometre long beach stretching in a north-south direction reaching south to the mouth of the Maungawhio Lagoon and the Kopuawhara River. Mahanga Reserves and Mahanga Beach are popular for a range of recreation: surfing, fishing, swimming, and for passive recreation.

To the west, the reserve is flanked by Judges Parade and to the north, Happy Jacks Road. To the west of the road lies the small settlement of Mahanga with a small permanent population and a large number of holiday baches. Providing the public with access to the foreshore and the Mahanga Beach, the Reserve has become more popular in recent years with existing road margins and car park areas being stretched to full parking capacity during the peak holiday season.

Most Mahanga residents/bach visitors have to cross the road and then cross the dunes to reach the beach. The route is via four to five small pathways across the dunes. These are mostly positioned opposite the ends of the cul-de-sacs. There is also a pedestrian path running from the rear wetland through to Judges Parade between Quentin Place and Katrin Place. This brings a steady flow of foot traffic to cross Judges Parade.

The Reserve has predominantly the character of a coastal dune eco-system with undulating landform character and sand-dune accretion and erosion being part of the fore-dune character. Vegetation is a mix of native and introduced grasses and reeds, generally of low-growing habit. Garden escapees are a localised problem in sections of the Reserve. Flattened areas formed as car park areas are grassed. In front of the northern car park there is a small grassed seating verge. Four (or five) narrow pedestrian pathways traverse the reserve proving access from Judges Parade to the beach. On Happy Jack's Road at the back of the Reserve there is a small toilet block.

A small stream meanders towards Happy Jack's Road and enters the sea just north-east of the reserve. The stream mouth has a hardened surface and is the preferred location for residents and Council for vehicle access to the beach, including beach quad/farm bikes.

Half a kilometre to the south of the three main reserves there is a pedestrian access from Pukenui Drive to the beach.

Significance

This Reserve lies within an area of outstanding landscape quality and high natural character values. It is an historic heritage reserve of significance to Maori. An urupa called Papaka Urupa lies within the northern-most area of the Mahanga Reserve and is of significance

[B] FIGURE 3 AERIAL OF MAHANGA RESERVES



to Maori. Vehicle access to the urupa has been recently closed off and it is Council's and tangata whenua's wish that it should be retained this way and fenced if possible. A registered archaeological site lies east of the urupa comprising coastal middens (Site Ref Y19/42).

Issues and Opportunities: Development Concepts Figures 2 and 4

At the Council meeting in August 2010, Council decided that the issues raised by submitters pointed to the benefits of a Reserves landscape concept being prepared. Concepts are provided at two scales and are appended to this report as Figures 2 and 4 in Appendix 3. Aerials at two scales are also provided as Figures 1 and 3.

The concepts adopt and illustrate many of the suggestions put forward by Mahanga submitters earlier in 2010 and the concepts have been further refined following the submission hearing in February 2011. These matters raised include:

Parking Growth & Car-park Maintenance

1) A strategy for improving parking capacity.

A longer-term parking growth strategy might include the following provisions:

- No increase in the size of the northern car park, due to its proximity to the dune foreshore where erosion is at its most significant;
- Expansion of the size of the southern car park if required (C2);
- Widening of the mown grassed berm along Judges Parade to cater better for parallel parking off-road. This has been instituted over the summer of 2010-2011.
- At the central park (C1), cars can currently enter right into the centre of the reserve. It is recommended that cars be kept back closer to the road to prevent pressure on the back-dune environment.

Car parking facilities require regular monitoring so the timing of the growth strategy can be planned for. However it is noted that at this stage, the peak demand for parking is confined to a week or two at Christmas. In addition, locals noted that car parking surfaces in the northern car park require monitoring for signs of deterioration in wet weather (pot holes) with regular remedial work being undertaken. A plastic 'gobi-type' block infrastructure is currently being trialed (summer 2011) as a new surface in the northern Mahanga carpark. As locals prefer a grassed car park, this infrastructure is intended to allow for a grassed finish although currently it is filled with limestone chip.

Happy Jack's Road Amenity Area

- 2) Redevelopment of Happy Jack's Road road reserve land.

At Mahanga, several changes are proposed for Happy Jack's Road. The recommendation is that Council fell the pines trees on road reserve there. The establishment of a new subdivision to the north of Happy Jack's Road will include the construction of an underground revetment sea wall predominantly on private land, but potentially entering Council road reserve. The surveyed northern boundary of Happy Jack's Road will be bounded with a non-intrusive fence, its design to be resolved in agreement with the owner (eg post and wire fence) or planted with coastal species (flax).

Happy Jack's Road is a heavily used pedestrian access route at peak times. The Gisborne Boys High School outdoor pursuits centre in northern Mahanga often sees large numbers of children walking to the beach and along Happy Jack's Road to the toilets. At other times foot traffic is heavy in the other direction (from the village to the stream). To improve pedestrian safety, a path will be formed on the landward side of the road to enable people to keep off Happy Jack's Road itself. A grassed berm and seats may be provided along this verge. If space permits, shade may be provided by a row of up to six pohutukawa trees spaced 15 metres apart so that views from the property flanking Happy Jack's Road will not be screened. Alternatively other simple coastal plantings may be established, including flax.

Restricted Vehicle Access to Beach

- 3) It was the preference of the submitters and Council that only one vehicle access route to the foreshore be provided and it was generally agreed that the hard ground at the mouth of the stream along Happy Jack's Road is the best place for this. Some submitters preferred that vehicles be excluded from the beach altogether; however vehicles are required on the beach for beach rescue and vehicle access for fishing and collection of kai moana is a regular activity. Bollards, low planting (eg flax) and signage will be erected to exclude vehicles and beach quad/farm bikes from crossing the sensitive dunes along the sandy paths from Judges Parade.

Fenced Papaka Urupa

- 4) The urupa will remain closed to vehicles and fenced (possibly with bollards or similar visually non intrusive structure) in the future. This area is shown on Figure 4.

Garden Weed Disposal & Education

- 5) Accompanying the plan to restore the foredunes, education will be provided to the community regarding the adverse ecological effects of disposing garden weeds by wheelbarrow into the Reserve or deliberate planting of garden plants there (including the exotic ice plant).

Pedestrian Access: Sand Ladders or Floating Dune Ramps

- 6) There is scope to improve the access-ways across the Reserve to the beach by installation of sand ladders within the routes across the Reserve, as was done along the southern pathway in 1999. These are recommended by Coast Care groups as they protect the dunes. Once dune restoration progresses and a more stable fore-dune is established, existing sand ladders at the fore-dune edge adjoining the beach should be replaced with new floating ramps.

Ecological Dune Restoration

- 7) A three-year trial of ecological enhancement of the Mahanga fore-dune was approved by Council to occur in a staged approach and should aim to protect and enhance the habitat of the rare *Pimelea prostrata* alongside the introduction of native sand-binding fore-dune species: spinifex and pingao. Tasks will include:
 - a. Management and removal by spraying of garden escapees (agapanthus, pampas, prickly pear, lupin, coastal banksias, wilding pines, yucca, etc). This maintenance was begun by Mahanga E Tu volunteers over 2009-2010.
 - b. Management and removal by spraying of marram grass. This may take more than a single spraying round. Restoration of native sand binding species such as spinifex or pingao in the fore-dunes will occur, supervised by the Hawkes Bay Regional Council with the active involvement of volunteers from the Mahanga community.
 - c. Community consultation suggested and Council agreed that there is no support for the introduction of selected trees in the Mahanga Reserves such as cabbage trees.

The Hawkes Bay Regional Council will supervise the dune restoration project under its Regional Landcare Scheme. Where planting only is the recommended approach, the Landcare Managers are permitted to undertake restoration work without HBRC resource consent. Sand works requiring the intervention of machinery necessitate resource consent from the HBRC and will not be used at Mahanga.

At this stage the beachfront area north of the northern carpark adjoining the urupa and the registered archaeological site will not be considered for dune restoration. If restoration there were to be considered, further consultation with hapu and archaeologists would need to take place.

It has been noted by several submitters that there is a considerable pest problem with rabbits within the dunes and that they would require predator control before spinifex planting is undertaken. This issue has been referred to the Hawkes Bay Regional Council.

Lighting

- 8) At this stage there is street lighting along Judges Parade, but none within the reserve. There is no proposal to install lighting within the reserve.

Traffic Speeds

- 9) A number of submitters sought a lowering of the vehicle speed limits along Judges Parade, Happy Jack's Road and Mahanga Beach. The Council does not have the power to undertake such a review but will forward the request to a more general Speed Limits Review Process that is to take place at Mahia.

Fencing

- 10) It is not proposed to increase fencing in and around the Reserves (for example along Judges Parade). The margin of the southern car-park is already fenced along its boundary with the dunes. The northern car park has a low post and rail fence to prevent vehicles entering the dunes. The sides of the southern pathway were fenced with post and wire at the time of the installation of the sand ladder in 1999; this is now in a state of some disrepair. Some members of the public have seen the need for further fencing of the other walkways, but at this stage it is not proposed to fence these unless quad bikes abused the closure of the pathways by entering the dunes to get to the beach.

The following are the only new fencing types proposed as part of the current development plan:

- Fencing along the seaward side of the new dune restoration plantings. This will involve a low bollard and wire fence (accompanied by signage) which is intended to be a visual cue asking the public to keep out of the new plantings.

- Low bollard fencing at the entrances to the dune pathways to exclude quad bikes in particular. Low planting may occur here. Another idea for these locations has been the use of limestone boulders.

Management

Maintain the Reserve principally for beach access, and active and passive recreation. The Reserve provides excellent access to Mahanga Beach and moderate car park, and picnicking facilities; these should be improved as demand for the Reserve amenities grow. The quality and quantity of seating is poor and could be improved with seating along Happy Jack's Road. The Reserve should also be managed as a dynamic frontal dune system capable of becoming a stable fore-dune asset building protection of the foreshore from erosion. Enhance these ecological and natural character values in a staged approach under the supervision of the Hawkes Bay Regional Council with the goal of protecting the native *Pimelea prostrata*. Support the understanding, protection and advocacy for Maori sites of significance within the Reserve.

Mahanga Dune Restoration Plan

A separate dune restoration plan for Mahanga has been prepared for the fore-dunes at Mahanga by the Hawkes Bay Regional Council. This followed a submission to this effect lodged by Mahanga E Tu in 2010 who have been keen to offer volunteer labour to undertake the work. The Dune Restoration Plan is appended as Appendix 4 to this report. Further consultation regarding this plan took place in January 2011 and there was general support for such a project. However some valid concerns regarding the methodology followed will be forwarded to the Coast Care group. On Figure 2 in Appendix 3 of this report, a trial area is proposed for the initial dune restoration programme (DR1). This location is supported by the HBRC and the Wairoa District Council.

Dune restoration is primarily about improving the health of the fore-dune and its resilience to erosion from swells, wave action and wind. Two photographs included in Appendix 5 illustrate the amount of erosion that has occurred over a 10 year period in the interval between the 2 photographs being taken. A large amount of the foreshore apparent in 1999 is not present in 2009.

Two related decisions were made by the Wairoa District Council:

1. A district-wide Wairoa Coast Care group will be established to include representatives from the Wairoa District Council, the Hawkes Bay Regional Council and the Department of Conservation. Projects will be supervised by this group with voluntary work being provided by local volunteers, and local representatives will be appointed to the group from Mahanga, (including Mahanga E Tu) for the Mahanga Dune restoration project.

-
2. Further methodological refinements for the dune restoration project are required and will be made within this Coast Care management group.




Mahia Isthmus Communities Structure Plan




See Mahanga Action Plan Pages 28-29 and the Mahanga Area Detailed Structure Plan. The Mahanga Action Plan notes the need for improved facilities at the beach including a playground, tables and shade from the sun. The playground has **high** priority and the tables and tree planting **low** priority⁴. Over the course of consultation for this Reserve Management Plan, the public has expressed reservations about the need for a playground, many suggesting that the beach is all the playground that is needed at Mahanga .




⁴ Beca Carter Hollings & Ferner Ltd June 2006: *Mahia Isthmus Communities Structure Plan*, Page29, Clause MRA2.



[C] RESOURCE INVENTORY




Part 1 Buildings and built landscape





BUILDING/HARD LANDSCAPE	PHOTOGRAPHS	USE/FUNCTION	CONDITION
<p>Toilet Block (painted concrete block) and painted timber fence along side road off Judges Parade</p>	 <p>Toilet block and painted timber fence</p>	<p>Rest room for beach users</p>	<p>Good repair</p>
<p>Picnic seats (2), Northern amenity area</p>	 <p>Post and rail seating</p>	<p>Marginal provision of picnic facilities</p>	<p>Will need replacing within 5 years</p>
<p>Fencing</p>	 <p>Post and rail fence at northern car park</p>	<p>Designed to prevent cars from entering beach at these points</p>	<p>Good</p>

BUILDING/HARD LANDSCAPE	PHOTOGRAPHS	USE/FUNCTION	CONDITION
	 <p data-bbox="600 571 1077 600">Post and wire fence at southern car park</p>		
Signage	 <p data-bbox="600 909 860 938">"No Camping" Signage</p>  <p data-bbox="600 1337 999 1366">"Restricted Area" Dog control sign</p>	Reserve activity management	Good



BUILDING/HARD LANDSCAPE	PHOTOGRAPHS	USE/FUNCTION	CONDITION
	 <p data-bbox="600 539 965 568">Papaka Urupa Signage</p>		
<p data-bbox="248 571 573 632">Beach Access: Walkways and Signage</p> <p data-bbox="248 663 573 906">There are 4 walkways (plus a 5th smaller one) across the dunes one of which has a sand ladder across its length (southern). The location of these is clearly visible on the aerial.</p>	  <p data-bbox="887 1066 1099 1091">Walkway signage</p>	<p data-bbox="1238 571 1545 785">Access to Mahanga Beach. Directing and guiding the public through the dunes to protect dune stability and sensitive native sand-binding plants</p>	<p data-bbox="1568 571 1818 596">Two signs are intact.</p>




BUILDING/HARD LANDSCAPE	PHOTOGRAPHS	USE/FUNCTION	CONDITION
	 <p>Sign missing on 2 walkways</p>  <p>Sand ladder</p>		<p>Two posts are missing their "Walkway" sign.</p> <p>At the beach ridge on the southern-most walkway, the sand ladder is unable to stand the erosion processes which change the height of the drop.</p>



BUILDING/HARD LANDSCAPE	PHOTOGRAPHS	USE/FUNCTION	CONDITION
	 <p data-bbox="595 635 1077 660">Access paths overgrown by kikuyu grass</p>		<p data-bbox="1570 268 1962 384">Three of the access paths to the beach are overgrown with grass and warrant clearer formation for ease of access.</p>
<p data-bbox="248 697 479 751">Urupa & registered Archaeological site</p>	 <p data-bbox="595 970 1189 1054">View towards the Urupa to the left of Happy Jacks Road. Archaeological site in foreground on seaward side.</p>  <p data-bbox="595 1334 1155 1388">Artwork marks a fishing rahui and lies along the margin of the urupa.</p>	<p data-bbox="1238 697 1525 815">This area is to be maintained as a special natural area of significance to Maori.</p> <p data-bbox="1238 850 1536 1027">Previously it was possible to drive through the urupa (as shown on the aerial), but now this route has been closed off.</p>	

BUILDING/HARD LANDSCAPE	PHOTOGRAPHS	USE/FUNCTION	CONDITION
<p>Car Parks</p>	 <p>Northern Mahanga Beach grassed car park</p>  <p>Middle Mahanga Beach grassed car park</p>  <p>Southern Mahanga Beach grassed car park – the only one that is fenced along its margin.</p>	<p>These informal, grassed car parks provide seasonal peak car parking without losing the ‘greened’ character of the foreshore at other times when use is light.</p> <p>Use is high in the summer for several weeks. At these times there is real pressure on these areas.</p>	<p>The middle and southern car parks have grassed surfaces in good condition.</p>  <p>The northern car park has a poor surface with large potholes that fill up in wet weather. A new infrastructure surface of plastic gobi-type block is being trialled there. Currently it is filled with limestone chip, but a grassed soil fill is preferred.</p>

Part 2 Natural Resource

LOCATION	NATURAL FEATURES/ VEGETATION	PHOTO	AMENITY	CONDITION
? Stream	This small waterway wraps around the back of the Pataka Urupa, crosses Happy Jacks Road in this location and enters the sea across a pebbly channel bed.	 <p data-bbox="927 711 1263 738">Photograph of stream mouth</p>	An attractive small river mouth. Access to the beach for vehicles is provided at this point as this is the only hard ground for vehicles.	The stream floods the small lane and renders vehicle passage difficult at times of high rainfall.
Pimelea grows throughout the Mahanga Reserve within the back-dunes.	<i>Pimelea prostrata</i>	 <p data-bbox="927 1046 1305 1106">Example of <i>Pimelea prostrata</i> to right of path</p>	This is a rare plant genetically-specific to Mahanga.	In places the Pimelea is overgrown by weeds and exotic grasses.

LOCATION	NATURAL FEATURES/ VEGETATION	PHOTO	AMENITY	CONDITION
Fore-dunes	Spinifex was originally the predominant native sand binder present in the fore-dunes – particularly in the south of the Reserve. Marram grass which is introduced is also present.	 <p data-bbox="920 643 1330 695">Marram grass predominates in the foredunes</p>		Spinifex is easily dominated by the presence of marram grass.
There is a range of native reeds and flaxes growing in the Reserve.	Native reeds and flax	 <p data-bbox="920 978 1330 1031">Typical view of native grasses and flax in back dunes</p>		In places there is severe encroachment by exotic grasses and garden escapees.
	Garden escapees which have been either introduced into the Reserves from rubbish disposal or planted include: agapanthus, yucca, prickly pear, lupin, pampas and ice plant,	 <p data-bbox="920 1345 1037 1369">Yucca sp</p>		The first stage of a managed approach to enhancing the ecology of the area would involve the spraying and removal of garden escapees. Education of the local community is

LOCATION	NATURAL FEATURES/ VEGETATION	PHOTO	AMENITY	CONDITION
		 <p>Prickly pear</p>  <p>Agapanthus sp</p>		<p>important to prevent disposal of garden weeds in the Reserve.</p>

PART D MANAGEMENT OBJECTIVES & POLICY

SECTION 1 GENERIC POLICY**MANAGEMENT & USE*****Objective 1 Management and Development***

To develop, manage, promote and maintain the Mahanga reserves as recreation and esplanade reserves and to meet the requirements of relevant acts and by-laws that impact upon the Reserves. All policies noted in the Generic Policy document adopted by the Wairoa District Council are relevant for the development and management of the Mahanga reserves.

Discussion

The Generic Policy enables the Wairoa District Council to apply a generic set of policies without repeating these in every Reserve Management Plan.

Policies

A range of policies is included in the Generic Policies. Specific Policies below are either areas not covered there or relate to the particular values and uses of the Mahanga Reserves.

SECTION 2 SPECIFIC MAHANGA RESERVES POLICY**THE RESOURCE*****Objective 2 Landscape and Natural Character***

To preserve, protect, maintain and enhance the distinctive landforms and landscape integrity of the Mahanga reserves and enhance the outstanding landscape and natural character values associated with the coastal margins and streams within the esplanade reserves and road reserves.

Discussion

The natural coastal margins are a significant asset to Mahanga and in places may be enhanced to provide public access to the coast and amenity of the area.

Policies

- (i) By protecting and enhancing the landscape character and visual amenity of the Mahanga reserves.
- (ii) By enhancing the natural character of the foreshore reserves and streams within the reserves by on-going selective weed control and native coastal planting.
- (iii) By avoiding the introduction of structures into coastal reserves other than those necessary for the provision of public amenities (toilets, changing sheds, beach access-ways).
- (iv) By protecting and enhancing the physical and visual linkages between the reserves and the surrounding landscapes.

Objective 3 Vegetation & Botanical Resources

To preserve, protect and enhance the vegetation of the Mahanga Reserves in keeping with existing character and promoting future enhancement and development that is compatible with the function and uses of the reserve.

Discussion

Each of the reserves within Mahia has quite different vegetation character - from dense coastal dune character (eg Mahanga Reserve) to more open grassed spaces with amenity trees for shade (eg Coronation Reserve)

Policies

- (i) By developing a data base of all heritage trees within the Reserves including botanical identification and condition reports.
- (ii) By enhancing native coastal plantings within coastal dune and foreshore reserves by weed elimination and restoration of native vegetation which belongs to this ecological district.
- (iii) By utilising ecologically-sourced seed for reserve and dune enhancement projects wherever possible.
- (iv) By maintaining and replacing, as required, trees within the Reserves, introducing species that are compatible with the reserve uses and function.
- (v) By encouraging and facilitating community involvement in all re-vegetation and planting programmes.

PURPOSE / RECREATION / USE***Objective 4 Public Recreational Use***

To provide for and encourage informal and formal public use of the Mahanga reserves compatible with their ecological, cultural, heritage and landscape character and values; and to protect the botanical, recreational, sporting and built resources within them.

Discussion

The public has freedom of entry and access to the reserves to engage in activities that are compatible with the principal or primary purpose of the Reserves. The Mahia reserves are varied in character and comprise both recreational areas and areas suitable for the enjoyment of the natural environment and the coast and its beaches (esplanade reserves).

Their layout, design and built structures contribute to several distinct purposes:

- Coastal reserves providing access to the coast and its beaches;
- The grassed and treed esplanade areas for passive recreation, games and walking;
- Road reserve areas for access to the sea for boats and people.
- Ecologically significant fore-dunes that contribute to erosion prevention and coastal stability.

Increasingly there may be demands on reserve space for cultural gatherings, private weddings and functions or regional recreational events.

Policies

- (i) By encouraging recreational use which is compatible with the purpose of each reserve and the ecological, cultural and landscape values of the reserves.
- (ii) By assessing all future reserve uses according to their effect on the reserves and their ability to meet the objectives and policies of this plan.
- (iii) By encouraging integrated management and development of open space linkages between adjacent reserves.
- (iv) By providing and maintaining a minimum of facilities for the health, safety and convenience of all recreational users.

HISTORICAL/CULTURAL**Objective 5 Cultural Heritage**

To recognize and protect the heritage values, all archaeological and geological features, and sites of cultural and historical significance within the reserves.

Discussion

The whole of Mahia Peninsula is culturally significant to Maori. Local iwi at Mahanga are now having a greater role in the revival and management of reserves and are best placed to provide cultural interpretation of local names and links with historic pasts. There are a number of further initiatives which are intended to strengthen and express Maori links with this place.

Policies

- (i) By recognizing and provide for special cultural and spiritual relationships that tangata whenua have with these reserves.
- (ii) By identifying Maori heritage sites within the reserves including recorded archaeological sites.
- (iii) By facilitating the understanding of cultural pasts and meanings that underpin this landscape.
- (iv) By enabling the practice of cultural gathering to mark celebrations.
- (v) By developing heritage and interpretation strategies to enhance understandings of past stories that may include signage, artworks and general reserve infrastructure design.
- (vi) By employing local Maori (ahi kaa) where appropriate to undertake reserve maintenance and development work.
- (vii) By restoring native vegetation, appropriate to the ecosystem, as required.

ACCESS**Objective 6 Access to Reserves**

To provide public pedestrian access to the reserves creating where appropriate safe areas for pedestrian passage separated from areas for vehicular passage. To prevent vehicles from entering sensitive dune environments where appropriate.

Discussion

Public access, whether it be vehicular or pedestrian, is a requirement of all reserves under the Reserves Act 1977. It is important that use of grassed reserve areas for passive recreation is not compromised by unsafe vehicle movements into these areas.

Policies

- (i) By providing prominent and enhanced entrances to the reserves where appropriate.
- (ii) By reviewing the current pedestrian access provisions within each reserve and providing a logical hierarchy of pedestrian access tracks appropriate to their location and anticipated level of use.
- (iii) By improving pedestrian linkages with surrounding reserves, open space and residential areas as part of a network and providing effective entry points into the reserves to encourage public pedestrian access.
- (iv) By ensuring that all built structures providing pedestrian access to beaches or the coast within reserves and road reserves are built to an engineered safety standard.
- (v) By enhancing the vehicular approach to reserves, and providing parking and turning facilities adequate to the functional operation of the reserves.
- (vi) By restricting vehicular entry into reserves, or across dunes, other than in designated areas or for special approved events.
- (vii) By enhancing the use of reserves for disabled and elderly.

DEVELOPMENT / MAINTENANCE***Objective 7 Quality Landscapes***

To ensure a high standard of design, development and maintenance of facilities provided within the reserve.

Discussion

A co-ordinated approach needs to be taken to ensure consistency in styles, aesthetic appeal and suitability of use for designed elements within reserves. It would be appropriate for reserve signage to be consistent across the Mahanga reserves. At certain times a need may arise for a landscape development plan to be developed to shape decisions regarding future reserve management or growth.

The Mahanga reserves are maintained by the Wairoa District Council. Tree management, lawn mowing, litter removal and toilet cleaning/servicing are regular maintenance tasks. The frequency required for completion of these tasks increases during peak holiday time. Intermittent tasks include repairs to built elements such as picnic tables, seats, fences etc.

Policies

- (i) By adopting a co-ordinated approach to the design of all new amenities for the reserves.
- (ii) By selecting and placing all site furniture and signs ensuring that they are integrated into their natural environment.
- (iii) By developing professional landscape concept plans as required and ensuring these are consistent with the aim to retain the natural feel and character of reserves whilst enhancing public amenity.
- (iv) By providing power and lighting on the reserves on an 'as need' basis.
- (v) By providing built structures (seats and tables, barbeques etc) to enhance public enjoyment of the reserve in proportion to the popularity and growth of the area.
- (vi) By positioning rubbish bins, and similar functional items in discreet locations.
- (vii) By providing interpretive and educational material and signage at appropriate locations.
- (viii) By ensuring the safety of all structures (access steps, play equipment etc) to approved New Zealand Standards.
- (ix) By undertaking maintenance of the reserves and facilities at a frequency and to a standard so as to maintain public health and well-being.

PART E DEVELOPMENT PROJECTS

From time to time, and in response to requests from the community or as a result of new growth or demands for facilities within its Reserves, the Wairoa District Council may initiate discrete projects requiring planning, design, consultation, resource consent and, eventually, tendering and implementation.

At the time of completing this Reserve Management Plan a number of projects has been identified by the consultant, submitters to the Plan and executives of the Wairoa District Council for implementation, in consultation with the local community. For the purpose of further planning and eventual adoption by the Council, these are now described.

MAHANGA RESERVES DEVELOPMENT PROJECTS

PROJECT NUMBER	PROJECT LOCATION & DESCRIPTION	PRIORITY
MAH1	Undertake a 3-year trial dune restoration project along the fore-dune at Mahanga in conjunction with the Hawkes Bay Regional Council and the Department of Conservation	Commence Autumn 2011
MAH2		
MAH3		
MAH4		

PROJECT MAH1 Trial Mahanga Dune Restoration

Location	Mahanga Reserves	
Context	Mahia Peninsula	
Description	Undertake 3-year trial dune restoration under the supervision of the Hawkes Bay Regional Council	
Benefits	Coastal erosion protection	
Status	Approved to commence Autumn 2011	
Cost	Costs borne by HBRC Regional Landcare Scheme	
Timeframe / Priority	Autumn 2011	
Project Contact	Peter Freeman	

PROJECT XXX

Location		Photos
Context		
Description		
Benefits		
Status		
Cost		
Timeframe / Priority		
Project Contact		
Links		

PART F APPENDICES

APPENDIX 1

RESERVES ACT 1977

Recreation Reserve⁵

Purpose (s.17)	An area of land (or land and water) possessing open space, and outdoor recreational values especially suitable for recreation and sporting activities and the physical welfare and enjoyment of the public, and for the protection of the natural environment and beauty of the countryside, including recreational tracks in the countryside
Objectives of Management (s.17)	<p>Primary</p> <ul style="list-style-type: none"> • Allow the public freedom of entry and access subject to such conditions as are necessary for the protection and well-being of the reserve and for the protection and control of the public using it • Conserve those qualities which contribute to the pleasantness, harmony and cohesion of the natural environment and to the better use and enjoyment of the reserve <p>Secondary</p> <ul style="list-style-type: none"> • Manage and protect scenic, historic, archaeological, biological, geological or other scientific features or indigenous flora or fauna or wildlife • Maintain value as a soil, water and forest conservation area

⁵ This material was sourced from the Reserves Act Guide on website: www.library.lgnz.co.nz

<p>Guidance for Selection</p>	<ul style="list-style-type: none"> • Area may be totally modified eg suitable for sports fields • Area may be in a partly natural conditions eg suitable for picnic or camp sites or like development • Area may be lineal eg suitable for recreational walking and/or vehicle use
<p>Organisational Responsibility</p>	<ul style="list-style-type: none"> • Owned by the Crown or vested in a territorial authority or other administering body • Under the control and management of DOC unless an administering body would better carry out the purpose of the reserve

Esplanade Reserve

Purpose	A fixed linear area of riverbank, lakeshore or seashore of at least three metres or greater width (usually 20m) either in a natural or modified state available primarily for conservation and public access
Objectives of Management	<p>Primary (one or more; refer s.229 RMA)</p> <ul style="list-style-type: none"> • Maintain or enhance the natural functioning of the adjacent sea, river or lake • Maintain or enhance aquatic habitats • Protect associated natural values • Mitigate natural hazards • Enable the public access to or along any sea, river or lake <p>Secondary (s.23)</p> <ul style="list-style-type: none"> • Manage and protect scenic, historic, archaeological, biological or natural features • Maintain value as a soil, water and forest conservation area
Guidance for Selection	<ul style="list-style-type: none"> • Selected on subdivision of land, under the provisions of the RMA, as alternatives to .esplanade strips.. Apply to allotments of less than 4ha (or in some cases 4ha or more, s.237F RMA) adjoining: the sea (MHW), along the bank of any river with a bed of average width of 3m or more; or the margin of any lake whose bed has an area of 8ha or more.

	<ul style="list-style-type: none">• Otherwise selection is determined by the provisions of policy statements and district plans in accordance with Part II of the Second Schedule to the RMA
Organisational Responsibility	<ul style="list-style-type: none">• Vested in the territorial authority for the district (s.231 RMA)• Administered by the territorial authority for the district (s.231 RMA)

APPENDIX 2 MASTER LISTS OF MAHIA RESERVES

- 20) Mahanga Beach Reserves
- 21) Kaiwaitau Beach Access Point
- 22) Oraka Beach Reserve
- 23) Oraka Conservation Reserve
- 24) Oraka Road Reserve
- 25) Kaiuku Reserve 1
- 26) Kaiuku Reserve 2
- 27) Kaiuku Reserve 3
- 28) Tokaroa Reef Reserve
- 29) Mahia East Coast Road
- 30) Whangawehi Boat Ramp
- 31) Coronation Reserve
- 32) Te Auroa Road Reserve (Crusher Point)
- 33) Kinikini Esplanade Reserves
- 34) Mokotahi Hill Reserve
- 35) Taylors Bay Road Reserve
- 36) Ormond Memorial Reserve
- 37) Ormond Drive Road Reserve
- 38) Moana Drive Road Reserve
- 39) Waikokopu Plantation
- 40) Waikokopu Harbour Reserves

Note: Reserves numbers 1-19 form part of the Pohutukawa and Oputama Reserve Management Plans

APPENDIX 3 MAHANGA AERIALS & DEVELOPMENT CONCEPT PLANS



FIGURE 1 MAHANGA RESERVES - AERIAL PLAN

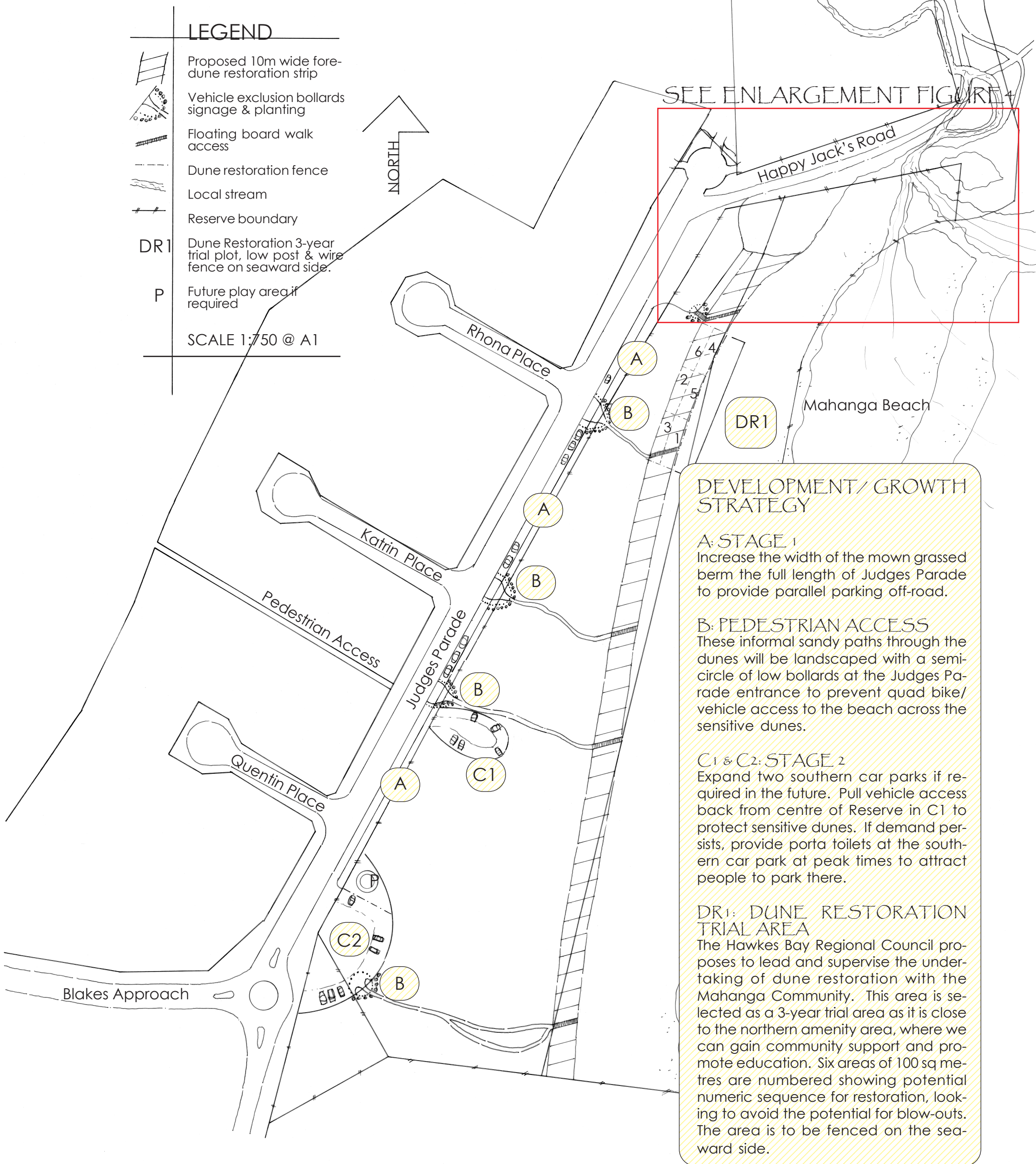


FIGURE 2 MAHANGA RESERVES - CONCEPT PLAN



FIGURE 3 MAHANGA RESERVES - AERIAL DETAIL



LEGEND

-  Proposed 5-10m wide fore-dune restoration strip
-  Floating board walk access
-  Proposed Pohutukawa trees
-  Reserve boundary
-  Proposed pathway
-  Private revetment
-  Possible future dune restoration
-  Archaeological Site
-  Fenced Papaka Urupa

DUNE RESTORATION

- ① Proposed 3-year trial plot
- ② Proposed dune restoration in front of car park
- ③ Future dune restoration near urupa
- ④ Registered archaeological site

VEHICLES & PARKING

- ① Single vehicle access-point to Mahanga Beach
- ② Northern car park to remain same size with improved surfacing
- ③ Widened mown grass berm provides parallel parking

DO NOT SCALE

FIGURE 4 MAHANGA RESERVES - DETAILED CONCEPT PLAN

**APPENDIX 4 MAHANGA DUNES RESTORATION MANAGEMENT PLAN,
HAWKES BAY REGIONAL COUNCIL**



Draft Mahanga Dunes Restoration Management Plan

**Produced by Warwick Hesketh. Land Management Advisor, Hawke's Bay Regional Council
29 November 2010**

1.0 Introduction

Coastal dunes are regarded as one of New Zealand's most at risk and least understood indigenous ecosystems. They provide habitat for many of our threatened plants and animals, are important areas for recreation, and serve a vital role in coastal protection.

Members of the Mahanga community have expressed an interest to undertake coastal dune protection and restoration works in the Mahanga Beach Reserve. There is opportunity for a dune restoration plan to complement the Reserve Management Plan which is currently under development.

The Hawke's Bay Regional Council is able to assist community dune restoration projects with advice and financial support.

2.0 Objective

"To enhance and protect the biodiversity, cultural and functional values of the Mahanga Beach Reserve." Specifically to:

- Preserve and protect the natural character of the coast
- Maintain and enhance amenity values while allowing non-damaging access to and enjoyment of Mahanga Beach
- Restore indigenous biodiversity through the planting of suitable native species
- Promote natural protection against coastal erosion processes
- Restore a degraded natural ecosystem
- Encourage and guide further dune restoration on the Mahia Peninsula
- Allow for sustainable cultural harvest e.g. pingao for weaving

3.0 General Description

The Mahanga Beach Reserve contains approximately 3ha of partially modified dune-land within 3 separate lots. The Reserve is situated at the Northern end of the Pukenui dunes which stretch the length of the Mahia Tombolos' eastern side.

Mahanga reserve is relatively undeveloped with the exception of parking areas and beach access ways. Happy Jack Road separates the reserve from private property.

The reserve is approximately 160m at its widest point, 460m in length and consists of low undulating dune-land. There is no sloping fore-dune. Instead, a short scarp/step drops steeply to the broad sandy beach. The scarp shows signs of erosion and undercutting which may be periodic or sustained, depending coastal processes and sediment supply.

Dune vegetation is dominated by marram grass (*Ammophila arenaria*) in the fore-dune and merges into dense associations of bracken fern (*Pteridium aquilinum*), Muehlenbeckia (*Muehlenbeckia spp*) and blackberry *Rubus fruticosus*. Weeds including agapanthus, kikuyu (*Pennisetum clandestinum*) and other grasses are widespread throughout the reserve. Native dune species are present including Spinifex (*Spinifex sericeus*) and good populations of the locally endemic sand Daphne (*Pimelea prostrata*).

The beach can become very busy with car parking areas reaching capacity over summer. Vehicle barriers and well utilised access tracks have limited the amount of foot and vehicle damage to the area.

4.0 Values

Mahanga Beach Reserve lies within an area of outstanding landscape quality. The Mahia Tombola is the largest such landform in New Zealand. It contains three high ranking Recommended Areas for Protection (RAPs) including estuarine wetlands and the Pukenui coastal dunes. The Mahanga Beach Reserve is part of this much larger dune system. Actual and potential benefits of the dunes can be split into ecological, functional and cultural values.

The area presents a good opportunity for ecological restoration due to its manageable size, public ownership, community support and close proximity to more intact dune ecosystems.

Indigenous dune plants are well represented including healthy populations of Spinifex and a variety of sand Pimelea genetically endemic to Mahia. Remnant populations of pingao (*Desmoschoenus spiralis*) and sand coprosma (*Coprosma acerosa*) can also be found nearby. There is sufficient area for a range dune plants, including reintroduction of rare species. Suitable planting will encourage the recruitment of indigenous birds, lizard and invertebrates.

New Zealand and banded dotterel (*Charadrius obscurus and bicinctus*), stilts (*Himantopus spp*), oyster catchers (*Haematopus spp*) have been known to nest among the Pukenui dunes. Native invertebrates including katipo (*Latrodectus katipo*) as well as skinks have been recorded. Nearby estuarine wetlands provide habitat for numerous migratory birds as well as rare native species such as bittern (*Botaurus poiciloptilus*) and banded rail (*Rallus philippensis*).

Coastal dunes provide a 'buffer' between the land and sea, dissipating wave energy and protecting in-land areas. A properly functioning dune system can prevent the need for engineered coastal defence structures, which are expensive to build and maintain. There is strong evidence to suggest that indigenous dune vegetation helps to build and maintain dune form and function.

The area has a long history of human activity including pre-European settlement and food gathering. Of special significance is an urupa situated at the northern end of the reserve.

Today dunes provide important areas for recreation and spiritual wellbeing. Restoration can help to improve aesthetics while providing practical benefits such as shade and shelter. There is also an opportunity to plant species that can help to foster and revitalise customary practices e.g. pingao for weaving.

A successful dune restoration project in this area may help to promote and guide dune restoration elsewhere on the peninsula

5.0 Threats

The areas reserve status affords protection against adverse development, which is possibly the greatest threat to New Zealand's dune ecosystems. However it is likely there will be pressure to extend car-parking and amenity areas to cater for increased demand in the future. Other threats include visitor impacts, weeds and animal pests.

'Visitor impacts' encompass a range of damaging activities such as those caused by vehicles, fires and rubbish dumping. These can hamper restoration efforts, damage cultural sites, disturb wildlife and accelerate erosion. Physical and perceived barriers, along with raising community awareness through education (e.g. signage) and participation (e.g. planting days) can help to lessen visitor impacts

Weed infestation in the reserve is a concern. There are large concentrations of invasive weeds present, and even seemingly innocuous weeds can create subtle changes above or below ground and lead to an adverse habitat transition.

Agapanthus (*Agapanthus praecox*) in particular is widespread throughout the reserve and difficult to control. Other garden escapees include a range of succulents such as yucca (*Yucca* spp), cape ivy (*Senecio angulatus*) and prickly pear (*Opuntia monacantha*) are present in low numbers but have the potential to become a major problem in the reserve and greater dune area. Marram, pampas (*Cortaderia selloana*) and kikuyu are perhaps less of a threat but will compete against restoration plantings.

Coordinated and ongoing weed control is required along with public education to control and prevent future establishment of invasive weeds

Rabbits are probably the greatest grazing threat to indigenous plant communities including restoration plantings. A shooting and/or poisoning may be necessary if rabbits become a problem, particularly during seedling establishment.

Predators (dogs, cats, mustelids, and rats) will limit any natural recruitment of birds, lizards and invertebrates to the reserve. Any form of animal control would be difficult in what is essentially a residential area. However establishing and protecting an extensive vegetative cover is likely to benefit prey species. A trapping programme targeting rats and mustelids is worth considering if the project extends into more remote areas

6.0 Mahanga Fore-dune Restoration Proposal

The Mahanga fore-dune restoration project is based on a weed control programme and fore-dune planting strategy designed to promote the values listed above, without compromising a functioning, natural coastal dune habitat.

Key features of the restoration plan will include:

Fencing/barriers

- Maintain existing barriers to prevent vehicle damage and encourage people to use access ways.
- Consider sympathetic fencing to mark and protect planted and vulnerable areas from vehicle and foot traffic.

Weed Control

- Ongoing control of invasive weeds throughout the reserve
- Staged control of marram and other fore-dune weeds to allow replacement with native sand-binding species.

Control of marram in the fore-dune will be carefully staged and co-ordinated to:

- minimise collateral damage to non target species, and
- minimise the risk of sand blowouts and erosion to non-vegetated dune.

All weed control will be carried out, or carefully supervised by trained Department of Conservation, Wairoa District Council or Hawke's Bay Regional Council Staff.

Planting (refer to planting list and plan – Table 3 and Appendix 1)

- Pingoa and Spinifex to assist fore-dune building and stability;
- Include a range of nationally and locally threatened plant species;

- Provide ground cover species that will provide habitat and cover for lizards and invertebrates;
- Prepare and plant in stages, starting at the northern end and progressing southwards. This will help to keep costs down and reduce the risk of erosion on non-vegetated sand.
- Use sympathetic planting to assist marking and guiding people toward access ways;
- Encourage community participation.

Harvesting

- Collect seed annually from local sources to maintain a supply of eco-sourced seedlings for winter planting;
- Process Spinifex seed to reduce propagation costs.

Other Issues

- Control weeds to low levels, eradicate or manage invasive species;
- Control plant and animal pests to maximise planting success and encourage native fauna;
- Provide interpretation and opportunities for community involvement (e.g. planting days) to raise awareness and encourage ownership;
- Monitor changes in dune morphology, habitat and biodiversity throughout restoration (HBRC, DOC);
- Work with the Wairoa District Council toward promoting sustainable enjoyment of the reserve.

Pimelea prostrata

The iconic Mahanga Sand Daphne is observed to prefer the relatively stable conditions afforded by marram compared to a more dynamic spinifex/pingao-dominated dune. For this reason any modification to the fore-dune habitat should only be done in conjunction with efforts to protect and enhance populations of Pimelea in the mid and rear dune.

7.0 Regional Land Care Scheme

The Hawke's Bay Regional Council helps to fund community dune restoration through the Regional Landcare Scheme. Approved projects can receive a grant of up to 50% of the 'total project value', taking into consideration other funding sources and 'in-kind' contributions.

For example, the community tasks carrying out weed control, harvesting seed and planting seedlings are considered to be 'in kind' contributions. The Regional Landcare Scheme provides a cash grant of 50% of the assumed cash value of the in-kind contribution. This is then reinvested back into the project and used to purchase seedlings, fencing materials, herbicide etc...

8.0 Methodology

A more comprehensive methodology will be developed by the Hawkes Bay Regional Council upon the adoption of this plan by the Wairoa District Council. It will set out the following matters:

- a revised, staged and timetabled weed control programme including details of where the spraying should start,
- a detailed planting scheme and propagation programme
- a map of the areas to be restored and stages
- possible fence designs for protecting the newly planted dunes,
- details of signage required.

Table 1. Approximate time-line of restoration works

	Year 1	Year 2	Year 3	Year 4 onwards
Weed control	<p>De-head and dispose of agapanthus flowers,</p> <p>Spray agapanthus, pampas, and other weeds</p> <p>Dig out and dispose of exotic succulents</p>	<p>Follow up spray of agapanthus and other weeds</p> <p>Prepare spray a140m2 strip for fore-dune planting</p> <p>Identify opportunities for planting areas of rear-dune species. i.e. to compliment access ways etc</p>	<p>Follow up spray of agapanthus and other weeds</p> <p>Prepare spray 250m2 for fore-dune planting</p> <p>Spot-spray rear dune planting</p> <p>Release previous seasons plantings</p>	<p>Follow up spray of agapanthus and other weeds</p> <p>Prepare spray 250m2 for fore-dune planting</p> <p>Spot-spray rear dune planting</p> <p>Release previous seasons plantings</p>
Planting	<p>Harvest and process Spinifex seed heads. Send to Naturally Native for propagation.</p>	<p>Plant approximately 500 spinifex and 50 pingao seedlings at 0.5m spacing</p> <p>Apply spring application of urea to planted area</p>	<p>Plant approximately 1000 fore-dune grasses at 0.5m spacing, 200 ground cover plants and shrubs.</p> <p>Releasing and blanking in earlier plantings</p> <p>Apply spring application of urea to planted areas</p>	<p>Plant approximately 1000 fore-dune grasses at 0.5m spacing, 200 ground cover plants and shrubs.</p> <p>Releasing and blanking in earlier plantings</p> <p>Apply spring application of urea to planted areas</p>
Other		<p>Monitor plantings</p> <p>Establish photo-points</p> <p>Install signage</p>	<p>Monitor plantings</p> <p>Duplicate photo points</p> <p>Replace / extend signage</p>	<p>Monitor plantings</p> <p>Duplicate photo points</p> <p>Replace / extend signage</p>

Table 2. Approximate costs of restoration works excluding labour

	Year 1	Year 2	Year 3	Year 4 onwards
Weed control	Herbicide (Glyphosate, Metsulfuron, dye and wetting agent)	Herbicide (Glyphosate, Metsulfuron, Grazon, dye and wetting agent)	Herbicide (Glyphosate, Metsulfuron, Grazon, dye and wetting agent)	Herbicide (Glyphosate, Metsulfuron, Grazon dye and wetting agent)
	\$300	\$300	\$300	\$300
Planting		Plant approximately 550 fore-dune grasses @ \$2.00ea \$1100 Slow release fertiliser \$200 Urea \$50	Plant approximately 1000 fore-dune grasses @ \$2.00ea \$2000 Plant approximately 200 ground-cover plants @ \$3.50ea \$700 Slow release fertiliser \$200 Urea \$50	Plant approximately 1000 fore-dune grasses @ \$2.00ea \$2000 Plant approximately 200 ground-cover plants @ 3.50ea \$700 Slow release fertiliser \$200 Urea \$50
	0	\$1350	\$2950	\$12950
Other	<u>Pre planting</u> Carry out baseline bird and invertebrate survey	Establish photo-monitoring points 50 Dune care signs / plaques \$400 for 50	Repeat photo monitoring	Repeat photo monitoring
	\$0.00	\$400	\$0.00	\$0.00
Total	300	2050	3250	3250

Table 3. Recommended Dune Species

Plant	Primary species	Also consider	
Shrubs	Toetoe <i>Cortaderia spp</i>	Puka <i>Griselinia lucida</i>	
	Coastal Tree Daisy <i>Olearia solandri</i>	Akiraho <i>Olearia paniculata</i>	
	Mountain flax <i>Phormium cookianum</i>		
Groundcover	Sand coprosma <i>Coprosma acerosa</i>	Shore convolvulus <i>Calystegia soldanella</i>	
	New Zealand Daphne <i>Pimelea prostrata</i>	Native ice plant <i>Disphyma australe</i>	
	Pohuehue <i>Muehlenbeckia axillaris</i>	Orange sedge <i>Carex testacea</i>	
	Small-leaved pohuehue <i>Muehlenbeckia complexa</i>	<i>Pimelea urvilleana</i>	
	Knobby club rush <i>Isolepis nodosa</i>	Oioi <i>Apodasmia similis</i>	
		Beach spinach <i>Tetragonia tetragonioides?</i>	
		Rauhuia <i>Linum monagunum</i>	
		Native euphorbia <i>Euphorbia glauca</i>	
		Knobby club rush <i>Isolepis nodosa</i>	
	Fore-dune	Spinifex <i>Spinifex sericeus</i>	Sand tussock <i>Austrofestuca littoralis</i>
		Pingao <i>Desmoschoenus spiralis</i>	Sand sedge <i>Carex pumila</i>

Appendix 1. Mahanga Reserve Recommended Dune Planting Area

Mahanga Reserve Dune Restoration



APPENDIX 5

MAHANGA EROSION PHOTOGRAPHS

Working bee creates boardwalk through the dunes at Mahanga Beach

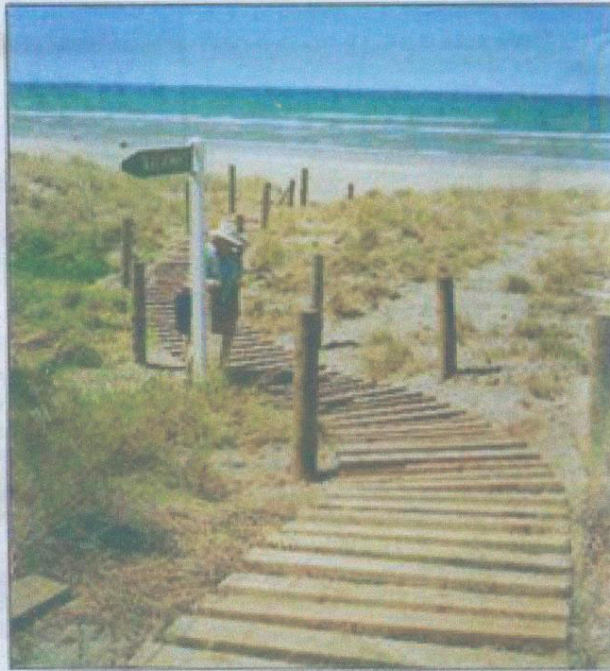
A new boardwalk path through the dunes was the outcome of a productive Coast Care working bee at Mahanga Beach.

"The volunteers put in a great effort and visitors will enjoy the boardwalk that directs them through the dunes to the beach," said Sally Hobson, of Hawke's Bay Regional Council.

The council worked with Wairoa District Council and local residents on the project to put in the new boardwalk and fence to protect the sensitive dune area.

By reducing the impact of people and vehicles, vegetation will become established and the dune area should stop eroding.

A number of local people volunteered



□ The attractive boardwalk is tried out by one of the volunteers who worked on the project that developed an excellent access to the magnificent beach.

PHOTOGRAPH 1 Southern Mahanga Dune in 1999



PHOTOGRAPH 2 Southern Mahanga Dune, 2009

Approximately 10-15 metres of vegetated dune present in 1999 has been eroded away by 2009.

[Photographs courtesy of David Fraser, Mahanga]