

# Conservation Management Strategy Volume I

*for Bay of Plenty Conservancy  
1997 - 2007*



Department of Conservation  
*Te Papa Atawhai*



# **Bay of Plenty Conservancy**

## **Conservation Management Strategy**

*for Bay of Plenty Conservancy  
1997 - 2007*

### **Volume I**

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# Foreword

The Bay of Plenty Conservancy Conservation Management Strategy (CMS) sets out the Conservancy's management direction for the next ten years and beyond. It has been prepared in consultation with the Bay of Plenty Conservation Board and the people of the region, whose assistance is acknowledged. Ongoing assistance and enthusiasm of these local people are vital if the challenges posed by this CMS are to be met.

The Bay of Plenty CMS has been prepared in accordance with Part IIIA of the Conservation Act 1987 for the purpose of implementing general policies and establishing objectives for the integrated management of natural and historic resources, including any species, managed by the Department under various specified Acts.

A draft CMS was notified in May 1994 and an invitation extended to all persons or organisations to submit their comments by 8 July 1994. Public meetings were held throughout the Conservancy before and following release of this document. There was separate consultation with tangata whenua, local authorities and user groups.

A total of ninety-nine written submissions were received on the draft CMS by the closing date for submissions. Thirty-six persons or organisations asked to be heard in support of their submissions and did so at hearings attended by representatives of the Bay of Plenty Conservation Board and the Department.

After giving due consideration to all submissions, the Director-General prepared a summary of them and revised the draft CMS. These documents were presented to the Bay of Plenty Conservation Board for its consideration and approval before referral to the New Zealand

Conservation Authority (NZCA) in June 1995.

The NZCA considered the CMS and referred it to the Minister of Conservation for comment. After having regard for the recommendations of the Minister of Conservation, the NZCA approved this CMS for Bay of Plenty Conservancy on 14 December 1997.

Sir Duncan McMullin, Chairperson

New Zealand Conservation Authority

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Wellington

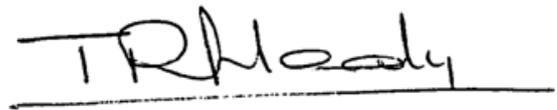
# Acknowledgements

Many people have made significant contributions to this draft Conservation Management Strategy.

Special thanks go to those who participated in consultation, particularly those involved in meetings. Thanks also to all staff of the Bay of Plenty Conservancy and members of the Bay of Plenty Conservation Board, including the past two chairpersons, who have put so much of their valuable time into this worthwhile project.



C.M. Jenkins  
Conservator  
Bay of Plenty Conservancy



T.R. Healy  
Chairperson  
Bay of Plenty Conservation  
Board

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**Particular Priorities for Management Areas**

**Chapter 1 Introduction**

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**Chapter 3 Places**

**Chapter 4 Departmental Activities - Objectives and Implementation**

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**Appendix 1 Management Area Summaries** (Islands, Tauranga, Otanewainuku-Te Aroha, Whakatane, Rotorua, Atiamuri-Tokoroa, Eastern Volcanic)

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***Volume II***

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# Vision for Conservation in the Bay of Plenty

A Conservancy that values the conservation of natural and historic resources and the great wealth of nature in the Bay of Plenty, recognising that people are late arrivals, and as a result of human activities, many of the landscapes and ecosystems have been lost, significantly reduced, or modified.

A Conservancy in which the special natural character of the Bay of Plenty landscapes, landforms and ecosystems is recognised and cherished.

A Conservancy in which the human history of the land is also appreciated, and woven into the conservation of natural features.

A Conservancy in which the trend of destruction of natural resources is reversed. Instead, people's interaction with land, water, and air reflects understanding and recognition that ongoing effort is required to protect and restore the remaining elements of nature.

A Conservancy in which there is an enthusiasm by local people to be actively involved in conservation, and a commitment by them to pass on our natural and historic heritage intact and with integrity to future generations.

A Conservancy in which people look to the future, and the needs and aspirations of future generations are considered and protected.

A Conservancy that works to ensure that there is a comprehensive representative network of protected marine, terrestrial and freshwater ecosystems, and the species they contain.

A Conservancy in which responsibility for conservation is shared by Te Papa Atawhai (the Department) with iwi, local communities, regional and district councils, public interest groups, resource users and landowners.

A Conservancy in which the partnership status, history, tikanga and place of tangata whenua is recognised.

A Conservancy in which the protection of nature and history takes priority, recreation is fostered and other appropriate uses allowed.

# Overview

The Bay of Plenty once had vast lowland forests with dense stands of broadleaf and podocarp species. There were extensive wetlands of flax and raupo, large and productive estuaries, quiet lakes and rivers with clean water and distinctive geothermal areas. Not any longer.

Maori occupation of coast, estuaries and lake sides was significant and is clearly obvious from the still-evident pa and midden in these places. Forest clearance begun by Maori for cultivation and strategic reasons was quickly accelerated by the European pioneers. Felling forests for timber and to gain agricultural land, draining wetlands for farms and steady urban pressure on the estuaries, lakes and rivers has produced an entirely different picture.

There are very few large wetlands and most of the estuaries and rivers are heavily modified. A few of the lakes remain relatively natural but the impact of farming, horticulture, urban growth and industry has been substantial. Estuarine and fresh water quality is much reduced, under the influence of agricultural and industrial discharges and practices. Lake side and coastal character has been highly modified by urban growth and agriculture. The riparian spawning grounds of whitebait have been diminished by grazing and the freshwater fauna itself largely displaced by introduced fish species including the rainbow and brown trout for which the Rotorua region has achieved new fame.

The extensive lowland tawa-broadleaf forests have been substantially cleared for farming, plantation forests and horticulture, leaving remnants in the incised gorges on the Mamaku plateau. Most accessible podocarp forests have been logged but virgin stands remain in some parts of the Mamaku plateau and more extensively in Whirinaki.

Plantation forests are a major land use in central Bay of Plenty. They often border conservation areas and have elements of ecological, historical and recreational significance in their own right. Plantation managers work with the Department in the areas of fire protection, weed and animal pest control, visitor use and land-use practices.

The Rotorua lakes are the most distinctive feature of the region. They are mostly volcanic in origin, complementing the distinctive geothermal character of Rotorua. The lakes vary in size, shape, quality and use. One or two are still relatively natural and quiet havens, but most are developed to some degree with homes and holiday houses on their shores and an increasing variety of water sports on their surface. They are of course well known for trout fishing.

The geothermal areas of Whakarewarewa, Waimangu and Waiotapu are well known and include some internationally important natural features, although their management is not well developed.

The region's rivers range from the physically dramatic Wairoa and others arising in the Kaimai-Mamaku area through the largely-tamed Tarawera

and Rangitaiki rivers to the more natural Whirinaki river in the east. Hydro-power schemes on the Wairoa, Mangapapa, Rangitaiki and Wheao have had a significant impact on natural character but have in turn created new fisheries and recreational values in the impoundments of Lake Matahina, Aniwhenua and Flaxy Creek. More recently the abstraction of water for horticultural and agricultural production has introduced a new dimension in water management. The lower reaches of the Waihou, Wairoa, Kaituna, Tarawera, Rangitaiki and Whakatane all now reflect massive modification from urban and farming practices. Likewise the estuaries of the Tauranga Harbour, Maketu and Little Waihi all show the significant impacts of urban growth and rivers “control”. The Kaituna river no longer flows through its natural estuary. The least-modified estuary is Ohiwa which retains many natural features despite urban spread at Ohope and a largely farmed catchment. Tauranga Harbour now accommodates an expanding and productive port while still catering to recreational needs, although fishing is poorer now.

There are four larger islands in the Bay of Plenty and numerous small ones. Tuhua (Mayor), Moutohora (Whale) and Whakaari (White) are all in a relatively natural state. Tuhua is an outstanding extinct volcano with a magnificent pohutukawa forest covering, while Moutohora is regenerating from earlier depletion through farming and introduced animals. Whakaari is an active volcano with sparse vegetation. Motiti is flat and largely farmed.

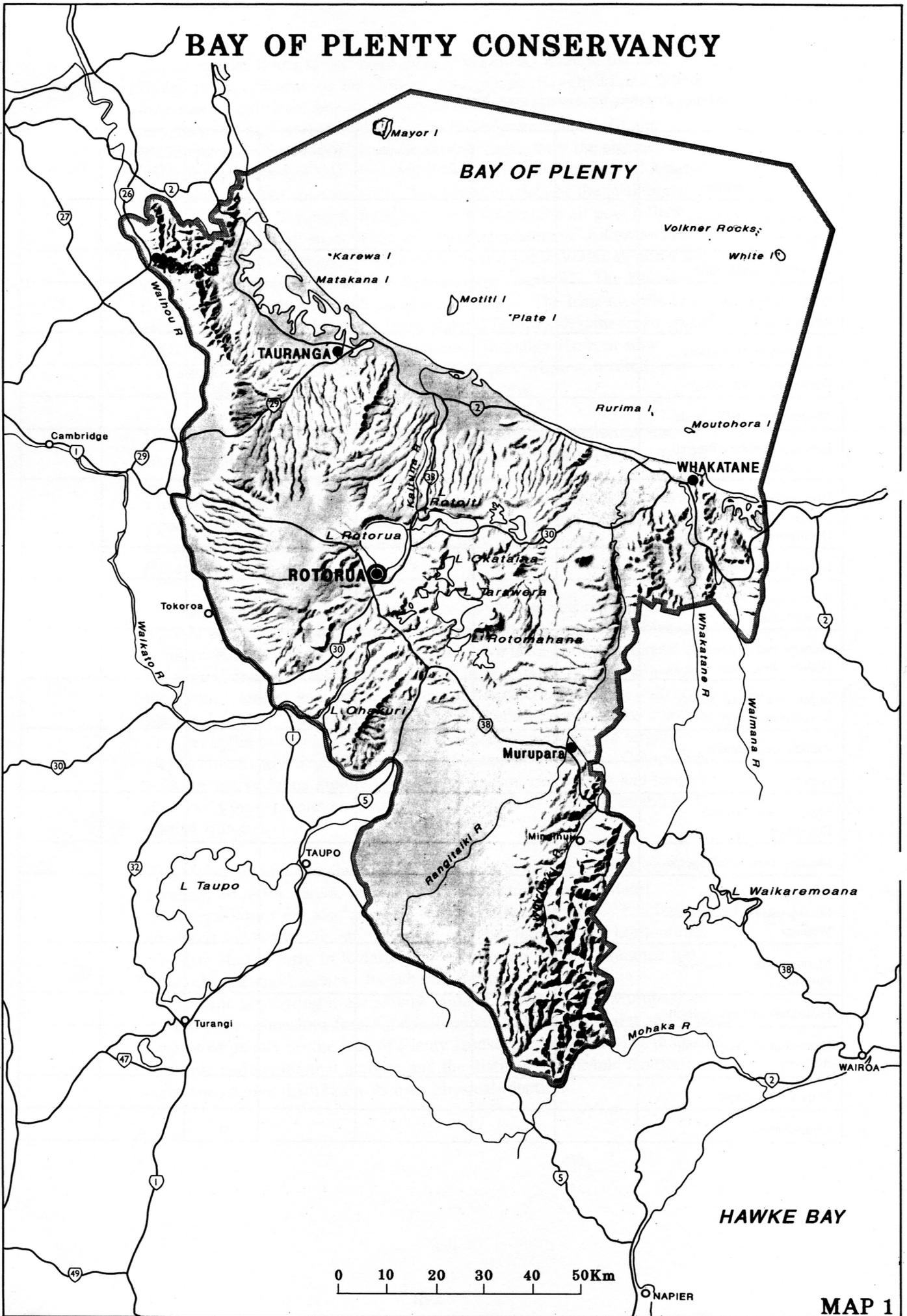
The natural forests of the Bay of Plenty are diverse and range from unusual combinations of kauri, silver beech and sub-tropical species in the northern Kaimai range, through the distinctive tawa-podocarp forests in the central area to beech forests again at high altitude in the south-east. Forest bird species include the rare and endangered blue duck, kokako, kāka and falcon. The native wood pigeon (kereru) is much less common now, as is the brown kiwi. Feral cats, mustelids and rats are largely responsible for the depauperate status of many bird species. Competing with the native fauna are the ubiquitous possum, red, fallow and sambar deer, wild pigs, rabbits and hares. Dama wallabies are well established east of Rotorua.

The Bay of Plenty has always been attractive to people. The accessible beaches, estuaries, rivers, lakes and forests sustained early Maori occupiers, who were also attracted to the geothermal areas. The fertile lowlands and warm climate fostered European farming and horticulture. Tourism started early in Rotorua and is booming today. Tauranga has a good climate and beaches. Its suburbs and port are expanding. Whakatane is growing more slowly. Inland, Kawerau and Murupara are on the edge of massive forestry development. Despite the past and present impact of people on the Bay of Plenty landscape the underlying drama of volcanic and geothermal activity and the distinctive volcanic landforms continue to give this region its own physical identity.

**Table 2 Particular Priorities for Management Areas**

Activities	Islands	Tauranga	Otanewainuku -Te Aroha	Whakatane	Rotorua	Atiamuri- Tokoroa	Eastern Volcanic
Management of Marine Reserves	x						
Advocate Conservation	x	x		x			x
Seek Co-operative Management	x				x		x
Management of Visitors	x						x
Survey and Monitoring	x		x		x		
Management of Wetlands		x		x	x		
Increase Statutory Protection of Coastal Areas		x		x			
Rationalise Classification of Lands Administered by the Department			x				
Ecological Management			x	x			
Protection of Freshwater Ecosystems			x	x	x	x	
Manage and Promote Historic Resources			x	x			
Implement PNAP Survey Recommendations			x				
Animal Pest Control			x		x		x
Access			x			x	
Manage and Promote Recreation			x		x	x	x
Manage Threatened Species			x			x	
Develop Co-operative Management with Tangata Whenua				x			
Management of Lowland Forests				x			
Protection of Lake Margins					x		
Protection of Geothermal Systems					x	x	
Plant Pest Control					x		x
Geopreservation					x	x	

# BAY OF PLENTY CONSERVANCY



MAP 1

# Chapter 1: Introduction

## 1.1 WHAT IS A CONSERVATION MANAGEMENT STRATEGY (CMS)?

Under s.17D (2) of the Conservation Act 1987 the Department is required to prepare Conservation Management Strategies (hereafter referred to as the CMS), for all land, natural and historic resources within its care (*see Appendix 3*). One such strategy has been prepared for the Bay of Plenty Conservancy (*see Map 1*).

Under s.17D (1) of the Conservation Act 1987 the purpose of the strategy is to:

- establish objectives for the integrated management of natural and historic resources, including any species, managed by the Department, and for recreation, tourism, and other conservation purposes;
- implement general policies prepared under s.17B or s.17C of the Conservation Act 1987, or under legislation specified in the first schedule of the Conservation Act 1987.

Previously the Department was obliged to prepare separate management plans for particular areas of land under a variety of legislation. These plans were largely unrelated to each other and did not provide an overall sense of direction for the Department's activities. Each CMS examines issues within a Conservancy and provides a strategic direction for the Conservancy.

## 1.2 THE CMS PROCESS

This CMS was prepared after extensive consultation with the Bay of Plenty Conservation Board, iwi with interests in the Bay of Plenty, and interested members of the public. There has been liaison with the East Coast, Waikato, Hawkes Bay, and Tongariro-Taupo Conservancies to ensure that strategies are implemented at, and across, the border of the strategy area.

Conservation organisations and interest groups were notified that this CMS was being prepared. There was also widespread general publicity. All submissions, including those received from iwi who chose to contribute, were considered during preparation of this document.

The public had two months to prepare submissions on the draft strategy. This was followed by hearings where verbal and additional written comments were presented on the CMS.

The submissions and public comment received were summarised (see “Summary of Submissions on the Draft Conservation Management Strategy for the Bay of Plenty”). The Department had regard to these submissions and other comments when amending the CMS. The amended CMS was considered by the Conservation Board, the Minister of Conservation and then referred to the New Zealand Conservation Authority for final approval.

### 1.3 USING THE CMS

The Bay of Plenty CMS is published in two volumes which are intended to be used together.

**Volume One** contains:

- **Vision;**
- Overview;
- Particular Priorities for Management Areas;
- Chapter 1 introduces the CMS;
- Chapter 2 provides an overview of the Bay of Plenty Conservancy;
- Chapter 3 identifies issues and priority activities for each of seven management areas. There is a strong emphasis on conservation of biological diversity as a key direction for the Conservancy.
- Chapter 4 addresses the Department’s activities and identifies issues, objectives and implementation measures for management of natural and historic resources, recreation facilities, and other land uses.
- Chapter 5 identifies conservation management and the process of implementing this CMS.
- Appendix 1 describes the natural and historic resources of each management area.
- Appendix 2 is the Charter for the International Council on Monuments and Sites (ICOMOS), as it relates to the conservation of places of cultural heritage in New Zealand.
- Appendix 3 summarizes mechanisms for the conservation of natural and historic resources on unprotected lands e.g. relevant Acts of parliament, funds, and trusts.
- Appendix 4 is the Treaty of Waitangi.
- Appendix 5 is a summary statutes the Department is required to administer or adhere to.
- Appendix 6 are the requirements relating to the Departments work under the International Convention on Biological Diversity.

- Appendix 7 is a glossary.
- Index and Conservancy Map showing all lands administered by the Department as at 15/11/97.

**Volume Two** contains an inventory and maps of lands administered by the Department in this Conservancy and lands that the Department has an interest in e.g. conservation covenants.

## 1.4 TERMINOLOGY

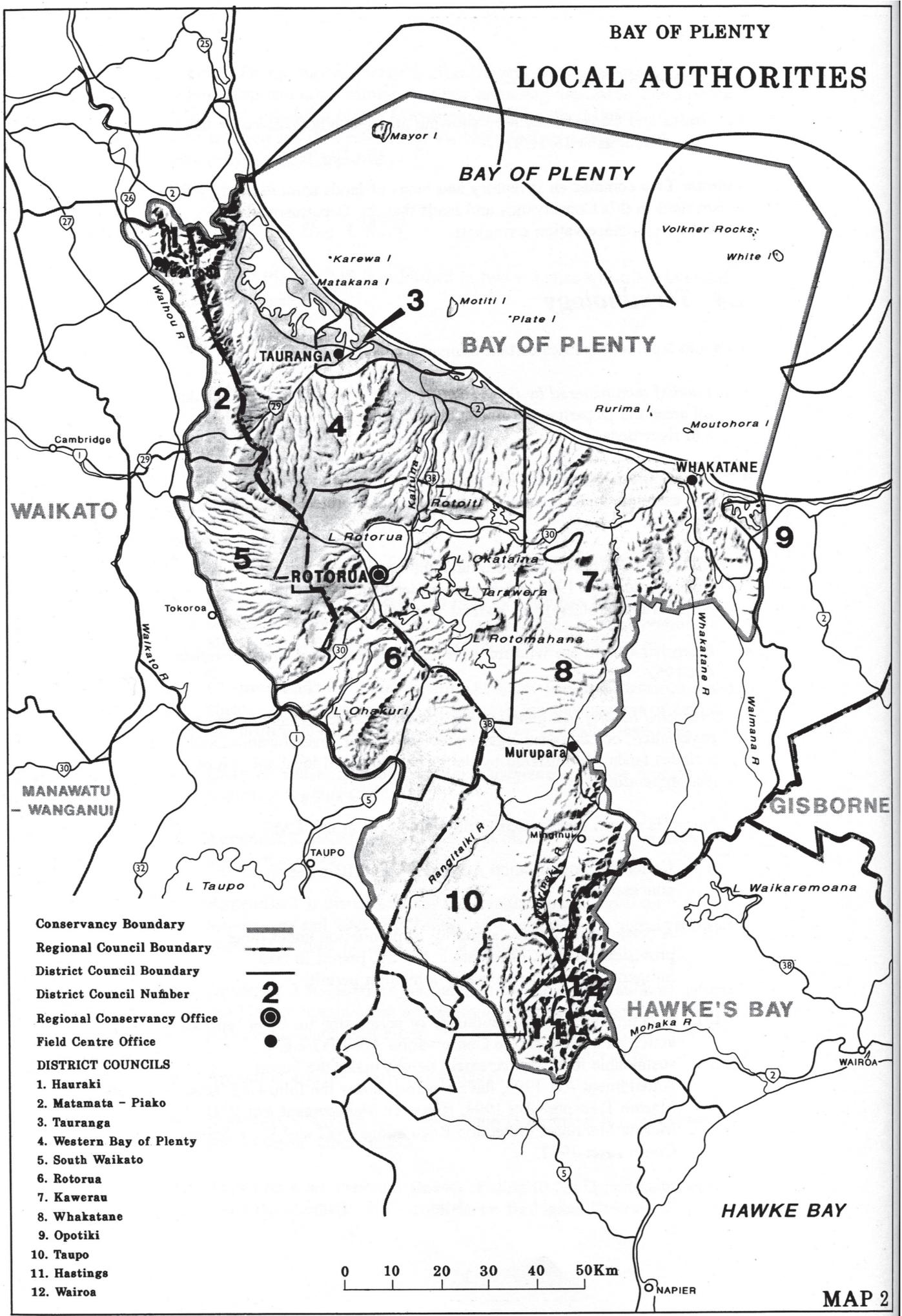
To avoid legal ambiguities certain terms are used in this CMS:

- *Land(s)* administered by the Department or “protected lands” include all areas the Department manages, and includes sea beds, lake beds, and river beds.
- Marine protected area(s) is a generic term used to refer to marine and estuarine areas to which protected status protected status has been accorded.
- Natural and historic resources have the same meaning as the Conservation Act 1987 and is used rather than the terms “conservation value(s)” or “natural value(s)”.
- Protected species are wildlife protected pursuant to s.3 of the Wildlife Act 1953.
- Protected land(s) is a generic term used to refer to all land reserved, covenanted, or otherwise legally protected under several statutes and includes lands administered by the Department and local authorities (see Appendix 7).
- Permit is a term that is used in different ways in this CMS:

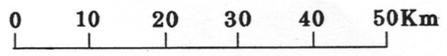
Under the Conservation Act 1987, Part IIIB a permit is for concessions;

- A permit used to give authority or permission under other provisions of the Conservation Act e.g. permit to take indigenous plants or animals; a hunting permit;
- A permit used to give authority or permission for other types of activities other than the Conservation Act 1987 e.g. a sustainable forest management permit under the Forest Amendment Act 1993, have a permit under the following Acts; Marine Transport Act 1994, Resource Management Act 1991, Marine Mammals Protection Regulations 1992 and Wild Animal Control Act 1977.

# BAY OF PLENTY LOCAL AUTHORITIES

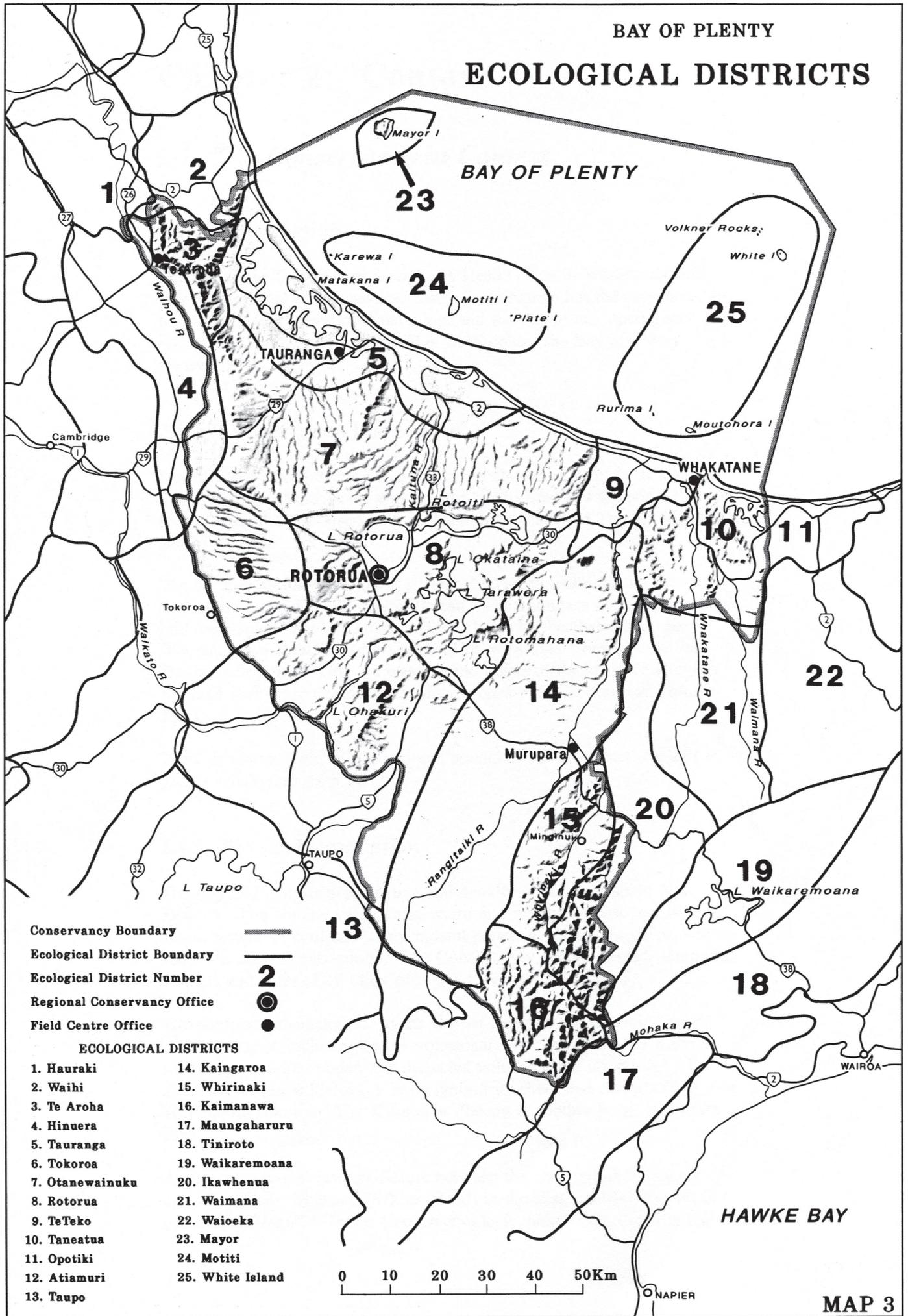


- Conservancy Boundary**  
**Regional Council Boundary**  
**District Council Boundary**  
**District Council Number**  
**Regional Conservancy Office**  
**Field Centre Office**  
**DISTRICT COUNCILS**  
 1. Hauraki  
 2. Matamata - Piako  
 3. Tauranga  
 4. Western Bay of Plenty  
 5. South Waikato  
 6. Rotorua  
 7. Kawerau  
 8. Whakatane  
 9. Opotiki  
 10. Taupo  
 11. Hastings  
 12. Wairoa



**MAP 2**

# BAY OF PLENTY ECOLOGICAL DISTRICTS





# Chapter 2: Context

## 2.1 THE CONSERVANCY IN CONTEXT

### 2.1.1 Introduction

The Department of Conservation has a Head Office in Wellington, and fourteen regional conservancies. Each Conservancy has the responsibility for strategic and operational planning, and for day-to-day operational management within its region. This CMS covers the Bay of Plenty Conservancy.

### 2.1.2 Conservancy Boundaries

Bay of Plenty Conservancy boundaries are shown on *Map 1*. It extends from Ohiwa Harbour in the east to near Waihi Beach in the north. The coastal area of the Conservancy includes islands such as Tuhua, Whakaari, and Moutohora.

The northern boundary is the Karangahake Gorge, and includes the Kaimai Range and the Mamaku Plateau. The boundary then runs south to join the Napier-Taupo Highway, and includes the headwaters of the Waipunga and Hautapu Rivers, and all of Whirinaki Conservation Park. The boundary then skirts the western and northern flanks of Te Urewera National Park; (*see Conservancy Map in back cover pocket and Volume Two*).

The Conservancy includes 3 regional councils and 12 district councils in part or whole (*see Map 2*).

### 2.1.3 Physical Description

The Bay of Plenty is a distinctive and heavily populated part of New Zealand. The climate varies from warm and relatively frost-free islands and coastline, to cool and frosty upland plateaus, and ridges where winter snowfalls are not uncommon. The Conservancy encompasses 6 ecological districts and parts of 19 other ecological districts (*see Map 3*).

The dominant characteristic of the Bay of Plenty is its volcanic history and landscapes, including active volcanism. To the west is the Kaimai Range, comprising eroded and dissected volcanics and ignimbrite. This abuts the Mamaku Plateau, a large ignimbrite sheet that extends from near Te Puke to Tokoroa. The Kaingaroa Plateau is another large ignimbrite sheet.

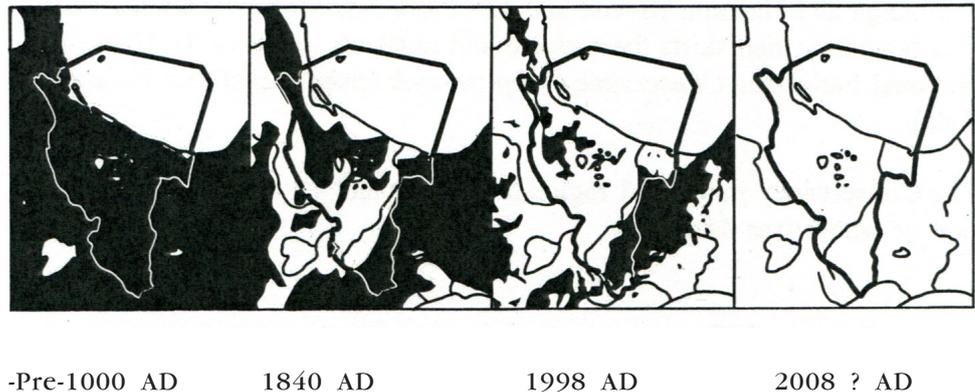
A zone of active volcanism occurs between the two ignimbrite sheets; extending from Whakaari (White Island) in the north to Mt Ruapehu in the south (Tongariro/Taupo Conservancy). It includes the Rotorua Lakes, all resulting from volcanic activity e.g. calderas and blast craters or valleys blocked by pyroclastic flows and geothermal surface activity, mainly near Rotorua.

To the east are the greywacke ranges of Te Urewera, bounded by the Whirinaki valley (ignimbrite) and Galatea plains (outwash gravels).

Adjoining the coast there are alluvial plains near Whakatane, Te Puke, and Little Waihi, with a narrow strip of dunes. There is an exposed coast and open sea, with a number of offshore islands which extend out to the edge of the continental shelf. There are large and small estuaries such as Tauranga, Ohiwa, Maketu, Little Waihi, and Whakatane. The coast (including estuary margins) is 470 km in length.

#### 2.1.4 A History of Change

Before human settlement, almost the entire terrestrial Bay of Plenty would have been covered with indigenous vegetation (see Figure 1). On the plains near the coast were extensive wetlands. The upland plateaus and hills were covered with tall forest, some of which had developed following relatively recent volcanic holocausts. The lakes and rivers would have been dominated by indigenous plants and animals. The estuaries and open sea teemed with life, as did the terrestrial ecosystems. Birds would have been especially prominent.



**Figure 1 Indigenous Forest Cover in the Bay of Plenty.**

Destruction and modification of the vegetation and other biota started with the early Maori. Pakeha arrival resulted in a striking acceleration of deforestation, drainage and introduction of exotic biota, with resultant impacts on natural ecosystems. The presence of people on the landscape has left a rich legacy of human history and important sites; but also an unfortunate legacy of destruction and modification of natural ecosystems.

The most sizable remnants of indigenous vegetation are the steeper or inaccessible areas. The natural features that remain are often small, fragmented, and under threat from a number of elements.

Few lowland wetlands remain and most are highly modified. Vast areas of forest have been destroyed on upland plateaus, lowland hills and plains. Lake, river and stream catchments have been heavily modified with water bodies invaded by exotic plants and animals. Animal and plant pests occur widely on the mainland and have changed ecosystem composition and ecological processes. This poses special challenges for conservation managers to conserve what remains, and restore degraded ecosystems.

Despite the extensive destruction and modification of many areas, the Conservancy contains a great diversity of landscapes, ecosystems, plants, and animals, and areas with high natural and historic resources. Some are nationally and internationally significant treasures, such as geothermal areas, Rotorua lakes, Whirinaki forests and Tauranga and Ohiwa estuaries.

### **2.1.5 Conservation Milestones**

Environmental awareness is not new in Bay of Plenty and the impact of community development on the natural resources has been substantial over the last 50 years. During the last 25 years there have been several "conservation milestones" centring around the area's forests, rivers, lakes, and geothermal fields.

Government direction in the 1960's to clear partially logged podocarp/tawa forest on the Mamaku Plateau. Later similar proposals for part of the Kaimai Range led to local and national objections which were successful in protecting this area. This led to the gazettal of the Kaimai-Mamaku Conservation Park as a permanently protected area and the formation of an Advisory Committee to represent public opinion in the management of the Conservation Park.

The Government also released an indigenous forest policy in 1977 [Management Policy of New Zealand's Indigenous State Forests, New Zealand Forest Service, Wellington, 1977] which resulted in considerable controversy and public pressure after which the Government stopped native logging. The campaign at Whirinaki was particularly intense and prolonged, from 1977 to 1985, with the forest proclaimed as Forest Park (now called a Conservation Park) in 1984. All commercial native logging was prohibited with the passing of the Conservation Act 1987.

During this period of debate on forest management the concept of "ecological reserves" was discussed and implemented. Ecological areas were carefully identified and formally reserved in the Horohoro, Mamaku, Rotoehu and Whirinaki State forests. The status and relevance of native bird species was also well investigated and recognised, leading in recent times to pioneering work on kokako in particular. Some of this work was funded through the Tasman Accord, a milestone in conservation reached between Tasman Forestry, conservation groups and Department of Conservation in 1989. This Accord was undoubtedly influential in the development of the Forest Accord 1991, a nationwide pact to protect native forest, between private forest owners and conservation groups.

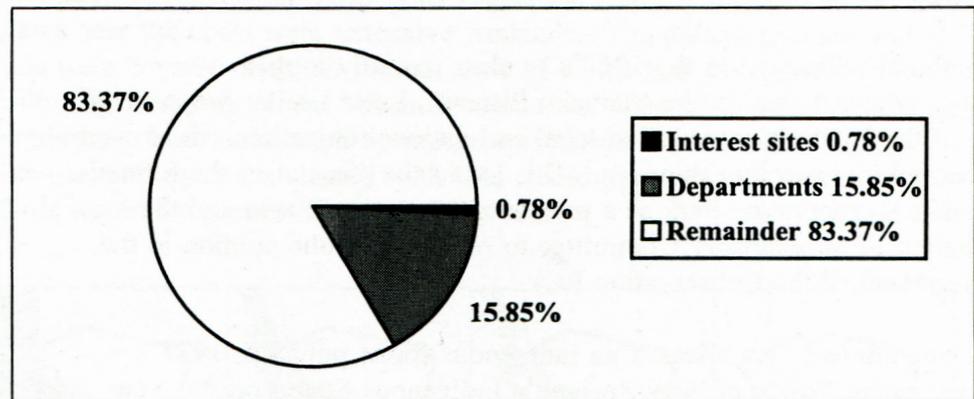
Another conservation milestone was also signalled in the 1960's when the eutrophication of Lake Rotorua through excessive nutrient inputs became an issue for public concern. Guardians of the Rotorua Lakes were appointed to represent public opinion. The problem came to a head in 1978 with a claim to the Waitangi Tribunal opposing effluent disposal into the Kaituna River. The Tribunal supported the claimant. Rotorua District Council subsequently re-routed its city effluent to a land based treatment, with an improvement in the water quality in Lakes Rotorua, Rotoiti and the Kaituna.

A geothermal milestone was achieved in 1987 when the Government

intervened in the management of Whakarewarewa area of the Rotorua geothermal field. All geothermal bores within 1.5 km of Whakarewarewa were closed with stricter control of bores outside this zone.

### 2.1.6 Lands Administered by the Department

The land administered by the Department reflect some of the physical character and history of the Bay of Plenty (*see Conservancy Map inside back cover*).



**Figure 2 Land administered by the Department in the Conservancy (total 171,095 ha plus 1060 ha [Marine Reserve] and 8,405 ha [other interest sites]).**

There are around 355 parcels of land administered by the Department totalling 171,095 ha (see *percent of the total Conservancy land area -see Volume II*) (see *Figure 2*); 1 Marine Reserve (Tuhua) of 1060 ha (in 633,500 ha of ocean in the Conservancy, see *Figure 3*); and a further 78 parcels totalling 8,405 ha, for which the Department has statutory responsibility for administration under the Reserves Act 1977 and Wildlife Act 1953 (see *Figure 2*). More than 50% is Conservation Park (Whirinaki and Kaimai-Mamaku). There are some large stewardship areas and scenic reserves (Waipunga Forest and Lake Tarawera Scenic Reserve). The conservation parks include 19 ecological areas (defined on the basis of representativeness). There are also 11 wildlife refuges and 122 marginal strips.

Many of the parcels of land administered by the Department are small (60% < 20 ha) (see *Figure 4, Table 1.1.2*). There are other statutory protective mechanisms e.g. conservation covenants (see *Appendix 3*) which are generally over small parcels of land and may have high natural or historic resources (see *Appendix 7*).

Significant areas of Maori land have protective status e.g. Mokoia Island. Specific reserves around Lake Rotoiti and Lake Okataina were gifted in the 1920's to the Crown and are now administered by the Lake Rotoiti and Lake Okataina Reserve Boards respectively.

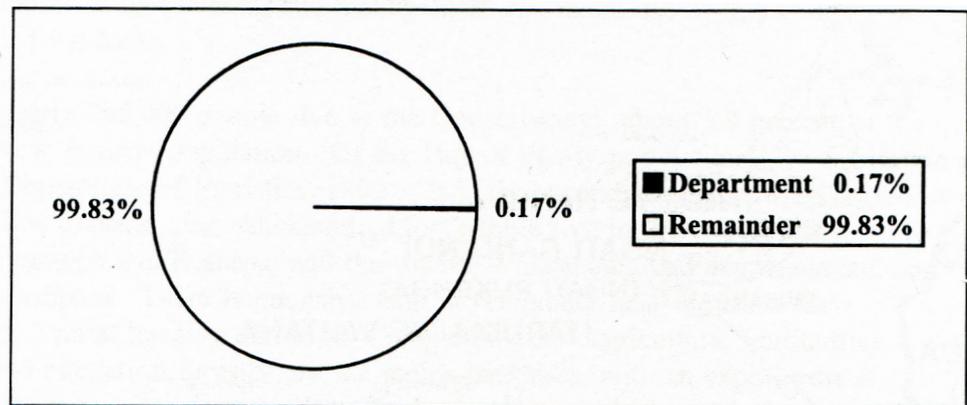


Figure 3 Sea area administered by the Department with respect to marine mammal protection (relative proportions) (total 633,500 ha including the 1,060 ha Tuhua Marine Reserve).

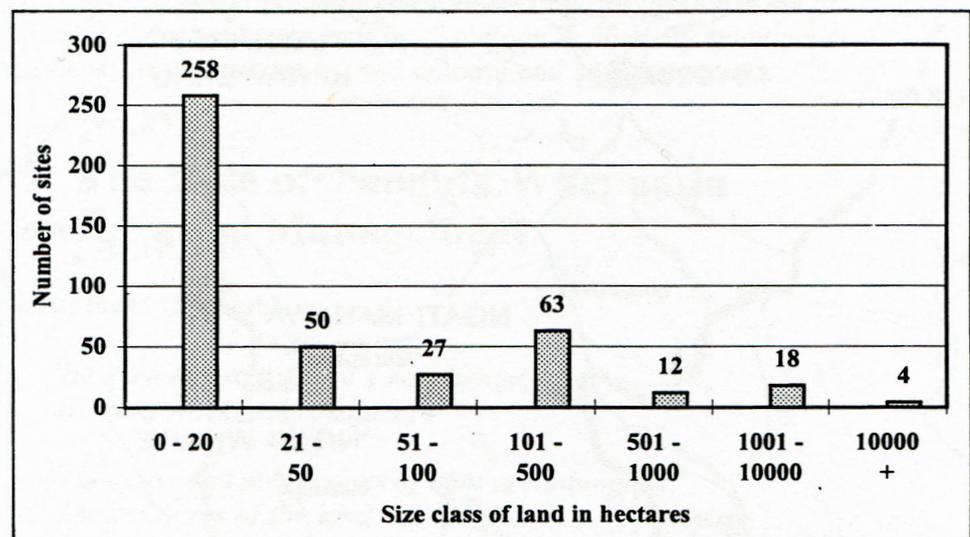


Figure 4 Lands Administered by the Department (Frequency by Size Class) (354 sites).

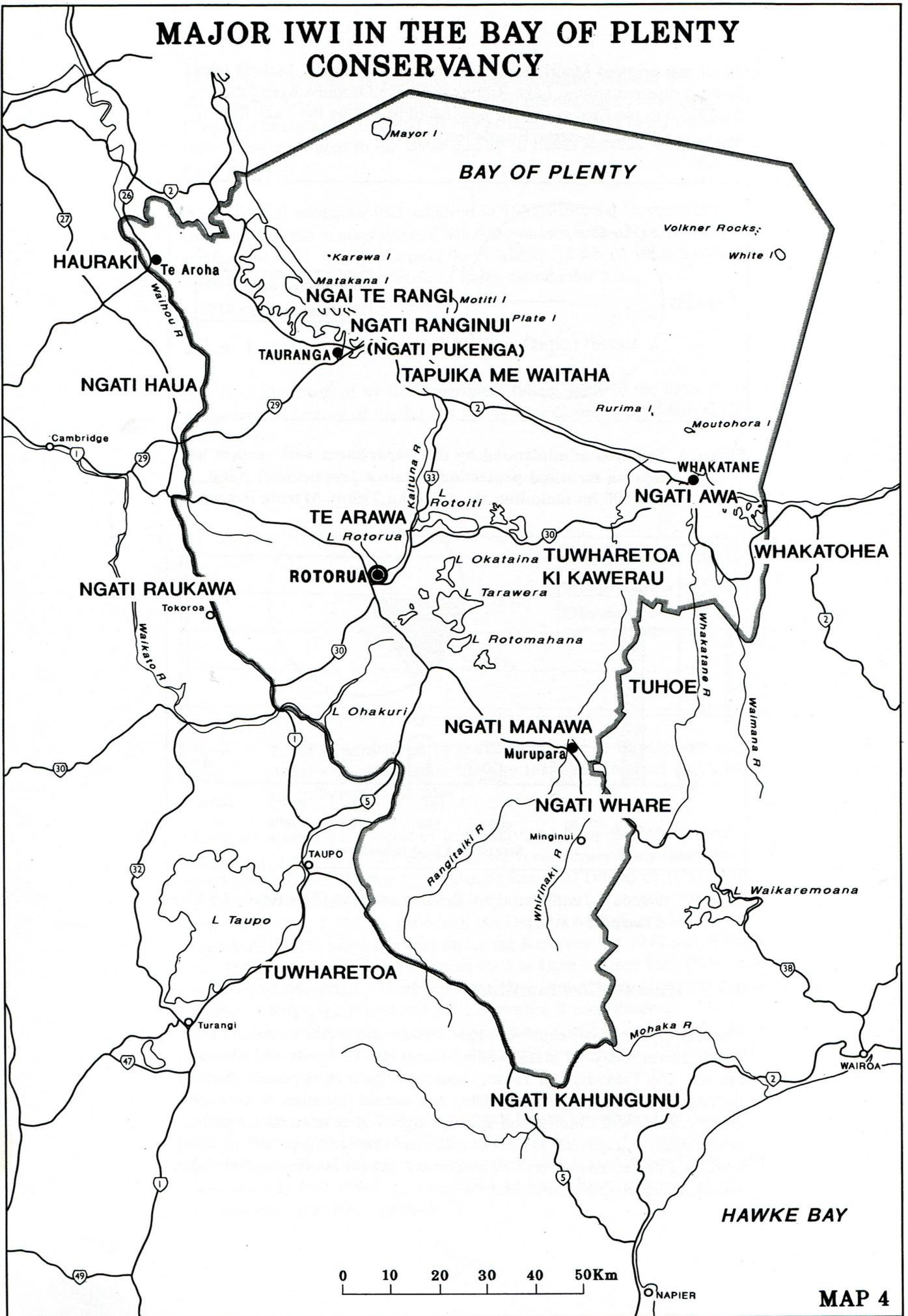
### 2.1.7 Human Communities

The Bay of Plenty is steeped in Maori culture and tradition, much of which thrives today. It is the landing site of the Te Arawa and Mataatua canoes. The Takitimu and Tainui canoes also have an important place in the region's history. The land, water, and natural resources of the region are of considerable cultural and spiritual significance to tangata whenua, whose mana and cultural perspective demand that the mauri and physical wellbeing of the environment be conserved. Activities which affect these resources are of special interest to them.

Tangata whenua see themselves as both kaitiaki and users of some of Aotearoa's (New Zealand's) natural resources (*see Map 4*).

Tangata whenua have considerable knowledge of the region's natural and historic resources, their values and vulnerability to exploitation. Today,

# MAJOR IWI IN THE BAY OF PLENTY CONSERVANCY



conservation planning and management can make use of this knowledge and wisdom.

Nearly 200,000 people live in the Conservancy; about 5.8 percent of the New Zealand population. Of the Bay of Plenty population 25% is Maori (Department of Statistics, 1992). It is the second fastest growing region in New Zealand after Auckland. Most people live in the two cities,

Tauranga and Rotorua, and the towns, Whakatane, Te Puke, Kawerau, and Murupara. There is intensive land development near the coast for residential housing and rural lifestyle blocks. Agriculture, horticulture, and plantation forestry are the major land uses, with an export port at Tauranga. Tourism is a large and developing industry. Much tourism is based on natural features such as geothermal areas, lakes, and the coast. Eco-tourism will continue to expand. Commercial fishing, recreational fishers, and charter boat fleets work from Tauranga and Whakatane.

The continued development and use of natural resources has major implications for the conservation of biological diversity (biodiversity), landscapes, historic features, and cultural and spiritual values.

## 2.2 THE ROLE OF TANGATA WHENUA IN CONSERVATION MANAGEMENT

### **Whakatauki** (Proverb)

*"He kura tangata e kore e rokobanga,*

*He kura whenua e rokobanga"*

*"The treasured possessions of man are intangible,*

*The treasures of the land are tangible".*

### **Background**

The land, water, and natural resources of the region are of considerable cultural and spiritual significance for the tangata whenua, whose mana and cultural perspective demand that the mauri and physical wellbeing of the environment be protected.

The term tangata whenua (people of the land) will be used through this document to describe the collective iwi Maori who were traditional and customary owners of land now administered and managed by the Department. The Conservancy needs to identify relevant tangata whenua and consult with them. They have a close relationship with the landscapes of the Bay of Plenty, and the various management areas (*see Chapter 4, Appendix 1*).

### 2.2.1 **The need for recognition (The Treaty of Waitangi)**

"I repudiate with the utmost possible earnestness, the doctrine maintained by some, that the treaties which we have entered into (with

the Maori people) are to be considered as a mere blind to amuse and deceive ignorant savages. In the name of the Queen I utterly deny that any treaty entered into and ratified by Her Majesty's command, was or could have been made in a spirit thus disingenuous, or for a purpose thus unworthy. You will honourably and scrupulously fulfil the conditions of the Treaty of Waitangi "

(Lord Stanley, Colonial Secretary to Captain Grey, 13 June, 1845)

For Maori, the right to participate in environmental and conservation issues, lies first and foremost in the Treaty of Waitangi (*see Appendix 4*).

For the Conservancy, the commitment to encourage Maori participation in conservation management is stipulated by Section 4 of the Conservation Act 1987, which states:

"This Act shall so be interpreted and administered as to give effect to the principles of the Treaty of Waitangi."

That is to say, "cause to exist or occur, bring about, accomplish" (i.e., active participation) Concise Oxford Dictionary, 8' Edition.

In order to carry out its statutory obligations, the Department of Conservation cannot treat Maori as just another interest group. Their status, as people who hold traditional rights and authority over ancestral lands, water and other taonga, is acknowledged in legislation and requires that they are treated as partners and their values respected and upheld. Those values with regard to the environment are outlined below.

**a) The domains of the environment from the Maori perspective**

*"Toitu te marae o Tane*

*Toitu te marae o Tangaroa Toitu te Iwi"*

*If the domain of Tane survives to give sustenance, and the domain of Tangaroa likewise remains, so too will the people*

In Maori philosophy, creation plays a fundamental role. All things in the natural world are seen as the progeny of Papatuanuku (maternal earth) and Ranginui (paternal sky) who were created from Io-Matua-Kore (the parentless one), and from their union sprang some seventy atua or gods, and principle among these were:

Tane Mahuta	Atua of the forest and all living things within them including humans
Tangaroa	Atua of the fish in the sea and sea life
Tawhirimatea	Atua of the winds and storms
Ruamoko	Atua of earthquakes and volcanoes
Haumietiketike	Atua of fern roots and other wild foods
Rongo Matane	Atua of the sweet potato and of cultivated foods
Tutewehiwehi	The grandson of Tangaroa and the Atua (god) of

amphibians and the inland water creatures

All creation is closely related and interdependent.

#### **b) Rangatiratanga (Authority) and Kaitiakitanga (Guardianship)**

Rangatiratanga is basic to the way Maori see themselves in relation to the environment. Rangatiratanga involves the concept of mana (power, authority). It is linked to traditional cultural precepts. These precepts relate to preferred tribal structures and organisation, particularly tribal communalism of land/resource holding and decision making, and to the primary role of the hapu descent group.

The definition of Kaitiakitanga refers to the exercise of guardianship and to an ethic of stewardship. Kaitiakitanga also infers a relationship between people and the environment. The tangata whenua who have mana over the resource will be able to determine the characteristics of kaitiakitanga and how it should be given expression. Kaitiakitanga includes an obligation on people to use resources in ways which respect and preserve resources in the environment, both physically and as sources of spiritual power.

Kaitiaki can be iwi, hapu, whanau, and/or individuals of the region. Whilst tribal authorities themselves may not be considered kaitiaki, they can represent kaitiaki and help to identify them.

#### **c) Mauri (Life Force)**

Through the creation process, divine forces were transcended into the domains of the Atua, giving them a life force principle, or mauri (a source of wellbeing and health).

"Mauri is that life principle which is latent in all things - an energy behind all things, the elemental force that binds things together and gives them their being. There are gradations, depending on the being of the thing concerned, for example, the mauri of an individual or of a people, the mauri of trees and other animate things, then the mauri of the inanimate." (Maori Marsden in Metge, 1986, p 73)

Forests, rivers, streams, lakes, swamps, mountains and fisheries have their own mauri. Their wellbeing is reflected in productivity and abundance of birds, fish, and other life. The forest mauri guards its fertility and serves as a voice to the atua.

#### **d) Whenua (Land)**

*"Whatu ngarongaro te tangata, toitu te whenua"*

*Man will disappear but the land will remain*

To the early Maori land was everything. Bound up with it was survival, politics, myth, and religion. It was not part of life but life itself. Taking culture in its widest sense, there was no part of early Maori culture that was not touched by the land. The continued occupation of a piece of land was the most obvious sign of a link between generations - between those dead, those living, and those yet to come - in a society without written records. The kaitiakitanga principle inferred that not only did the

land belong to tangata whenua but that tangata whenua belonged to the land, and to lose touch with ancestral land was to lose touch with one's source of identity, leaving people with no place to where they belong.

The land was regarded as the sacred trust and asset of people as a whole. Laws of tapu were invoked only to protect well defined areas of land, lakes, rivers, waterways, or stretches of the seaside from human exploitation or defilement. Tapu would be applied for a period adequate to preserve or recover the sanctity of the soil or water. There were special cases when the presence of a burial ground, a maligned taniwha, or some major infringement of a tapu, would result in the declaration of a specific area as a permanent wāhi tapu, or sacred place. Each tribe would have its own sacred place where the mauri or talisman of the tribe was hidden, dating back to the arrival of the original tribal canoe from Hawaiki.

#### **e) Rahui (Prohibition)**

Tangata whenua had substantial knowledge of the species they depended on, and therefore acted in a way that would ensure future abundance of all their resources. One way this was done was through a type of prohibition or "rahui".

#### **Types of Rahui**

##### 1. Social rahui:

- ban on fishing and gathering kaimoana after a drowning has occurred; and
- reserve a resource for owners use.

##### 2. Economic rahui:

- save an area from depletion, i.e., a patch of forest or fishing ground;
- conserve a specific resource such as certain species of bird or fish;
- make sure a resource is only taken "in season" as in rahui on wild fowl during the breeding season or until the young are fledged;
- a ban on taking products from certain areas, such as a forest, stream, or fishing ground; and
- a rahui post is a notice of tapu.

Anyone with enough mana could set up a social rahui; however, economic rahui were often set by a tohunga.

### **2.2.2 Recognition of Maori Traditions today**

These traditional conservation concepts, values and practices are the taonga which constitute the basis of tikanga Maori today. These must be recognised in accordance with the Principles of the Treaty of Waitangi in Departmental planning and operations (-. 4 Conservation Act 1987).

This can be given effect by establishing appropriate Charters of Partnership

with local tangata whenua. These charters will pertain to specific natural and historic sites in which tangata whenua have identified an interest.

## 2.3 THE DEPARTMENT'S WORK IN CONTEXT

The Department is responsible for ensuring the conservation of natural and historic resources, promoting the benefits of conservation and fostering recreation where appropriate (*see Appendix 5.3 and s. 6 Conservation Act 1987*).

### 2.3.1 Protection of Biological Diversity

Biological diversity (biodiversity) is the variation amongst living organisms (*see Appendix 7*). It includes:

- the variability between and within ecosystems resulting from different associations of living organisms;
- the variety of ecological processes within ecosystems; and
- the variability within and between species (genetic diversity) (*Costanza, R. et al., 1993*).

The conservation of biological diversity can be regarded as an all embracing principle.

The Department has a special physical and biological heritage to manage and protect. New Zealand's unique ecosystems and species evolved in isolation from other land masses for 60-80 million years. The ancestors of some of our present day forest trees, including kauri, podocarps, beech, and tree ferns, existed when New Zealand began to separate from the southern continent of Gondwanaland (Fleming, 1977).

New Zealand does not have, in relative terms, large numbers of species, but eighty five percent of species of seed plants and over 90 percent of indigenous freshwater fish are endemic. Such a high percentage occurs on only a few isolated islands e.g. Hawaii. The very distinctive character of New Zealand's plants and animals extends to most ecosystems and species, with one exception being the more cosmopolitan marine life.

New Zealand's animal and plant life, because of its long isolation, was vulnerable to the impact of humans and their associated plants and animals e.g. New Zealand's birds evolved in the absence of mammalian predators. Some bird species became large and flightless with a slow reproductive rate. Since the arrival of humans, 41 species of bird have become extinct (Gill and Martinson, 1991) due to habitat destruction and the introduction of predators e.g. rats.

The emphasis on biological diversity conservation in this CMS has arisen from the International Convention on Biological Diversity (United Nations Environment Programme, 1992) which was signed by 153 governments, including New Zealand (*see Appendix 6*). The objectives of the convention are:

- the conservation of biological diversity;
- sustainable use of its components; and
- fair and equitable sharing of the benefits arising out of the utilisation of genetic resources.

The Department of Conservation is involved primarily in trying to achieve the first objective.

In managing and conserving New Zealand's physical, biological, and cultural heritage the Department is charged with:

- conserving indigenous biodiversity at national and local levels; and
- maintenance of the representative biodiversity as the "touchstone" of preserving the natural character of New Zealand.

this entails:

- managing ecosystems, habitats and species on lands the Department administers;
- protecting indigenous wildlife, indigenous freshwater fish and marine mammals on land of all tenures; and
- advocating the conservation of significant indigenous vegetation and indigenous fauna.

For ecosystems and species in decline, it involves total commitment to the biodiversity objective, to ecological restoration and advances in pest control.

The conservation of biological diversity includes conservation of:

- landscapes;
- landforms, geological features, and soils;
- terrestrial ecosystems;
- marine and estuarine ecosystems;
- freshwater ecosystems;
- geothermal ecosystems; and
- indigenous species.

The Department's functions are governed by its legislative framework (*see Appendix 5*).

The Department, tangata whenua, local authorities and private land owners, have an important role in the conservation of indigenous biodiversity.

### **2.3.2 Landscapes**

Landscape can be defined as the visual expression of the interaction between cultural and natural processes. This definition means that landscape is more than scenery or a view.

The Department's primary interest is the protection of landscape dominated by indigenous ecosystems or where there are important natural or historic elements. Landscape protection in the past focused on spectacular scenery

such as mountains, lakes, or road margins. Today, landscape protection has been broadened to include protection of representative and unique landscapes rather than just the spectacular. This includes protection of important scenic corridors, views and vistas.

Much landscape protection work involves lands not administered by the Department. In these cases the provisions of the Resource Management Act 1991 are significant. Under Section 6(a) of that Act preservation of the natural character of the coastal environment, wetland, lakes and rivers, and their margins is a matter of national importance as is the protection of outstanding landscapes. Local authorities are looking at ways in which they can protect landscapes e.g. Rotorua District Council has identified landscape importance as a non-statutory annexure to its Proposed District Plan (*see Appendix 3*).

### **2.3.3 Landforms, Geological Features, and Soils**

New Zealand has a unique and diverse heritage of natural landforms, geological features, and soils. This is the result of a long and complex geological history and New Zealand's location on a volcanically active boundary between two of the world's major crustal plates (Kenny and Hayward, 1993).

Most protected land in New Zealand have been set aside for scenery or biological conservation purposes. Although this conserved a large number of earth science sites of significance, it has resulted in a bias to inland or steep sites.

The overriding objective of earth science conservation in New Zealand is to ensure the broad diversity of geological features including landforms, soil, and active physical processes is represented. This enables understanding of New Zealand's unique geological history, development of its landforms, and evolution of its biota. The biggest hindrance in achieving this objective has been a lack of information on which sites are unique, important, or the best representative examples (Kenny and Hayward 1993). This led to the compilation of the Geopreservation Inventory by the Geological Society of New Zealand (Kenny and Hayward 1993).

New Zealand is internationally significant for geothermal surface features with the majority in the central North Island, in the Bay of Plenty and Tongariro-Taupo Conservancies.

The Taupo Volcanic zone is a 230 km long strip from Mount Ruapehu to Whakaari (White Island), and is up to 40 km wide. It contains at least 18 well defined large geothermal systems and numerous smaller, less well defined fields.

The Bay of Plenty volume of the Geopreservation Inventory lists 182 significant landform and geological sites. Thirty five sites are of international significance. This is the highest number of internationally significant sites in any of the regional inventories, and is due to the volcanic character of the Bay of Plenty. Internationally ranked sites include the following:

- Rotorua Geothermal Field;
- Waiotapu Geothermal Field;
- Waimangu Geothermal Field;
- Whakaari (White Island) Geothermal Field;
- Tuhua (Mayor Island) volcano, its caldera, and a number of sites on Mayor Island;
- Tarawera volcanic complex; and
- Lake Rotomahana explosion craters.

A further 66 sites are assessed as being of national importance and twenty nine are highly vulnerable to human damage or destruction. Five geothermal fields are of international importance and have been recommended for complete protection. Four of the five fields are within the Bay of Plenty Conservancy (Rotorua, Whakaari (White Island), Waimangu, Waiotapu). Eleven of the twelve geothermal features considered to be of international importance are in the Bay of Plenty, along with most of the eight geothermal fields of national significance, such as Te Kopia and Orakeikorako (Kenny and Hayward, 1993).

Associated with the geothermal features are geothermally altered soils, a range of geothermal ecosystems, vegetation associations, and microbes.

Geothermal features attract large numbers of tourists to the Bay of Plenty, contributing millions of dollars annually to the economy (*see 3.6.6, 3.7.5, 5.3.1 Landscapes, Landforms, Geological Features and Soils, and Appendix 1*).

Most of the best representative examples of different natural soil types sites listed are in protected lands, but some sites are not yet legally protected (Arand, et al. 1993; Soil Bureau, 1974). A significant number of these sites are of cultural significance to tangata whenua and some are subject to claim under the Treaty of Waitangi. Partnership between the Department and tangata whenua is of particular importance to their management.

#### **2.3.4 Terrestrial Ecosystems**

As a consequence of human modification little coastal or lowland plains forest remains with some remnants not legally protected (*see 3.3.2 Ecosystems*). Most lowland hill-country forests have been cleared but examples still exist in some parts of the Conservancy. Conversely, upland forests remain, although they have been adversely affected by introduced animals, particularly possums and goats. These are well represented in the Conservancy's protected area network and large forest tracts include Kaimai-Mamaku, Otawa-Otnewainuku, Rotoehu, and Whirinaki Waipunga (the latter being part of the much larger Te Urewera tract).

Coastal dune lands are present along much of the Conservancy coastline. They have been modified by burning, grazing, urban development and introduced plants. Only small areas of indigenous dune land vegetation remain today, with few being legally protected (*see 3.4.6 and 3.5.5*).

There are several shrubland types in the Conservancy, low altitude seral shrublands represent the early stages of succession after disturbance e.g. fire or land clearance. There are no large areas of low altitude shrublands. Upland plateau shrublands dominated by Monoao (*Dracophyllum subulatum*) occur on the Kaingaroa Plateau.

Islands have important coastal and lowland ecosystems, especially islands where animal pests have been removed e.g. Moutohora. This is allowing terrestrial ecosystems on those islands to develop in a similar way to either pre-human or pre-European times,

### **2.3.5 Estuarine and Marine Ecosystems**

The coast consists of an extensive sandy shoreline indented with estuaries (Tauranga, Maketu, Little Waihi, Whakatane, and Ohiwa). Tauranga Harbour, with an area of 20,000 ha, is one of New Zealand's largest coastal inlets. Although containing New Zealand's largest export port and a major city, it also contains extensive areas with relatively little modification. There are also a number of off-shore islands and stacks. The waters surrounding islands that are further offshore have a subtropical element in their biota e.g. Whakaari (White Island) and Tuhua (Mayor Island).

Marine ecosystems generally occur below mean high water spring tide levels, although estuarine saltmarsh associations can extend further inland. The Resource Management Act 1991 defines the coastal marine area as being below Mean High Water Spring and extending out to the 12 mile territorial limit.

The Department has the following roles:

- establish and manage lands administered by the Department including:
- marine reserves under the Marine Reserves Act 1971;
- reserves under the Reserves Act 1977; and
- conservation areas under the Conservation Act 1987.

At present there is one marine reserve (Tuhua); four reserves; and one conservation area. The last five areas are all in Ohiwa Harbour; where acting under delegated powers, on behalf of the Minister of Conservation, consult as required with local authorities to ensure the Minister's functions under s.28 of the Resource Management Act 1991 achieves the purpose of that Act, and all Part II matters under that Act are addressed (*see Appendix 5*);

- advocate for the conservation of natural fisheries resources by liaising with the Ministry of Agriculture and Fisheries;
- advocate for conservation of marine ecosystems and wildlife by liaising with the Maritime Safety Authority, Ministry of Transport, and regional councils on oil spill contingency planning;
- protect and manage indigenous wildlife (excluding gamebirds) and the setting apart (by proclamation) of wildlife refuges, sanctuaries,

and management reserves under the Wildlife Act 1953;

- give effect to the principles of the Treaty of Waitangi, by respecting the philosophies and practice, of tangata whenua regarding their mana moana;
- protect marine mammals; and
- protect indigenous freshwater fish and their habitats in liaison with the Ministry of Agriculture and Fisheries. The habitat of indigenous freshwater fish generally extend into marine and estuarine ecosystems for part of each species life cycle (*see 4.3.11 Freshwater Fisheries*).

### **2.3.6 Freshwater Ecosystems**

River, lake, and other wetland freshwater ecosystems are an important part of the natural character of the Bay of Plenty. Wetlands were once common on the coastal plains. Most have been drained for intensive horticulture and dairy farming. Inland, remaining wetlands are threatened by adjoining land use practices such as forestry and farming.

Rivers and lakes have been extensively modified and polluted by human activities. Large cold water springs are vulnerable to pollution and land use changes, and are worthy of protection. Relatively little progress has been made with protection of freshwater ecosystems, habitats, and species (*see 4.3.11 Freshwater Fisheries*). The 1986 Government policy 'New Zealand Wetlands Management Policy' guides the management of freshwater ecosystems, and highlights the importance of these ecosystems. The Department recognises that its own management must take account of freshwater ecosystem water quality.

### **2.3.7 Indigenous Species**

Under the Wildlife Act 1953 all species of indigenous wildlife, as defined by that Act, are protected. This includes birds, reptiles, amphibians, and specified invertebrates. Ecosystems and habitats, in contrast to species, are not automatically protected unless they are specifically reserved under the Wildlife Act 1953 or another Act. There are provisions for some indigenous species to be protected, declared game, hunted, partly protected, or not protected at all. The protected species status extends over all populations irrespective of whether they are on protected lands or not.

Marine mammals are protected under the Marine Mammals Protection Act 1978. Aquatic life is conserved and managed under the Fisheries Act 1983 which is administered by the Ministry of Agriculture and Fisheries except where there is a marine reserve (Marine Reserves Act 1971).

Indigenous freshwater fish (including crayfish and shellfish) are managed under the provisions of the Conservation Act 1987 and the Freshwater Fisheries Regulations 1983. It is unlawful to kill or destroy any species of indigenous fish except for human consumption or research. No freshwater aquatic invertebrates are formally protected. There are traditional Maori fisheries for tuna (eel), kokopu, inanga (whitebait), koura (freshwater

crayfish), and kakahi (freshwater mussels). The Eastern Region Fish and Game Council manage sports fish, and game, and their habitats.

The conservation of indigenous species diversity has several components, including conservation of:

- indigenous ecosystems and processes;
- the full diversity of indigenous species and habitats present in New Zealand today; and
- the physical and genetic diversity within species.

Humans have had a major impact on a large number of indigenous species. More than 400 are on the list of threatened species maintained by the Department. It is important to note that some species are and will always be rare because of their restricted nature or low productivity. The Department is working closely with local authorities to ensure these are conserved on private lands.

### **2.3.8 Historic Resources**

Historic resource conservation in New Zealand is primarily the responsibility of the Historic Places Trust pursuant to the provisions of the Historic Places Act 1993.

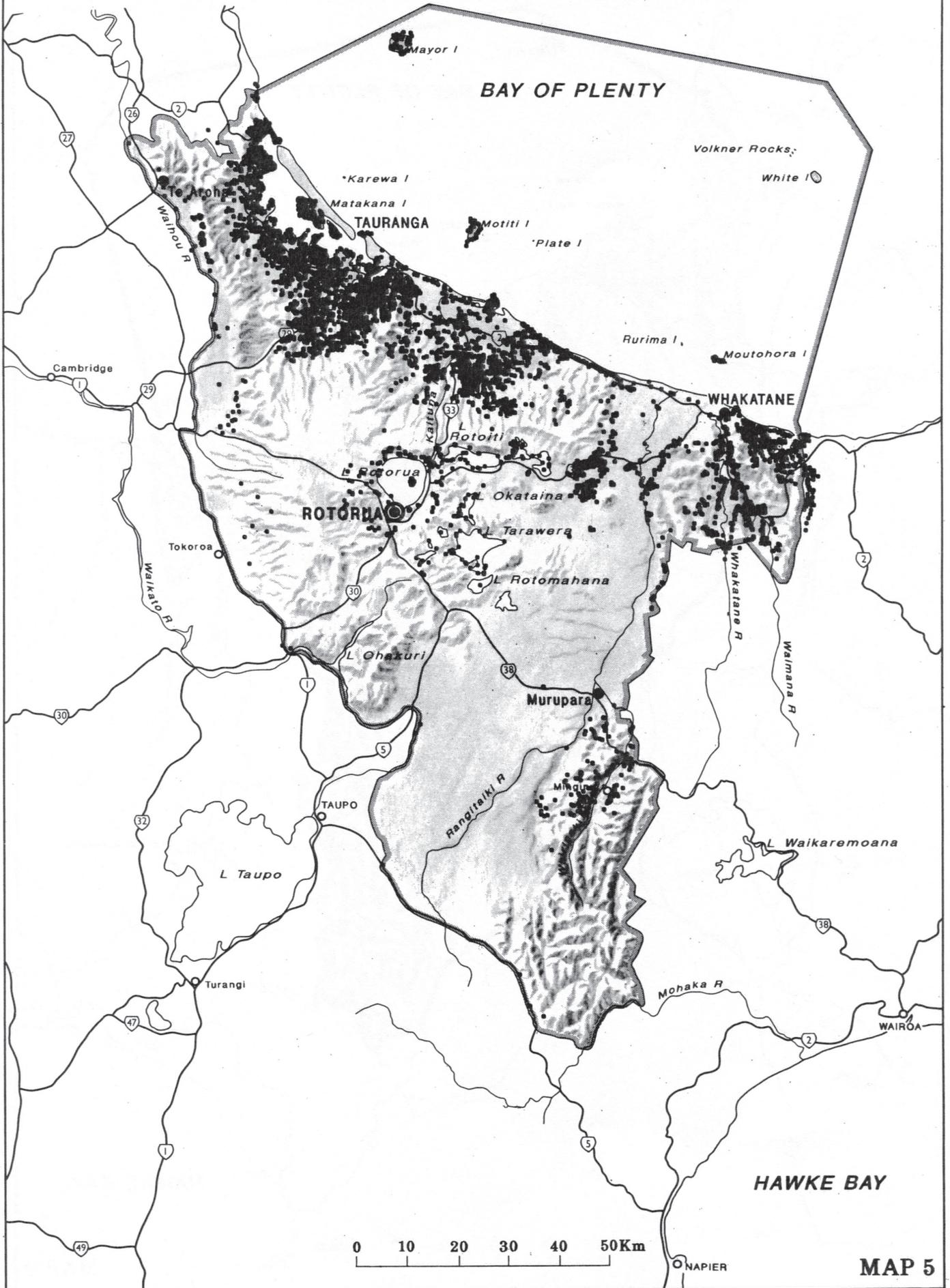
The Department's roles are:

- the conservation of historic resources located on lands it administers;
- in consultation with the Historic Places Trust, advocate the conservation of historic resources generally (Section 6 of the Conservation Act 1987); and
- provide advice to the Historic Places Trust in implementing the archaeological provisions of the Historic Places Act 1993.

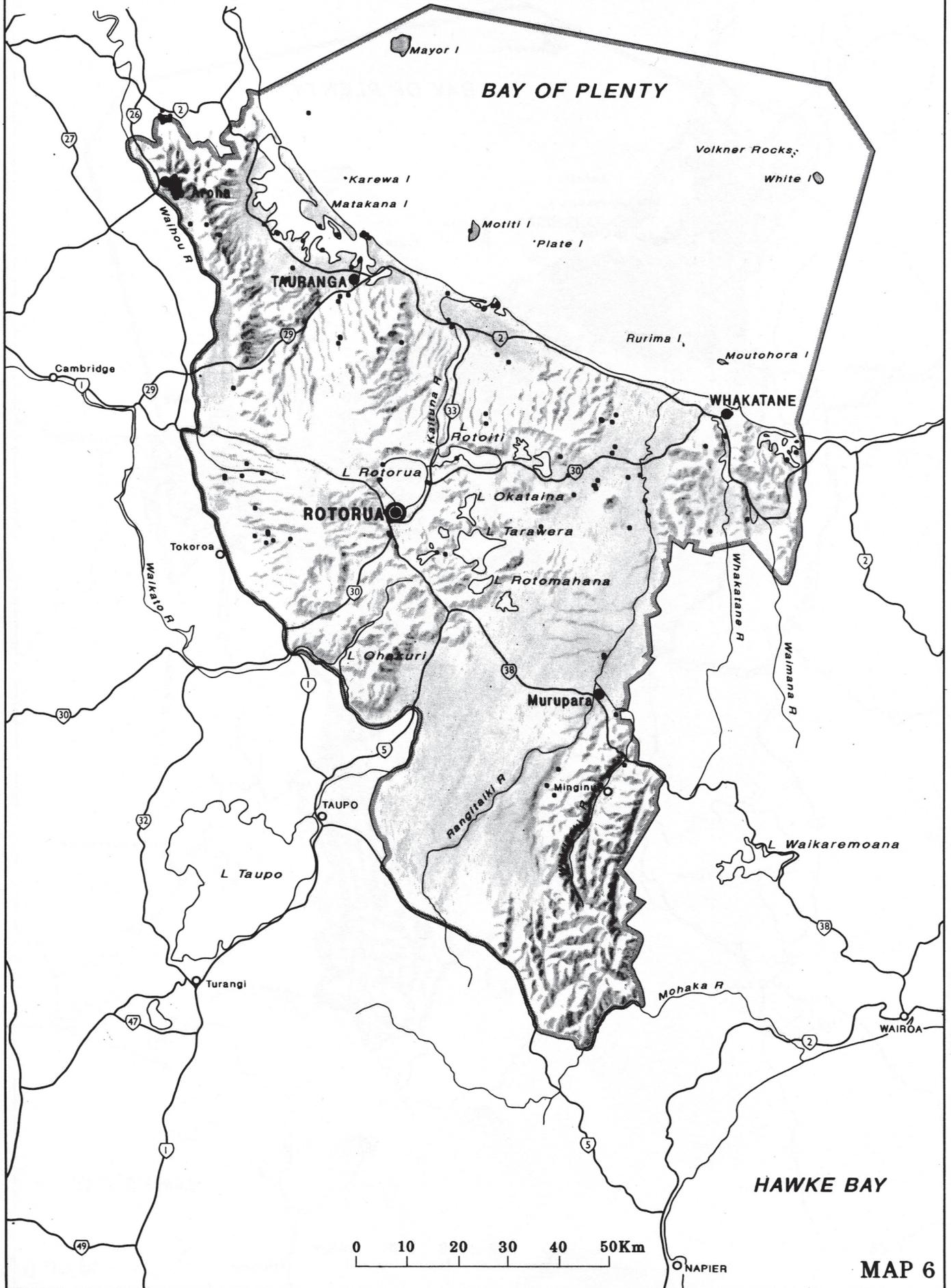
The conservation of historic places is guided by the International Committee on Monuments and Sites (ICOMOS) which has established an international charter of guiding principles for the conservation of historic heritage. The New Zealand derivation of this is the ICOMOS New Zealand Charter for the conservation of places of cultural heritage value (*see Appendix 2*).

The Bay of Plenty, particularly along the coast, was densely settled by Maori in pre-European times (*see Map 5*) and has early European settlements (*see Map 6*). The maps 5 and 6 reflect existing survey information (*see 4.4 Historic Resources, Appendix 1.2-1.8*).

# DISTRIBUTION OF PRE-EUROPEAN CONTACT ARCHAEOLOGICAL SITES IN THE BAY OF PLENTY CONSERVANCY



# DISTRIBUTION OF POST-EUROPEAN CONTACT ARCHAEOLOGICAL SITES IN THE BAY OF PLENTY CONSERVANCY



### 2.3.9 Recreation

A function of the Department with respect to lands administered by the Department is to:

"foster the use of natural and historic resources for recreation and to allow their use for tourism to the extent \_[that this] is not inconsistent with [their] conservation"

(Section 6(e) Conservation Act 1987).

The Department provides recreation opportunities on reserves it administers under the Reserves Act 1977 where that is compatible with the primary purpose of the reserve. Recreation reserves are managed primarily for recreation purposes. There are also recreation activities based on resources, but not necessarily on lands administered by the Department e.g. whitebaiting, walkways over private land (Department of Conservation and the New Zealand Conservation Authority Walkways Committee, 1993).

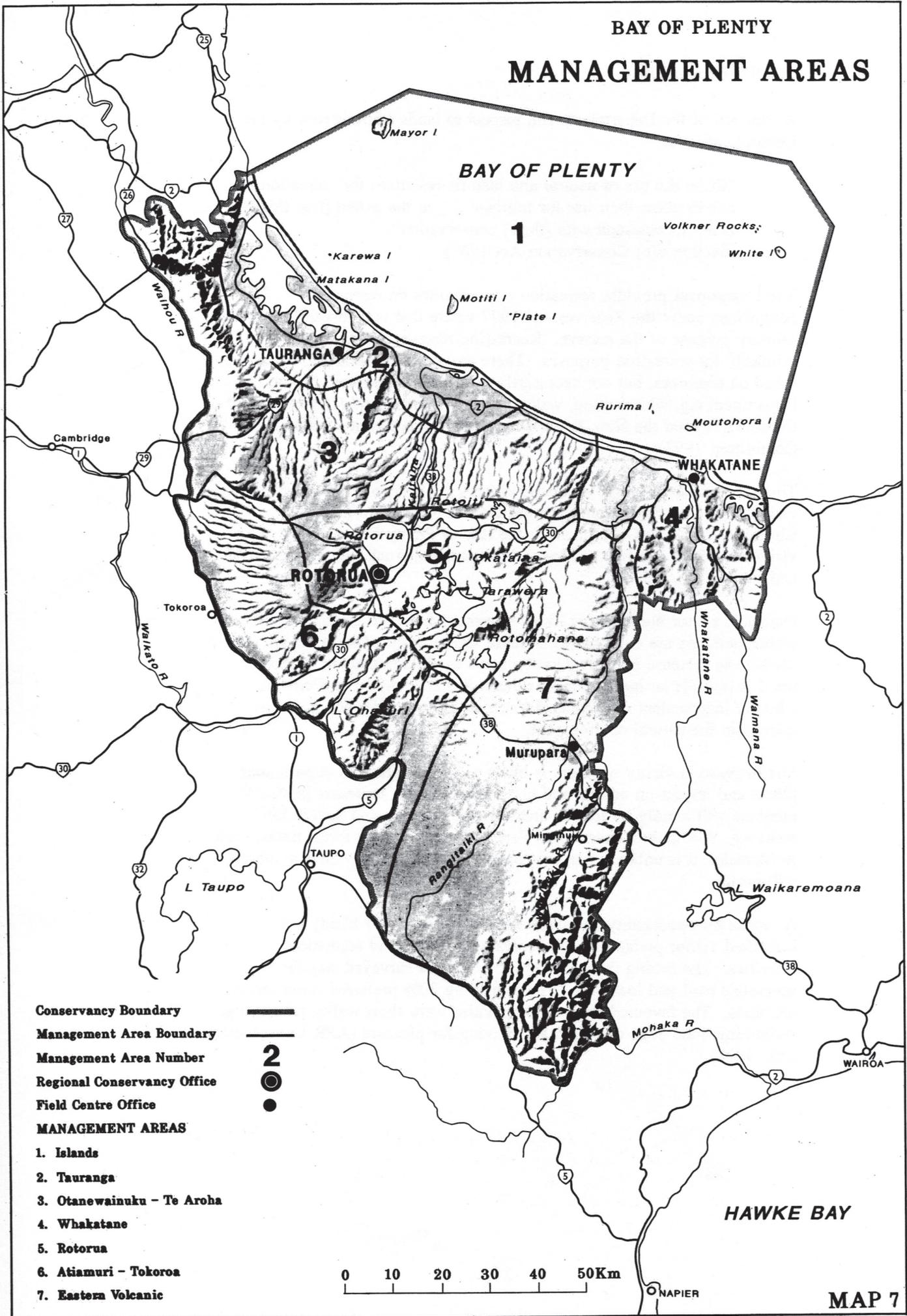
There are at least 280,000 domestic visitors per year, not including repeat visits, and over 100,000 international visitors per year to lands administered by the Department in the Bay of Plenty Conservancy. Most visitors are from the Bay of Plenty, Waikato, and Auckland regions (APR Consultants Ltd., 1991).

Domestic visitor numbers are likely to remain constant, international visitor numbers are expected to increase significantly. One trend is towards an increase in short duration stays by Asian visitors. The other trend is towards an increase in travellers, Scandinavians and Germans, who are independent of organised tour parties, most of whom have an interest in the natural environment.

The increase in visitor numbers is likely to be concentrated at particular places and impact on natural and historic resources. Increases in visitor numbers will mainly be seen in areas around Rotorua and certain key areas e.g. Whirinaki Conservation Park. In some remote forest tracts, such as Mamaku, it is unlikely that any significant increase in visitor numbers will occur.

A recreation opportunity spectrum survey of the Bay of Plenty has identified visitor preferences for recreation settings and recreation activities. The setting favoured by 70% of those surveyed was for accessible road end locations. The remaining 30% preferred more remote locations. The favoured recreation activities were short walks, picnicking, swimming, road edge camping, and driving for pleasure (APR Consultants Ltd., 1991).

# BAY OF PLENTY MANAGEMENT AREAS



- Conservancy Boundary**  
**Management Area Boundary**  
**Management Area Number**  
**Regional Conservancy Office**  
**Field Centre Office**  
**MANAGEMENT AREAS**  
 1. Islands  
 2. Tauranga  
 3. Otanewainuku - Te Aroha  
 4. Whakatane  
 5. Rotorua  
 6. Atiamuri - Tokoroa  
 7. Eastern Volcanic

0 10 20 30 40 50Km

MAP 7

# Chapter 3: Places

## 3.1 INTRODUCTION

Conservation issues and management occur at specific places. Most of the issues and their management focus on lands administered by the Department although it has an important role for management of natural and historic resources on private lands. Chapter 3 deals with the Department's responsibilities in terms of specific places (management areas). For each management area, issues and management responses to issues, are detailed and may differ from place to place. The individual issues and management are not ordered by importance. Preferred solutions and ways of capitalising on opportunities are described as priority activities for this area. Nothing in this document diminishes the right of private land ownership. Chapter 4 identifies issues, objectives and implementation methods according to Departmental functions.

### 3.1.1 Management Areas

To ensure management aims are related specifically to natural and historic resources, especially ecological processes, and are focused on identifiable locations, the Conservancy has been divided into the following seven management areas, based on ecological regions and ecological districts (see *Map 3, Map 7, and Appendix 1 for comprehensive descriptions*):

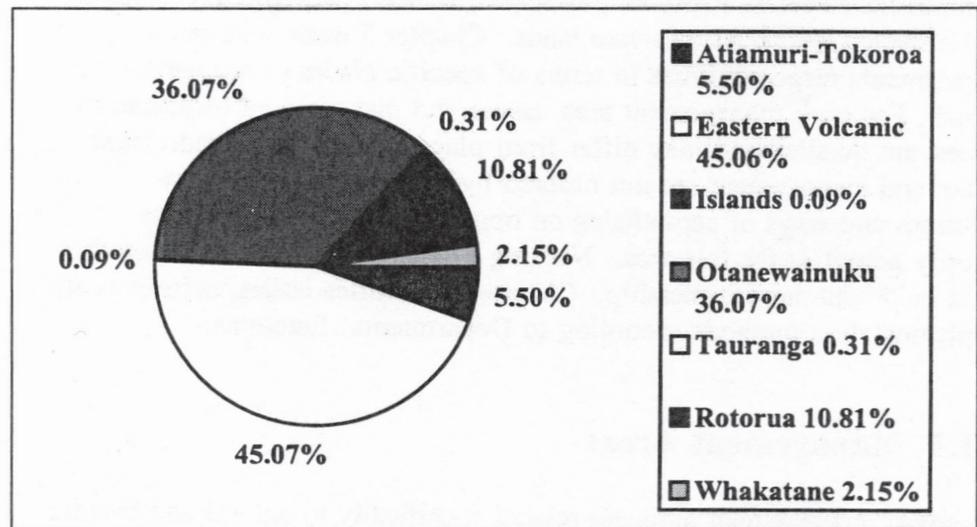
1. **Islands** (White Island, Motiti, and Mayor Island Ecological Districts).
2. **Tauranga** (Tauranga Ecological District).
3. **Otawainuku-Te Aroha** (Otawainuku Ecological District and parts of the Te Aroha, Hinuera, Hauraki, and Waihi Ecological Districts).
4. **Whakatane** (Te Teko and Taneatua Ecological Districts; smaller parts of Opotiki, Waioeka, and Waimana Ecological Districts).
5. **Rotorua** (Rotorua Ecological District).
6. **Atiamuri-Tokoroa** (parts of Atiamuri and Tokoroa Ecological Districts).
7. **Eastern Volcanic** (most of the Kaingaroa and Whirinaki Ecological Districts and parts of Kaimanawa, Taupo, Tiniroto, Maungaharuru, Ikawhenua, and Waikaremoana Ecological Districts).

These management area boundaries were selected because they are stable and are based on recognisable landscape landforms with distinctive geologies, soils, and related ecosystems. All lands administered by the Department are described in Volume II.

### 3.1.2 Lands Administered by the Department

The lands administered by the Department in the different management areas are illustrated in *Figure 5*. Most of this land is found in the Eastern

Volcanic Management Area. The Tauranga and Whakatane Management Areas contain relatively little land administered by the Department and many of the significant management issues relate to unprotected lands.



**Figure 5 Land administered by the Department within Management Areas (relative proportions) (171,095 ha).**

In management areas such as Tauranga there are numerous important natural resources. These include estuarine areas of saltmarsh in Tauranga Harbour and the relatively small remaining areas of freshwater wetlands. The estuarine ecosystems of the harbour also need protection and the Department advocates their conservation to private land owners and local authorities under the Resource Management Act 1991.

The different land management responsibilities and varying conservation issues in each management area are reflected in different key management aims for each area. The underlying goal, however, is to achieve the Department's vision (*see Vision*).

In Appendix 1 there is detailed information on each of the seven management areas; the proportion of protected lands in each ecological district; and the number and size of protected lands.

### **3.1.3 Protected Lands Managed by Others**

There are protected lands managed by other agencies. Examples include local purpose, recreation, and scenic reserves administered by local authorities and reserve boards, Queen Elizabeth II National Trust covenants, Maori Reserves (s.338 of the Maori Land (Te Ture Whenua Maori) Act 1993), and regional councils catchment protection reserves (*see Appendices 3 and 5*). Although some of these areas contain significant natural and historic resources they are not managed by the Department and hence not specifically identified in this strategy.

## 3.2 ISLANDS MANAGEMENT AREA

### 3.2.1 Background



Not only do the islands of the Bay of Plenty have the special magic of all remote places but, in, addition, they offer visitors an enormous variety in landform, flora, and fauna (*see Appendix 1.2*).

Islands have actual or potential importance as refuges for rare native plants and animals, ecosystem restoration, low impact eco-tourism and, if they meet the criteria of the Marine Reserves Act 1971, additional marine reserves.

Tangata whenua have strong links with the sea and the islands and retain ownership of Tuhua (Mayor Island), Motunau (Plate Island), the Rurima Rocks, and part of Motiti. The Volkner Rocks (Te Paepae

Aotea) are customary Maori Land.

Tuhua is renowned as a big game fishing mecca, but fishing is only one of its attractions. Its dormant volcanic features, large tracts of pohutukawa coastal forest, bird life, clear water, marine reserve and other resources draw geologists, biologists, trampers, bird watchers, sailors, divers, recreational fishers, and school parties. It has a large population of forest birds, including bellbirds and North Island kaka, and is a wildlife refuge (*see Volume II*).

It is owned by Maori with one twelfth held in common by the Crown and overseen by a Board of Trustees which manages accommodation, club rooms, and a camping ground at Opo (South-east) Bay. Due to its importance as a source of obsidian, which the Maori highly prized for making cutting tools, Tuhua has a history of battles between warring tribes and there are many archaeological sites on the island indicating Maori settlement over long periods.

Motuotau has a population of grey-faced petrels and is located close to Mauao (Mount Maunganui).

To the east is White Island (Whakaari), an active volcano. Its stark, striking landscape is engulfed in steamy sulphurous gases and made more eerie by the remains of a sulphur mining venture early this century that was ended by an eruption and tragic loss of life. Vegetation is limited to patches of pohutukawa forest, shrubland, and herb fields round the coastline. Australasian gannet and grey-faced petrel breed in colonies close to the coast. It is a privately owned scenic reserve. Club Rocks are just south of Whakaari.

The Volkner Rocks (Te Paepae Aotea), 5 km west of Whakaari, are the southern most breeding site for the grey ternlet (other sites include Alderman, Three Kings, and Kermadec Islands). The breeding season

extends from August to February. The Volkner Rocks and adjoining sea bed have important natural resources; they are remote (66 km off shore) and have few species of terrestrial plants, one, Cook's scurvy grass (*Lepidium oleraceum*) is nationally vulnerable (Beadel, 1992). The Volkner Rocks are a gazetted bombing range used by the Royal New Zealand Air Force, and are used in military exercises by other parts of the New Zealand Defence Force.

Closer to the mainland, Moutohora (Whale Island) is a landmark for the people of the eastern Bay of Plenty. Cleared of introduced animals in 1987, it is densely clothed with rapidly regenerating vegetation. Its bird life includes a colony of grey-faced petrels, as well as breeding colonies of sooty shearwaters, blue penguins, variable oystercatcher, and the threatened New Zealand dotterel. Red-crowned parakeets have been released on the island. It is the southern limit of the shore skink. Still volcanically active, it is a wildlife management reserve and wildlife refuge. It is one of only a few areas which have been inhabited by Maori through to European times, where all sites are well conserved and under no threat from development.

A short-lived attempt at farming Moutohora took place early this century. The last stock were removed in 1943, but feral goats remained until the 1960's and rabbits until 1987.

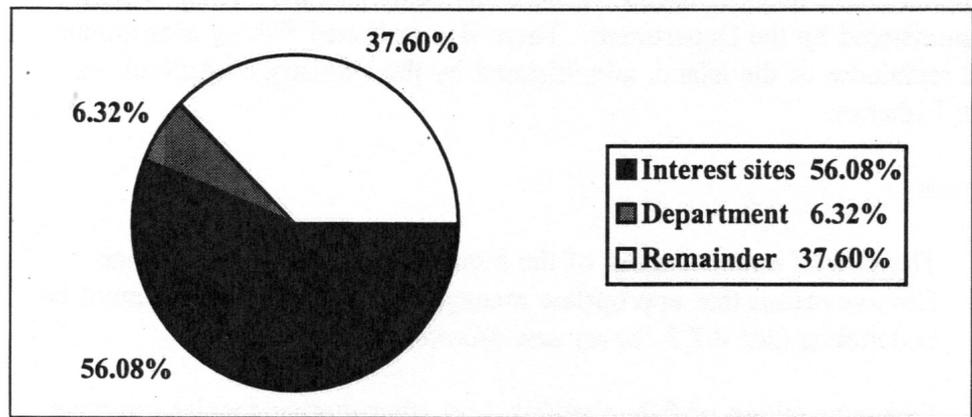
Five kilometres west of Moutohora, Rurima Rocks are a Maori-owned wildlife refuge. They includes three small islands: Moutoki, Rurima, and Tokata. They are free of predators and are the northern limit for the speckled skink. Moutoki has a tuatara colony.

Motiti Island is privately owned. It has been extensively farmed and cropped for the past 100 years and has 34 recorded historic places. The island is a large plateau surrounded by pohutukawa-fringed cliffs. Its subtropical climate and fertile volcanic soils are ideal for fruit, vegetable, and maize production. The families living there totalled 30 people in 1991, farming sheep and cattle and growing maize, tangelos, and kiwifruit. There are a number of small islets close to Motiti.

Fifteen kilometres east of Motiti is Motunau (Plate) Island Wildlife Sanctuary. It is predator-free and home for tuatara. The Pukehina Maori Committee controls mutton birding on the island.

Further north, Karewa, a wildlife sanctuary lying off Matakana Island, has a large colony of tuatara, living communally with flesh-footed shearwaters, whose tunnels honeycomb the island. Diving petrel also breed there in good numbers.

The Department administers 6.32% of the area of the islands, with a statutory interest in 56.08% of the total land area of 2,369 ha (*see Figure 6*).



**Figure 6 Land administered by the Department in the Islands Management Area (2,369 ha of land; not including the Tuhua Marine Reserve or sea).**

The Department also administers Tuhua Marine Reserve which is 0.17% of the 633,500 ha of sea (see Figure 3).

The Islands Management Area includes:

- all the marine ecosystems, excluding those in harbours and estuaries, which are addressed in conjunction with the surrounding lands;
- all the offshore islands in the Conservancy.

The issues and their management are discussed under four topics:

- marine ecosystems and marine protected areas;
- islands administered by the Department;
- privately owned islands where the Department has a statutory interest; and
- privately owned islands.

### 3.2.2 Marine Ecosystems and Marine Protected Areas

Extractive use of the marine environment by people has been high. Some inshore areas have been damaged by sediment, nutrients, and contaminants from adjoining land use and discharges. All methods of fishing have depleted fish stocks.

Recreational use of islands and the marine environment is high, with the main activities being fishing, boating, diving, and sightseeing.

There are marine ecosystems based on chemosynthesis (sulphur bacteria) rather than photosynthesis (plants) found at Moutohora (Whale) Island, White Island (Whakaari) and Calypso Pinnacle.

Adjoining Tuhua (Mayor Island) is a marine reserve that extends one nautical mile offshore around the northern quarter of the island. This is administered by the Department. There is a restricted fishing area around the remainder of the island, administered by the Ministry of Agriculture and Fisheries.

## **Issues**

1. The lack of understanding of the human effects on Tuhua Marine Reserve means that appropriate management of the Reserve cannot be undertaken (*see 4.7.2 Survey and Monitoring*).
2. Excessive taking of fish, shellfish, and other marine species can have an adverse impact on the food chains of seabirds and marine animals.
3. Marine ecosystems are adversely affected by contaminants such as oil spillage, sewage discharges, sediments and nutrients from land uses.
4. Offshore mining for sand (ilmenite) can destroy ecosystems by physical disturbance and sedimentation.
5. The only marine reserve in the Conservancy (Tuhua Marine Reserve) is not easily accessible to the public, and is inadequate for promoting the importance of the marine environment.
6. The public does not adequately understand the need for marine protected areas.
7. Currently marine protected areas do not adequately cover the range of marine environments, landforms and ecosystems.\
8. The current legislation is inadequate for effective establishment of marine protected areas.

## **Management**

1. Promote the establishment of a representative network of marine protected areas.
2. Investigate the establishment of a marine reserve on the mainland coast with the objective of making the reserve accessible to visitors and public interpretation (*see 4.3.10 Established Marine Protected Areas*).
3. Increase the awareness of the natural resources and benefits of the Tuhua Marine Reserve, marine protected areas, and marine ecosystems, using signs, pamphlets and other publications, visitor programmes, and relevant campaigns (*see 4.2.2 Advocacy and Education for Conservation Management, 4.1 Relationship with Tangata Whenua*).
4. Start and continue monitoring and research programmes for the Tuhua Marine Reserve, aimed in part at investigating the costs and benefits of marine reserves, and promote research by other organisations and groups (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management, 4.7.2 Survey and Monitoring*).
5. Assist the Ministry of Agriculture and Fisheries in promoting sustainable management of all aquatic life outside marine protected areas
6. Participate in regional and district council planning processes (*see 4.2.3 Statutory Planning*).
7. Liaise with Environment BOP on oil spill contingency planning, with particular attention being paid to impacts of oil on native plants and animals (*see 4.3.3 Marine Mammals, 4.2.3 Statutory Planning*).

8. Advocate conservation of important ecosystems affected by any mining operation (*see 4.6.1 Mining and Quarrying*).
9. Monitor public use and compliance of marine reserve requirements. Law enforcement will be undertaken in close liaison with the Ministry of Agriculture and Fisheries where necessary (*see 5.1.1 Compliance and Law Enforcement*).
10. Continue advocacy and support for legislative changes to enable the effective establishment of marine protected areas.

### **3.2.3 Islands Administered by the Department**

These are:

- Moutohora (Whale Island) (143.26 ha) which is a wildlife management reserve and wildlife refuge administered by the Department, and has a gazetted prohibition of access other than by permit (Hunt, 1992) (*see 5.2.2 Management Planning*);
- Karewa Island (3.57 ha) which is a Government Purpose Wildlife Sanctuary under the Reserves Act 1977; and
- Motuotau Island (2.50 ha) which is a scenic reserve.

#### **Issues**

1. The lack of shared goals and management practices between the Department and tangata whenua about islands administered by the Department result in differing expectations (*see 4.1 Relationship with Tangata Whenua*).
2. Island ecosystems continue to be threatened by fire and introduced plant and animal pest species (*see 4.3.5 Fire, 4.3.6 Plant Pests, 4.3.7 Animals Pests*).
3. There are opportunities to re-establish some threatened species on islands administered by the Department where they do not exist at present (*see 4.2.1 Advocacy, 4.3.9 Ecosystem Rehabilitation and Restoration*).
4. Island management including restoration, rehabilitation, relocation and monitoring is unplanned and uncoordinated.
5. There are conflicts between the need to restrict access for island management and the demand for more public access.
6. Islands with sites of historic, or cultural, or both, significance are vulnerable to damage by visitors and deterioration from natural processes (*see 4.5.2 Managing Visitor Impacts*).
7. There are conflicts between the management of seabird populations and taking by tangata whenua (*see 4.1 Relationship with Tangata Whenua*).

#### **Management**

1. Update and extend contingency planning for invasions by introduced plants and animals (*see 4.3.6 Plant Pests, 4.3.7 Animal Pests*).

2. Increase the awareness of the impact of introduced plants and animals on island ecosystems through visitor programmes, interpretation, the media, and volunteer activities (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
3. Prepare and implement fire contingency plans for all islands administered by the Department through briefings, meetings, and visits to the islands (*see 4.3.5 Fire*).
4. Prepare a management strategy for all islands to coordinate restorations, rehabilitation, relocation and monitoring.
5. Increase boat users' and charter boat operators' knowledge of visitor-use impacts on natural and historic resources on islands (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
6. Restrict access to parts of Moutohora (Whale) Island and Karewa to conserve important natural and historic resources including wāhi tapu and threatened plant and animal species.
7. Allow limited public access (under permit) to islands or parts of islands that are relatively resilient to visitor impacts (*see 4.5.2 Managing Visitor Impacts*).
8. Increase the public awareness of access restrictions.
9. Continue investigation of the population dynamics of seabirds.
10. Undertake archaeological excavations on Moutohora as part of the ecological restoration.

### **3.2.4 Privately Owned Islands where the Department has a Statutory Interest**

These are:

- Whakaari (White Island) (313 ha) which is Protected Private Land under the Reserves Act 1977.
- Tuhua (Mayor Island) (1,280 ha), is multiple owned Maori land with a 1/12th share held in common by the Crown. There is a wildlife refuge status over the island in accordance with the provisions of the Wildlife Act 1953.
- Rurima Rocks (15.88 ha) which are multiple Maori owned islands (the tangata whenua are Ngati Awa). All of the islands are covered by wildlife refuge status under the Wildlife Act 1953. The Department assists in their management.
- Motunau (Plate Island) (2.83 ha), multiple owned Maori land with a wildlife sanctuary status under the Wildlife Act 1953. The Pukehina Maori Committee controls mutton birding on the island by way of permit issue. (Grey faced petrel (Northern mutton bird) Notice, 1979 pursuant to s.6 of the Wildlife Act 1953.)

#### **Issues**

1. The lack of shared goals and management priorities between the

department and tangata whenua about privately owned islands where the department has statutory interest result in differing expectations (see 4.1 *Relationship with Tangata Whenua*).

2. There are conflicts between the management of seabird populations and taking by tangata whenua (see 4.1 *Relationship with Tangata Whenua*).
3. Island ecosystems continue to be threatened by fire and introduced plant and animal pest species (see 4.3.6 *Plant Pests*, 4.3.7 *Animal Pests*).
4. The volcanic activity on Whakaari can endanger visitors (see 4.5.2 *Managing Visitor Impacts*).
5. Natural and historic resources may be damaged by visitors when they visit Whakaari (see 4.4 *Historic Resources and Wāhi Tapu (Sacred Places)*, 4.5.2 *Managing Visitor Impacts*).
6. Major geological and geophysical investigations may damage natural and historic resources on Whakaari (see 4.3.1 *Landscapes, Landforms, Geological Features and Soils*).
7. Wasps are a nuisance for visitors on Tuhua, and have a significant impact upon the ecology of the island (see 4.3.7 *Animal Pests*).

#### **Management**

1. Assist and advise owners and managers of islands on the management of natural and historic resources. This could include restoration, rehabilitation, relocation and monitoring (see 4.3.8 *Domestic Animals*, 4.4 *Historic Resources and Wāhi Tapu (Sacred Places)*).
2. Consult and liaise with tangata whenua about their management aspirations (see 4.1 *Relationship with Tangata Whenua*).
3. In consultation with tangata whenua on Tuhua, advise and assist with wasp control operations at problem sites (see 4.3.7 *Animal Pests*).
4. Update the contingency plans for introduced plant and animal invasions (see 4.3.6 *Plant Pests*, 4.3.7 *Animal Pests*).
5. Develop a strategy in conjunction with the owners to improve public awareness and conservation needs of the islands (see 4.1 *Relationship with Tangata Whenua*, 4.2.2 *Advocacy and Education for Conservation Management*).
6. Survey and monitor seabird populations on all privately owned islands where the Department has an interest (see 4.7.2 *Survey and Monitoring*).

### **3.2.5 Privately Owned Islands where the Department has an Advocacy Role**

This includes Motiti Island group (690 ha), which is owned by several private owners.

The Volkner Rocks (Te Paepae Aotea), near Whakaari, are Maori customary land. They are gazetted as a practice bombing range (Gazette 1961, p 396), and are utilised by the New Zealand Defence Force.

## Issues

1. Owners, managers and users may not be aware of the importance of the natural and historic resources of these islands.
2. The bombing and shelling of Volkner Rocks (Te Paepae Aotea) is incompatible with:
  - Wāhi tapu;
  - rare plants (Cook's scurvy grass *Lepidium oleraceum*)
  - the breeding of grey ternlets (August - February): —

and produces a litter of military hardware on the land and sea bed around the islands.

## Management

1. Negotiate a memorandum of understanding with the New Zealand Defence Forces that avoids, remedies or mitigates the impacts on natural and historic resources of the Volkner Rocks (Te Paepae Aotea).
2. Promote the importance of natural and historic resources of islands to their owners, managers and users, through interpretation, meetings, visitor programmes, publications, and the media (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
3. Work with owners to re-establish some threatened native plants and animals to islands where they are not currently present (*see 4.3.9 Ecological Rehabilitation and Restoration*).
4. Survey and monitor seabird populations on all privately owned islands (*see 4.7.2 Survey and Monitoring*).

### Priority activities for Islands Management Area

Establish a forum to identify future marine protected areas, (*see 4.3.10 Established Marine Protected Areas*)

Continue management of Tuhua Marine Reserve.

Negotiate a memorandum of understanding with the New Zealand Defence Forces that avoids, remedies or Mitigates the impacts on natural and historic resources; of the Volkner Rocks;

Seek co-operative management with other agencies and land owners of both marine and terrestrial ecosystems (*see 4.2.2 Advocacy and Education for Conservation Management*).

Focus island ecosystem restoration and archaeological excavation on Moutohora (Whale) Island (*see- 549. Ecological: Rehabilitation and Restoration*):

Undertake visitor management to avoid. Adverse effects, for example, pest invasions and fire (*see 45.1 Visitor Opportunities*)

Survey and monitor important indigenous species, for example sea birds, marine ecosystems and reptiles.

### 3.3 TAURANGA MANAGEMENT AREA

#### 3.3.1 Background



The Tauranga Management Area extends from Otamarakau to Homunga Bay, north of Waihi Beach. Only 0.70% of the area is administered by the Department (see Figure 7). This means that the Department must rely on advocacy to conserve important natural and historic resources in the area (see Appendix 1.3).

This was one of the most densely settled areas of New Zealand prior to European arrival and it has many Maori historic places. The coastline is now one of New Zealand's most popular holiday and retirement places, and is vulnerable to damage by residents and visitors.

Tauranga is one of the most rapidly growing urban areas in New Zealand and is projected to be the country's fifth largest by 2020.

The management area has a sandy coastline more than 170 km long broken by four rocky headlands. The sand dunes along the coast are particularly vulnerable to erosion, building development, and infestation by plant pests. Tauranga Harbour is the dominant feature, with more than 20,000 ha of tidal mudflats, estuaries, and channels. It meets the Ramsar criteria as a wetland of international importance on the basis of its vegetation, water birds, fisheries, and cultural values. It is particularly important as a habitat for both migratory and non-migratory wading birds, and as a spawning area for many fish. It has significant areas of saltmarsh and freshwater wetlands. Matakana Island lies between the Tauranga Harbour and the open sea. At its northern end are freshwater wetlands within a wildlife refuge, on its western side are willow-dominated wetlands, both areas being notable habitats for a wide range of wetland birds.

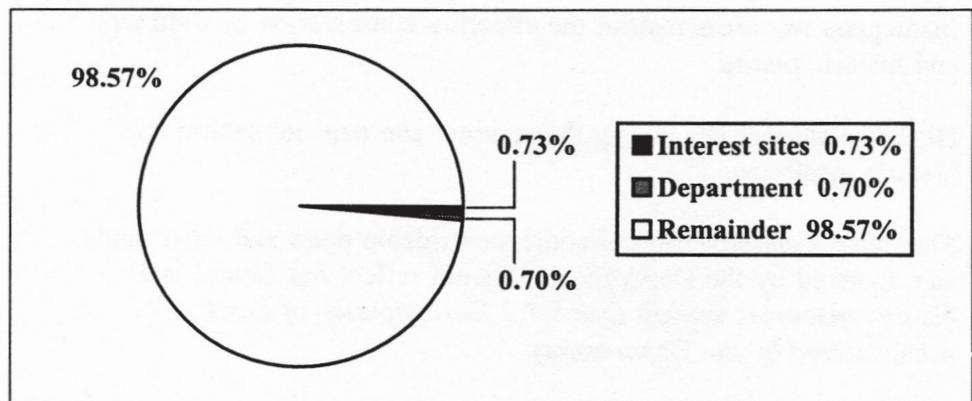
South-east of Tauranga Harbour are 10,000 ha of low-lying peat land (the flood plain of the Kaituna River, Little Waihi and Maketu Estuaries. Most of the original wetland has been drained and little remains in its natural state. There is one estuarine rehabilitation program, the Maketu Restoration Strategy. This is an inter-agency program involving Government, Environment BOP, Western Bay of Plenty District Council and tangata whenua. The estuaries and tidal flats are important for shellfish and are nursery sites for many fish species. The tributary streams are breeding grounds for whitebait. Modification of waterways and intensive fishing have reduced the numbers of shellfish, whitebait, eels, and fish.

Little remains of the original coastal and wetland forest. Much of the coast was pohutukawa-fringed but urban development and possums have

severely reduced the number of pohutukawa. Clearance by Maori and for farming has also left little forest on hill country.

Forest birds under threat include the kokako (status: endangered), kereru, and brown kiwi (status: threatened/vulnerable). Other threatened wildlife species include various skinks, gecko, freshwater fish, bats, a native frog, and two native snails.

The coastal areas with outstanding sites of special wildlife interest are relatively large with diverse, comparatively unmodified ecosystems which support many water birds. They include feeding grounds of the endangered white heron and black stilt as well as many other threatened species.



**Figure 7 Land administered by the Department in the Tauranga Management Area (total 75,658 ha).**

The area has been occupied by Maori for perhaps 1000 years and has many historic places. More than 50% are shell midden, reflecting the significance of the shellfish beds as a food source.

Traditionally, Tauranga Harbour was as significant as the neighbouring land to tangata whenua. It was a means of access and communication as well as an important source of food. The strong historic and continuing relationship of tangata whenua with wetlands and the sea requires the maintenance of the highest possible water quality and kaimoana resources.

The issues and their management are discussed under five topics:

- general;
- Tauranga Harbour and its margins (including Matakana Island);
- Little Waihi and Maketu Estuaries;
- lowlands and dune lands;
- freshwater ecosystems.

### 3.3.2 General Issues

1. The intensity of development has resulted in few remaining areas with natural and historic resources.

2. The present protected land is inadequate to represent all the natural resources.
3. The fragmented distribution of protected land means that the viability of natural resources is often doubtful.
4. There is limited information on many of the remaining natural resources, especially on the low hill country.
5. Inadequate resources restrict the effective conservation of wall tapu and historic places.
6. High recreational use during the summer can damage natural and historic resources.
7. The current classification of some stewardship areas and other lands administered by the Department does not reflect the natural and historic resources present (*see 5.1.2 Classification of Land Administered by the Department*).

### **Management**

1. Survey remaining unprotected lands on low hill country in the Tauranga Ecological District.
2. Conserve the remaining legally unprotected indigenous ecosystems, especially lowland and coastal forests, shrublands, and dune lands in the management area by:
  - participating in district and regional council planning processes (*see 4.2.3 Statutory Planning*); and
  - exploring and creating conservation options with land owners as opportunities arise (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management, Appendix 3*).
3. Undertake an archaeological survey of Motuotau Island Scenic Reserve.
4. Promote the conservation and appropriate management of the most important known historic resources on lands not administered by the Department through displays, visitor programmes (on lands administered by the Department), and publications (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education*).
5. Raise awareness amongst visitors of the impacts of recreation activities on coastal dunes and other natural and historic resources, by working with district councils and other groups working on dune care programmes (*see 4.2.2 Advocacy and Education for Conservation Management*).
6. Reclassify the following stewardship areas (*see 5.1.2 Classification of Land Administered by the Department*).

**Table 3.1 TAURANGA MANAGEMENT AREA - STEWARDSHIP AREAS REQUIRING RECLASSIFICATION**

Number	Area (ha)	District	
U14152	5.86	Tauranga	Reclassify to Ngapeke Recreation Reserve
U14173	7.0	Tauranga	Reclassify to Dudley Vercoe Scenic Reserve

Note: The numbers and locations of these areas are found in Volume II.

7. Work with local authorities to rationalise protected land to better conserve natural and historic resources e.g. Pukehina Beach Marginal Strip (*see 5.1.2 Classification of Land Administered by the Department*)

### **3.3.3 Tauranga Harbour and its Margins (including Matakana Island)**

#### **Issues**

1. The lack of awareness of the databases on vegetation and fauna of Tauranga Harbour can result in poor planning decisions.
2. The lack of recognition of the unprotected natural and historic resources is leading to their incremental destruction.
3. The harbour ecosystems are adversely affected by inappropriate land and water use and management, for example grazing by stock (*see 4.3.8 Domestic Animals*).
4. Possums are damaging the remaining scarce pohutukawa forest around the harbour margins (*see 4.3.7 Animal Pests*).
5. Additional road causeways and bridges damage harbour ecosystems. Plant pests such as gorse, pampas, and wild ginger are continuing to modify terrestrial ecosystems and reduce biological diversity (*see 4.3.6 Plant Pests*).

#### **Management**

1. Increase the awareness of the databases on Tauranga Harbour.
2. Participate in district and regional council planning processes to establish appropriate :
  - planning provisions to conserve natural and historic resources in and around Tauranga Harbour;
  - preservation of the natural character of Tauranga Harbour and environs;
3. controls on catchment land and water uses (*see 4.2.3 Statutory Planning*); and
  - promotion of good land management.
4. Increase the size and number of protected lands around the harbour, particularly through the use of private land protection mechanisms (*see Appendix 3*). The priorities for conservation are to be identified using information held by the Conservancy.

5. Increase land owner awareness of appropriate riparian management practices and the link between catchment land uses and Harbour ecological health through meetings, video presentations, discussion and promotion of fencing (*see 4.2.2 Advocacy and Education for Conservation Management*).
6. Promote alternatives to major harbour works such as causeways.
7. Survey and monitor the condition of pohutukawa forest and possum numbers on lands administered by the Department. Carry out control operations where necessary (*see 5.3.7 Plant Pests, 4.7.2 Survey and Monitoring*).
8. Evaluate options for marine protected areas in Tauranga Harbour.
9. Control plant pests on lands administered by the Department and encourage other land owners to do the same (*see 4.3.6 Plant Pests*).

### **3.3.4 Little Waihi and Maketu Estuaries**

#### **Issues**

1. Maketu Estuary has been degraded by diversion of the Kaituna River out of the estuary, reclamations, stop banking, introduction of *Spartina* grass, and the loss of adjoining freshwater wetlands.
2. Little Waihi Estuary is degraded by loss of adjoining wetlands, nutrient and sediment inflow from catchment land uses, and septic tank leachate.
3. Dotterel, variable oyster catchers and gulls breeding on the Maketu sandspit are threatened by erosion, predation, and disturbance by people and dogs.

#### **Management**

1. Complete the partial diversion of the Kaituna River back into the Maketu Estuary.
2. Work towards completion of the Maketu Restoration Strategy.
3. Participate in district and regional council planning processes to establish appropriate:
  - planning provisions to protect natural resources in and around Maketu Estuary and Little Waihi Estuary;
  - controls on land use and septic tank effluent at Little Waihi Estuary; and
  - promotion of good land management.
4. Protect seabird breeding areas on the Maketu sandspit and encourage community involvement in the dotterel recovery programme through visitor programmes, interpretation, and the media (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).

### **3.3.5 Lowlands and Dune lands**

#### **Issues**

1. There are few lowland native forest remnants, most of which are not legally protected, and vulnerable to cumulative destruction.
2. Most dune lands are not legally protected, and vulnerable to destruction from development, mining and vehicles.
3. Forest and dune areas damaged by storms, animal pests and visitors, are vulnerable to plant pest infestations which modify indigenous ecosystems.
4. Animal pests are damaging the rare coastal forests.
5. Encroachment by property owners into coastal reserves (e.g. by vegetation clearance, rubbish dumping, illegal infilling, and fences beyond legal boundaries) is damaging the reserves and excluding public access.

#### **Management**

1. Promote conservation of remaining indigenous lowland ecosystems and dune lands (*see 4.2.2 Advocacy and Education for Conservation Management, 4.2.3 Statutory Planning*).
1. Support and participate in Dune-care Programmes (*see 4.2.2 Advocacy and Education for Conservation Management*).
1. Identify selected sites for dune land rehabilitation, e.g. Matakana Island (*see 4.3.9 Ecosystem Rehabilitation and Restoration*).
2. Maintain Matakana Island sand dune reserves in their natural state by controlling plant pests such as marram grass.
1. Maintain possum and goat control so as to protect pohutukawa and other regionally important coastal forest (*see 4.3.7 Animal Pests*).
2. Identify and fence reserve boundaries and prevent or remove encroachments in association with local authorities

### **3.3.6 Freshwater Ecosystems**

#### **Issues**

1. The limited information on freshwater ecosystems and freshwater fishery habitats, limits understanding of their management requirements
2. The extensive loss of wetlands through land development makes the remaining ones important.
3. Most remaining wetlands have been damaged or modified by changing water levels, introduced plants, grazing, and adjoining land uses.
4. Joint management of the Kaituna Wildlife Management Reserve is between two different agencies (the Department and Eastern Region Fish and Game Council) result in differing objectives for management of the Reserve.
5. Loss of freshwater ecosystems through land development and management threatens rare plants and fauna.

6. The extensive freshwater wetlands on Matakana Island are threatened by the adjoining plantation forest lowering the water table.
7. The modification of lowland rivers by channelisation, drainage, loss of riparian vegetation, and introduced biota has resulted in a loss of freshwater fish habitat e.g. whitebait spawning habitat.
8. The inadequate public understanding of the importance of freshwater ecosystems results in a lack of support for their management requirements.

### **Management**

1. Survey indigenous freshwater fisheries to identify important streams for protection (*see 4.3.11 Freshwater Fisheries*).
2. Advocate preservation of the best examples of freshwater fisheries and protect whitebait spawning habitat.
3. Evaluate options with district and regional councils for rehabilitating lowland freshwater ecosystems (*see 4.3.11 Freshwater Fisheries*).
4. Raise and maintain water levels (about 1m above Moturiki datum) in the Lower Kaituna Wildlife Management Reserve in conjunction with the Environment BOP.
5. Divide the Lower Kaituna Wildlife Management Reserve into:
  - areas essential for protecting representative ecosystems; and
  - areas which could be used for gamebird and waterfowl hunting.

The latter areas would be managed by Eastern Region Fish and Game Council, through appointment to control and manage under the Reserves Act 1977.

6. Identify wetlands that require protection and rehabilitation to conserve threatened plants and wildlife.
7. Seek to establish a buffer between freshwater wetlands and the neighbouring forest on Matakana Island at the time of replanting.
8. Raise public awareness of the significance of freshwater ecosystems through visitor programmes and interpretation (*see 4.2.2 Advocacy and Education for Conservation Management*).

### **Priority activities for Tauranga Management Area**

- Manage the freshwater wetlands on Matakana Island and Kaituna to ensure their long term viability
- Increase protected lands and conservation management of
  - Tauranga Harbour and its margins;
  - lowland and coastal indigenous forest and shrublands; and
  - dune lands on Matakana Island and Papamoa.
- Undertake an archaeological survey of Motuotau Island Scenic Reserve.

### 3.4 OTANEWAINUKU-TE AROHA MANAGEMENT AREA

#### 3.4.1 Background

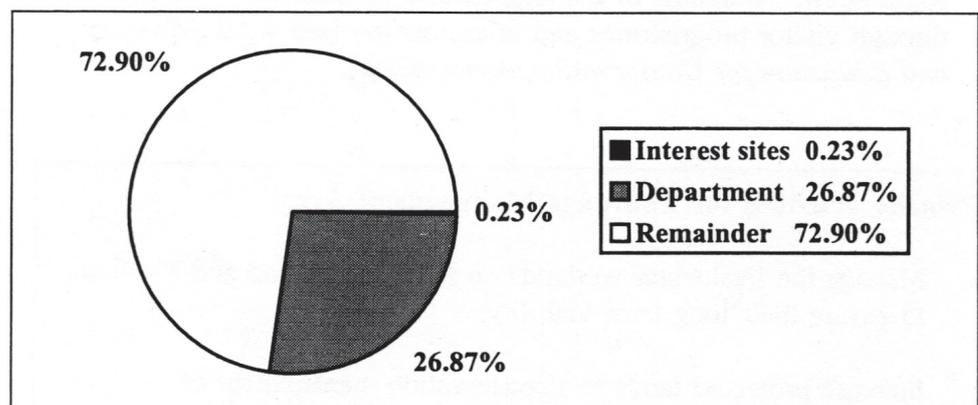


This management area includes most of the Kaimai-Mamaku Conservation Park and forms a crescent round the Tauranga Management Area. It extends from Homunga Bay, north of Waihi Beach, south along the Kairnai

Range, behind Te Puke and reaches the coast again between Matata and Otarnarakau. The southern boundary skirts the Rotorua Lakes, cuts across the Mamaku Plateau, and follows the western edge of the Kaimai Range (see Appendix 1.4).

The Kaimai-Mamaku Range is more than 70 km long but seldom exceeds 10 km wide. It is made up of steep, broken country extending from Mount Karangahake to the extensive Mamaku and Kaharoa Plateaus which slope to sea level to the south-east. In places the plateaus are dissected by steep gorges.

The steep slopes of unstable rock overlaid with little soil, combined with heavy rainfall and the close proximity to closely settled and intensively farmed lowlands, make soil and water conservation important objectives for managing the Kaimai Range.



**Figure 8 Land administered by the Otamarakau in the Otanewainuku-Te Aroha Management Area (total 229,720 ha).**

Remaining indigenous forest is mostly podocarp/hardwood and there are extensive areas of exotic forest, mostly radiata pine previously covered coastal Bay of Plenty has been cleared for farming and horticulture. Along the coast between Otamarakau and Matata the natural vegetation has been altered by exotic plants, roads, and railway lines. Even with

the extensive forest clearing that has taken place, the Kaimai Mamaku and Mangorewa forests are the largest area of land administered by the Department remaining in the Western Bay of Plenty (*see Figure 8*). They form a continuum with the Ottawa-Otanewainuku forests, which also cover a considerable area. This latter area is managed by a range of private owners and public agencies. The area includes three gazetted ecological areas and one forest sanctuary. Three ecological areas are proposed, having been selected as representative forests. This management area contains two of the relatively unmodified rivers in the Conservancy, the Ngamuwāhine and upper Opuiaki Rivers.

Forest birds under threat and found in the management area include kiwi, kaka, kokako, blue duck, parakeet, robin, and falcon. Even relatively common birds such as whiteheads and pied tits are found only in the larger more remote areas of forest. The Kaimai Range is the northern limit for robin, whitehead, and blue duck on mainland New Zealand.

Because of the relatively dense settlement on either side of the range and its proximity to Tauranga, Hamilton and Auckland, the Kaimai Range is a popular recreation area used for tramping, picnicking, and river swimming.

Much of the rock in the range contains gold, silver, and other metals such as lead as well as rock suitable for roading. Gold and silver mining has been undertaken in the Kaimai Range north of Thompson's Track and near Te Puke. Old mining sites, especially in the Waiorongomai Valley and on Mt Karangahake, are of historical significance and provide points of visitor interest. Due to the nature of the ore, heavy metal leachates from the mining operations have contaminated streams and rivers. Mining is an ongoing activity in the northern Kaimai Range. There are a number of existing and potential quarries for roading metal.

Other significant historic places along the range, especially the Waitawheta Valley, are associated with kauri logging. These sites include the remnants of kauri dams used to dam water prior to washing felled kauri downstream to mills. Native forest logging was a significant economic activity in the early 20th century in this area.

The northern Kaimai Range is significant to the iwi of Hauraki. Mount Te Aroha is sacred to tangata whenua and forms one end of a wāka (canoe) that stretches from Te Aroha to Te Moehau, the highest point in the Coromandel Range. There are several political boundaries over this important area, e.g. Regional and District Councils, Department of Conservation, etc. The southern Kaimai Range is significant to the iwi of Tauranga Moana and Tainui. Traditionally it was a place of refuge, a source of food, other materials of cultural importance and remains so today. There are also old Maori trails and many unrecorded historic places. Otanewainuku, Ottawa and other high points have special significance to Waitaha and Tapuika and Te Arawa. The Kaimai Range, therefore, has deep spiritual significance and the health of the forests, animals, and the rivers flowing from the range is crucial to tangata whenua, as it is to the European population.

The Department administers 26.85% of this management area including important areas of lowland forest (*see Figure 8*).

The issues and management are discussed under six topics:

- general;
- Kaimai Range;
- Ottawa - Otanewainuku forest tract;
- Mamaku Plateau - Manawahe;
- Otaramarakau - Matata coast; and
- freshwater ecosystems.

### **3.4.2 General**

#### **Issues**

1. The present classification of some lands administered by the Department do not reflect the natural and historic resources present
2. The noise from low flying aircraft can impact on wildlife, especially birds during their nesting.

#### **Management**

1. Prohibit landing of helicopters and gyrocopters for recreational purposes in the Kaimai-Mamaku Conservation Park (*see 4.5.2. Managing Visitor Impacts*).
2. Assess lands administered by the Department, particularly stewardship areas, for their natural and historic resources and reclassify where appropriate (*see 5.1.2 Classification of Land Administered by the Department*).
3. Gazette areas where required including West Ngatukituki, East Ngatukituki, Te Hunga, and Waiteariki.
4. Undertake a historic resource inventory on lands administered by the Department (*see 4.4 Historic Resources and Wāhi Tapu (Sacred Places)*).
5. Reclassify the following stewardship areas (*see 5.1.2 Classification of Land Administered by the Department*).

**Table 3.2 Otanewainuku-Te Aroha Management Area - stewardship areas requiring reclassification**

Number	Area (ha)	Ecological District	Future Use
T14017	2.6710	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
T14018	101.1710	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
T14019	371.2524	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
T14020	247.4020	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
U14007	35.2079	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
U14032	281.5609	Otanewainuku	Reclassify as Hidden Gorge Scenic Reserve OR add to Kaimai-Mamaku Conservation Park
U14153	144.928	Otanewainuku	Reclassify as Otanewainuku-Otawa Scenic Reserve OR add to Kaimai-Mamaku Conservation Park
U14154	273.1285	Otanewainuku	Reclassify as Hidden Gorge Scenic Reserve OR add to Kaimai-Mamaku Conservation Park
U15008	192.5	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
U15009	956.5501	Otanewainuku	Reclassify as Mangorewa Government Purpose Wildlife Management Reserve
U15010	862.9270	Otanewainuku	Add to Kaimai-Mamaku Conservation Park
U15017	110.0744	Otanewainuku	Add to Kaimai-Mamaku Conservation Park

Note: The numbers and locations of these areas are found in Volume II.

### 3.4.3 Kaimai Range

#### Issues

1. Both mining and quarrying (along with their ancillary works) can significantly damage natural and historic resources (*see 4.6.1 Mining and Quarrying*).
2. Heavy metal leachate and discharges from past mining at Te Aroha continue to contaminate natural waters.
3. The lowland forests along the Kaimai Range are not legally protected and vulnerable to modification.
4. The lack of legally protected, representative stream systems open to the sea means that there is no pristine freshwater fish habitat.
5. The recommendations for legal protection of privately owned lands identified in the Protected Natural Areas programme have not been acted upon, leading to continued vulnerability of these areas.
6. The lack of adequate ecological corridors at Karangahake and State Highway 29 inhibit the natural movement of plant species and animals along the Kaimai and Coromandel Ranges.
7. Animal pest, especially goats and possums, damage susceptible forests, especially where rata and kamahi are common (*see 4.3.7 Animal Pests*).
8. The lack of identified public walking access across private land to some lands administered by the Department restricts use of public land.

9. Recreation facilities do not meet user needs (*see 4.5.1 Visitor Opportunities, 4.5.2 Managing Visitor Impacts*).
10. Lack of management of historic resources leads to inadequate public understanding of historic resource conservation (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
11. The localised high intensity use of natural areas arising from outdoor education camps can damage natural resources (*see 4.6.7 Concessions*).
12. Some areas of exotic trees are occupying sites better suited to indigenous forest.
13. The Te Aroha geothermal features could be threatened by extraction of geothermal fluid.

### **Management**

1. Undertake a systematic review of land recommended for protection under the Protected Natural Areas Programme and seek protection of these lands (*see 4.2.3 Statutory Planning, Appendix 3*).
2. Seek voluntary legal protection and conservation of indigenous forests adjoining the Kaimai-Mamaku Conservation Park (*see 4.1 Relationship with Tangata Whenua, 4.2.1 Advocacy, 4.2.2 Advocacy and Education for Conservation, Appendix 3*).
3. Advocate protection of representative stream systems open to the sea (*see 4.3:11 Freshwater Fisheries*).
4. Establish ecological corridors between the Kaimai and Coromandel Ranges by encouraging natural succession on Mount Karangahake and rehabilitating retired land adjoining State highway 29 at the Kaimai Summit (*see 4.3.9 Ecosystem Rehabilitation and Restoration*).
5. Sustained management of possums and goats in the Kaimai-Mamaku Conservation Park (*see 4.3.7 Animal Pests*).
6. Survey, monitor and manage the requirements for tracks and other facilities in the Kaimai Range guided by the Bay of Plenty Conservancy Recreation Strategy (in prep.) (*see 4.5.2 Managing Visitor Impacts, 4.7.2 Survey and Monitoring*).
7. Carry out management and interpretation of historic places in the range guided by the Bay of Plenty Historic Resources Strategy (Bowers, 1996).
8. Require mining and quarrying proposals on land administered by the Department to meet the implementation set out in 4.6.1 Mining and Quarrying. Particular attention will be given to the Mount Te Aroha area.
9. Allow recreation concessions (*see 4.6.7 Concessions*).
10. Assess any proposals for expanding existing outdoor education camps in accordance with 4.6.7 Concessions, Implementation 1.
11. Harvest where appropriate exotic timber trees and rehabilitation with native vegetation (*see 4.3.9 Ecosystem Rehabilitation and Restoration, 4.6.4 Exotic Forest Management*).

12. Advocate the conservation of the Te Aroha geothermal field (*see 4.2.3 Statutory Planning*).
13. Negotiate with private landowners for legal walking access to lands administered by the Department.

#### **3.4.4 Ottawa - Otanewainuku Forest Tract**

##### **Issues**

1. The lowland forest is not legally protected and vulnerable to modification.
2. The fragmented distribution of protected lands means that the viability of natural resources is often doubtful.
3. The fragmented tenure of reserves creates difficulties in achieving consistent land management.
4. Quarrying at Oropi is causing sedimentation and loss of forest.
5. The lack of legal public walking access across private land to some lands administered by the Department restricts use of public lands.

##### **Management**

1. Survey unprotected lands and identify, with land owners, conservation and management requirements of natural and historic resources, in particular the corridors between:
  - the Kaimai Range and Otanewainuku; and
  - Otanewainuku and Ottawa/Oropi Forests (*see 4.4.2 Management 2 Land Reclassification, 4.2.2 Advocacy and Education for Conservation Management, 4.7.2 Survey and Monitoring, 5.1.2 Classification of Land Administered by the Department*).
2. Quarrying proposals and operations on lands administered by the Department will be required to meet standards and criteria in 4.6.1 Mining and Quarrying.
3. Work with local authorities to rationalise protected land status to better conserve natural and historic resources (*see 5.1.2 Classification of Land Administered by the Department*).
4. Negotiate with private landowners legal walking access to lands administered by the Department, especially from Ottawa Trig to Ohauti-McPhails Road.

#### **3.4.5 Mamaku Plateau - Manawahe**

##### **Issues**

1. The survival of kokako populations in Rotoehu, Kaharoa, and Mamaku Forests is threatened by predation and competition for food.
2. The discontinuous nature of the forested areas creates fragmented habitats for indigenous species, lowering population stability and overall ecosystem quality.
3. The spread of wallabies into this area poses a risk to natural resources.

4. The demand for upgrading facilities can conflict with the demand for remote experience areas.
5. Provide for remote recreation activities (*see 4.5.1 Visitor Opportunities*).

#### **Management**

1. Implement the management recommendations of the Kokako Recovery Plan (Rasch, 1991) or any approved revisions of the plan, in particular ongoing control of predators and browsing animals.
2. Negotiate with private landowners to establish an indigenous forest corridor between the forests of the Mamaku Plateau and Mangorewa Forest.
3. Monitor the spread of wallabies and eradicate any wallabies found in Mangorewa, Kaharoa, and Mamaku Forests,
4. Maintain the remote recreation setting by not developing recreation facilities on the northern Mamaku Plateau (*see 4.5.1 Visitor Opportunities, 4.5.2 Managing Visitor Impacts*).

### **3.4.6 Otamarakau - Matata Coast**

(NB: Matata Wildlife Management Area, is addressed in 4.5 Whakatane Management Area.)

#### **Issues**

1. The lack of legal protection of pohutukawa forest along the coastal cliffs allows their continuing decline.
2. Pohutukawa forest is vulnerable to animal damage from possums and stock browsing.
3. Sand mining at Otamarakau Beach is damaging natural coastal processes, coastal dune communities and coastal recreation opportunities.
4. The Ohinekeao Recreation Reserve has been damaged by vegetation clearance and grazing.

#### **Management**

1. Negotiate with landowners to conserve coastal pohutukawa forests.
2. Survey and monitor the coastal pohutukawa forest for animal damage and undertake control where necessary (*see 4.3.7 Animal Pests, 4.7.2 Survey and Monitoring*).
3. Participate in local authority planning processes to advocate for the preservation of the natural character of the coastal environment (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
4. Rehabilitate Ohinekeao Recreation Reserve by replanting pohutukawa and protecting regenerating native plants.
5. Advocate sustainable management of sandmining and associated activities on the coast (*see 4.2.3 Statutory Planning*).

### 3.4.7 Freshwater Ecosystems

#### Issues

1. The extensive modification of rivers through land development makes the remaining ones important.
2. The limited information on freshwater ecosystems and freshwater fisheries restricts understanding of their management requirements.

#### Management

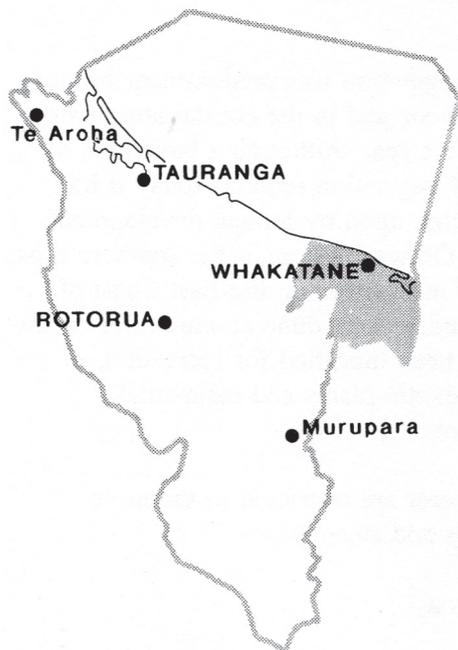
1. Survey and identify management requirements of freshwater ecosystems and freshwater fisheries.
2. Seek protection and management of relatively unmodified rivers, especially the Ngamuwāhine and Opuiaki headwaters as representative freshwater ecosystems (*see 4.3.9 Ecosystem Rehabilitation and Restoration, 4.3.11 Freshwater Fisheries*).

#### Priority Activities for Otanewainuku-Te Aroha Management Area

- Rationalise classification of lands administered by the department in Otawa-Otanewainuku forest tract.
- Create corridors between lands administered: by the Department in the Kaimai Range and Otawa-Otanewainuku forest tract.
- Seek protection of the Ngamuwāhine and Opuiaki Rivers.
- Continue intensive management of key threatened species such as kokako.
- Promote public knowledge of historic resources in the northern Kaimai Range, in particular Waitawheta and Wairongomai Valleys and conserve these resources.
- Review the Protected Natural Area Programme of the Te Aroha Ecological District and act on the recommendations.
- Undertake Protected Natural Areas (PNAP) Survey of the Otanewainuku Ecological District.
- Undertake animal pest control in key areas.
- Seek legal access to land administered by the department.
- Undertake an archaeological survey of the 10 sites identified in 4:4 Historic Resources and Wāhi Tapu (Sacred Places)
- Manage recreation to:
  - provide high quality day and over night recreation-opportunities in the northern Kaimai Ranges; and
  - maintain: the northern Mamaku area as a remote experience

## 3.5 WHAKATANE MANAGEMENT AREA

### 3.5.1 Background



This management area includes the Rangitaiki, Tarawera, Whakatane, and Waimana River flood plains, adjoining hill country, Ohiwa Harbour, and coastal dune lands (see Appendix 1.5).

The most important conservation feature on the coastline is the Ohiwa Harbour. This harbour has been degraded by inappropriate catchment and harbour margin management, but still retains large areas of estuarine vegetation that remain intact. The harbour has the southern-most mangrove communities on the east coast of

New Zealand, and has significant areas of saltmarsh. It is a nationally important habitat that meets the Ramsar criteria for wetlands of

international importance. The harbour is home to a wide variety of bird species. More than 4000 waders have been recorded there, including many rare Arctic breeding migrants. Ohiwa Harbour is the largest flocking area known in New Zealand and is a significant autumn flocking site for New Zealand dotterel and variable oystercatcher. Over 90 New Zealand Dotterels (>5% of the total population) occur there in March and April each year. Other birds under threat in this management area include kiwi, kaka, falcon, bittern, dabchick, spotless crane, fernbird, and banded rail.

The harbour has extensive shellfish communities and is a nursery for many fish species. Intensive fishing, especially with set nets, has depleted the fishery. Most former freshwater wetlands on harbour margins have been drained for fanning. The harbour is still under threat from development and farm run-off. The harbour mouth is highly mobile. The build-up of the Ohope Spit has caused the mouth of the harbour to move almost 1 km eastward during the past 120 years.

Along the coast, pohutukawa forest is abundant but under threat from possums, grazing, and land development. Many of the dune communities on the coast have been modified by grazing, infestation with exotic plants, residential development and vehicles.

Rare plants such as *Thelypteris confluens* and *Cyclosorus interruptus* are found in wetlands. Kohika wetland, which is privately owned, contains part of Kohika Swamp Pa, a significant historic place from which many artifacts have been recovered.

River control work, such as channel straightening and drainage of

wetlands, has resulted in a decline of whitebait spawning areas and modification of habitats of indigenous freshwater fish species.

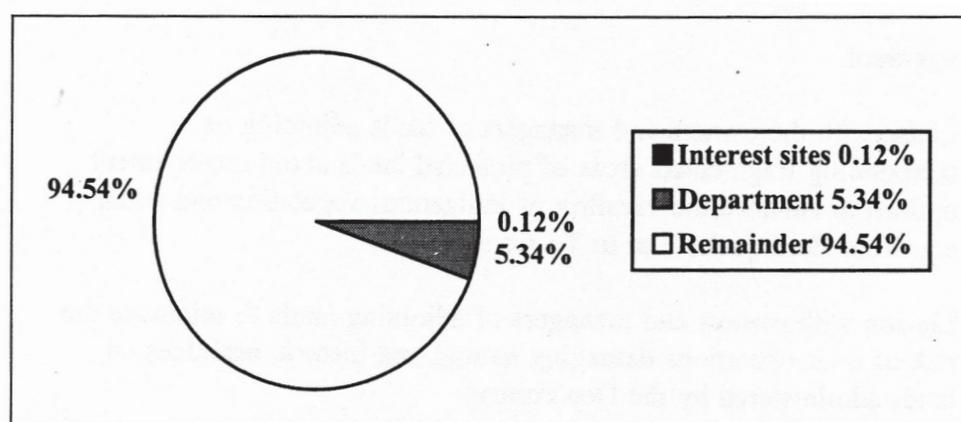
Wetlands are an important feature, especially in the Te Teko Ecological District. Of the 30,000 ha of wetlands that once covered the Rangitaiki Plains only 1,168 ha remain. Drainage is the biggest threat to wetlands.

There are some reserves with high natural and historic resources that are administered by local authorities (e.g. Kohi Point Scenic Reserve).

Whakatane is a popular summer holiday location. As a result there is a demand for accessible recreation areas. Whakatane has a number of sites developed for public use in conjunction with Ngati Awa. Tauwhare Pa is an example of how a site of significance to iwi can be sensitively developed for public use.

The Whakatane Management Area spans three of the Mataatua canoe iwi. This is a landscape rich in history including extensive areas of prehistoric horticulture, a chain of coastal defence fortifications, and midden sites associated with occupation and exploitation of harbour and coastal areas.

Approximately 3.90% of this management area is administered by the Department (see Figure 9). Most sites managed by the Department are small in size.



**Figure 9 Land administered by the Department in the Whakatane Management Area (total 94,828 ha).**

Included in the management area are:

- approximately 81 km of coastline (predominantly dune lands) from Matata to a point half way between the mouth of Ohiwa Harbour and Waiotahi Estuary;
- all the Rangitaiki Plains;
- the rolling hill country of the northern foothills of the Urewera Ranges;
- Ohiwa Harbour and the undulating foothills surrounding it. The issues and management are discussed under five topics:
- general;

- Ohiwa Harbour, and its margins;
- Whakatane - Ohope coastal reserves;
- Matata - Whakatane dune lands;
- Freshwater wetlands, (including Matata Lagoon).

### 3.5.2 General

#### Issues

1. Existing reserves are generally small and fragmented and do not conserve the full diversity of former ecosystems (see 4.2.1 Advocacy).
2. Many reserves contain historic places and wāhi tapu which are not sufficiently recognised in their management (see 4.4 *Historic Resources and Wāhi Tapu (Sacred Places)*).
3. The present classification system does not reflect the natural and historic resources of some areas.
4. The fragmented tenure of reserves creates difficulties in achieving consistent land management. (see 4.2.3 *Statutory Planning*, 5.1.2 *Classification of Land Administered by the Department*).
5. Lack of recognition of marine and coastal processes and ecosystems leads to lack of public understanding of protection requirements (see 4.1 *Relationship with Tangata Whenua*, 4.2.2 *Advocacy and Education for Conservation Management*).
6. Legal walking access to Waiotane Scenic Reserve is difficult due to the formed road not following the legal road.

#### Management

1. Continue assessment of protected lands where their current classifications do not reflect natural and historic resources.
2. Work with local authorities to rationalise the status of legally protected land to better conserve natural and historic resources and recreation attributes (see 5.1.2 *Classification of Land Administered by the Department*).
3. Work with owners of Maori lands that have important natural and historic resources to identify common management objectives.
4. Undertake a historic resource inventory on lands administered by the Department (see 4.4 *Historic Resources and Wāhi Tapu (Sacred Places)*).
5. Reclassify the following stewardship areas.

**Table 33 WHAKATANE MANAGEMENT AREA - STEWARDSHIP AREAS REQUIRING RECLASSIFICATION**

Number	Area (ha)	Ecological District	Future Use
V15051	404.6856	Taneatua	Reclassify as Scenic Reserve
V16027	1,342.4773	Taneatua	Add to Te Urewera National Park
W15032	15.4463	Te Teko	Reclassify as Government Purpose Wildlife Refuge Reserve

Note: The numbers and locations of these areas are found in Volume II.

6. Undertake public awareness programmes to increase understanding of coastal processes and ecosystems (see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management, 4.3.9 Ecosystem Rehabilitation and Restoration).
7. Seek public walking access to the Waiotane Scenic Reserve.

### **3.5.3 Ohiwa Harbour and its Margins**

#### **Issues**

1. The lack of awareness of databases on the vegetation and fauna of Ohiwa Harbour can result in poor planning decisions.
2. The lack of recognition of natural and historic resources around the harbour margins is leading to their destruction (e.g. grazing by stock, plants pests, erosion and residential development).
3. Sediment, contaminants, and nutrients from inappropriate catchment land and water uses adversely affect harbour ecosystems.
4. Possums are damaging pohutukawa forest around the harbour margins and on islands.
5. The Department has unclear objectives about visitor management on lands it administers on Ohope Spit.
6. The erosion of Ohiwa Harbour Wildlife Refuge is impacting on the breeding sites of the New Zealand dotterel and variable oyster catcher.
7. Aquaculture development can have adverse effects on natural character and harbour ecosystems.

#### **Management**

1. Increase the awareness of the databases on Ohiwa Harbour.
2. Participate in district and regional council planning processes to establish appropriate :
  - planning provisions to conserve natural and historic resources in and around Ohiwa Harbour;
  - preservation of the natural character of Ohiwa Harbour and environs;
  - controls on catchment land and water uses (*see 4.2.3 Statutory Planning*); and
  - promotion of good land management.
3. Increase land owner awareness of appropriate riparian margin management practices, and the link between catchment land uses and harbour health, through meetings, discussion, video presentations, and promotion of fencing (*see 4.2.2 Advocacy and Education for Conservation Management, 4.1 Relationship with Tangata Whenua*).
4. Survey and monitor the condition of pohutukawa forests and possum numbers on lands administered by the Department. Carry out control

operations where necessary (*see 4.3.7 Animal Pests, 4.7.2 Survey and Monitoring*).

5. Work with land owners and local authorities to seek rehabilitation of modified wetlands around Ohiwa Harbour (*see 4.3.9 Ecosystem Rehabilitation and Restoration*).
6. Rationalise management objectives of lands administered by the Department on Ohope Spit.

### **3.5.4 Whakatane - Ohope Coastal Reserves**

#### **Issues**

1. Possums are damaging important pohutukawa forest in coastal reserves.
2. The coastal reserves are vulnerable to plant pest invasions, especially ginger and honeysuckle (*see 4.3.7 Animal Pests*).
3. The high summer fire risk is a threat to shrublands in the Ohope Scenic Reserve.
4. The high public usage can threaten coastal vegetation, e.g. fire, compaction and litter.

#### **Management**

1. Survey and monitor the condition of the pohutukawa forests and possum numbers. Carry out control operations where necessary (*see 4.3.7 Animal Pests*).
2. Survey and monitor plant pest species to identify management options (*see 4.3.6 Plant Pests*).
3. Undertake public education programmes to prevent wild fires (*see 5.2.5 Fire*) and littering (*see 4.6.6 Rubbish and Spoil Dumping*).
4. Develop and manage a range of high quality walking tracks with interpretation (*see 4.5.1 Visitor Opportunities*).
5. Investigate the status of breeding of grey-faced petrels on Whakatane Heads and develop a management programme for the colony.

### **3.5.5 Matata - Whakatane Dune lands Issues**

1. Many dune lands are adversely modified by inappropriate land and water use and management, for example introduced plants, grazing, sand mining and recreation.
2. The lack of recognition of coastal dune land kanuka forest means that it is poorly protected.
3. Whitebait spawning habitat has been lost due to river modification and inappropriate management of riparian margins.
4. Sand mining at Thornton Beach is damaging natural coastal processes, coastal dune communities and coastal recreation opportunities.

#### **Management**

1. Encourage land owners and tangata whenua to protect dune land and vegetation, especially coastal kanuka forest (*see 4.1 Relationship with*

*Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management, 4.3.9 Ecosystem Rehabilitation and Restoration, Appendix 3).*

2. Seek rehabilitation of whitebait spawning habitats in conjunction with Environment BOP and land owners (*see 4.3.11 Freshwater Fisheries*).
3. Advocate sustainable management of sandmining and associated activities on the coast (*see 4.2.3 Statutory Planning*).
4. Increase public awareness through visitor programmes, volunteer activities, publications, and the media, of the importance of dunes and adverse impact of human activities, (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).

### **3.5.6 Freshwater Wetlands (including Matata Lagoon)**

#### **Issues**

1. Most wetlands have been drained, making the few that remain very important.
2. The remaining wetlands are small, isolated, and often 'perched' above river and water levels making their management difficult.
3. Most wetlands have been invaded and modified by introduced plants such as willows.
4. Joint management of some wetlands is between two different agencies (the Department and Eastern Region Fish and Game Council) resulting in differing objectives for management of the Reserve.
5. Although Kohika Pa is protected under the Historic Places Act 1993, it is still vulnerable to damage by drainage of surrounding land.

The lack of recognition of freshwater wetlands means that they are poorly protected.

#### **Management**

1. Maintain water levels in selected wetland reserves by obtaining, or renewing, or both, consents under the Resource Management Act 1991.
2. Assess opportunities that arise for creating new wetlands and rationalise wetland areas.
3. Control plant pests including willow and blackberry (*see 4.3.6 Plant Pests*).
4. Continue wildlife management of wetlands with the Eastern Region Fish and Game Council and maintain the partnership of wildlife management of Awaiti Wildlife Management Reserve and other areas as opportunities arise.
5. Seek greater environmental and legal protection for Kohika Pa with the landowners, Historic Places Trust, tangata whenua, and local authorities (*see 4.1 Relationship with Tangata Whenua, 4.4 Historic Resources and Wāhi Tapu (Sacred Places), Appendix 3*).

6. Increase awareness through visitor programmes, volunteer activities, publications, and the media of the management needs of natural and historic resources of wetlands (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).

#### **Priority Activities for Whakatane Management Area**

- Develop cooperative management mechanisms with tangata whenua for lands they own.
- Increase the number of legally protected lands including:
  - wetlands on the Rangitaiki Plains;
  - Ohiwa Harbour and margins;
  - Pohutukawa forest;
  - dune lands;
  - indigenous lowland forests remnants; and
  - Kohika Pa
- Undertake an archaeological survey of the 6 site identified in 4.4 Historic Resources and wāhi Tapu (Sacred Places)
- Establish ecological corridors between reserves south-east of Whakatane.

## 3.6 ROTORUA MANAGEMENT AREA

### 3.6.1 Background



This management area includes the Rotorua lakes. These meet the Ramsar criteria of international importance for vegetation, cultural, waterfowl and fisheries.

The management area also contains extensive areas of native forest (*see Appendix 1.6*)

The whole area has been strongly influenced by volcanic activity. Several active geothermal sites provide popular tourist attractions. Most of the 22 lakes were formed by volcanic activity.

The most recent major eruption was in 1886, when the top of the highest mountain, Mt Tarawera, erupted forming a rift of three large craters. Its ash

was spread widely, killing vegetation and providing a benchmark for monitoring the growth and development of native plant associations.

There are a number of volcanic domes in this management area, Tarawera, Ngongotaha, Haparangi, Mokoia Island, Maungaongaonga and Maungakakamea.

The area was originally covered by podocarp/hardwood forest, wetlands, and geothermal vegetation. Growing round the shores of the lakes today are pohutukawa, otherwise coastal trees. Freshwater wetlands found round all the lakes have been extensively modified by farming and settlement, as have lake margins and geothermal sites.

Missionaries and traders were the first Europeans to settle in Rotorua, followed by farmers who were attracted by the open tussock-covered pumice country. The feed proved poor and the soil was found to be deficient in many minerals. Research which found that cobalt deficiency was the cause of "bush sickness", also a low amount of selenium, marked a turning point for farming in the area.

Substantial remnants of mostly logged podocarp/hardwood forests remain, with different species appearing as the height above sea level increases and sites get colder.

The geothermal sites have their own special plants, notably a prostrate form of kanuka and rare frost-tender ferns with tropical affinities. Several threatened species of seabirds nesting together at Sulphur Point, (Te Arikiroa), Lake Rotorua, have been protected by the formation of a wildlife management area and 1 ha wildlife sanctuary.

Plant species under threat include king fern, wood rose, and thermal orchids.

Possoms damage indigenous forests, particularly those dominated by pohutukawa, fuchsia, *Pseudopanax*, rata, and kamahi. They threaten the long term survival of plants such as mistletoe and *Dactylanthus*; and kokako and other birds by competition and predation.

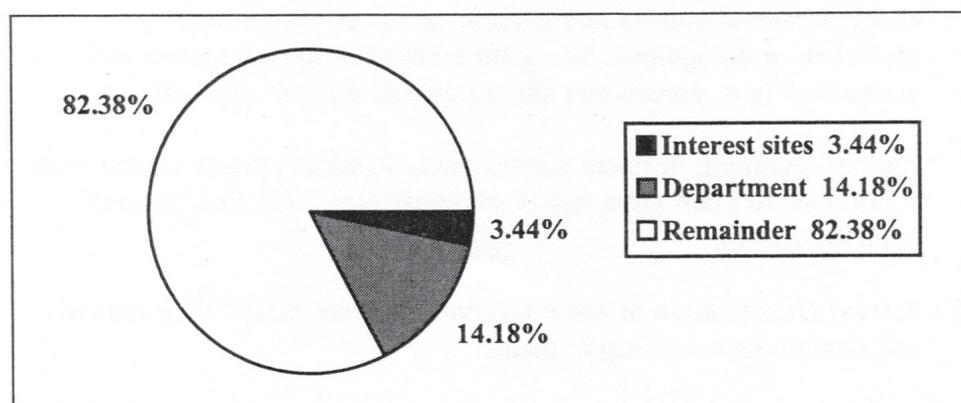
Threatened bird species include kokako, saddleback, kiwi and weka. The wetlands support notable populations of waterfowl. Other threatened species include skinks, gecko, freshwater fish, and two species of bat. Lake Rotorua is the core of New Zealand dabchick population with one third of the total New Zealand population breeding there.

There are many historic places which are very important to tangata whenua. The Arawa people have retained strong iwi affiliations and their culture and way of life contribute significantly to Rotorua's position as an international tourist destination. The geothermal activity, Maori village, and cultural centre at Whakarewarewa are major tourist attractions.

Other geothermal sites and the lakes are also tourist attractions, some managed by the Department. Thermal waters have been used for pleasure and therapeutic bathing. There is considerable European history relating to the use of geothermal waters. The lakes are a world renowned trout fishery and also provide a playground for New Zealand holiday makers, with summer cottages and motor camps scattered round their shores.

The area has significant prehistoric sites which have not been investigated systematically. Of the sites so far recorded 57% are pits and terraces, indicating settlement and horticulture over a long period. In some places recognition of such sites may be hampered by the heavy mantle of Tarawera ash.

**Figure 10 Land administered by the Department in the Rotorua**



**Management Area (total 130,466 ha).**

The lakes are a source of drinking water, but are also used for disposal of refuse, treated sewage (via ground water) and trade waste. They act as a concentration point for land drainage. There are problems with rooted oxygen weeds on the beds of most Rotorua lakes, and water net (*Hydrodictyon reticulatum*), an introduced water weed. Rotorua City now has a comprehensive sewerage treatment system which is helping to reduce these effects.

The Department administers 14.18% of the management area (*see Figure 10*). It has established important partnerships with tangata whenua including management of scenic reserves and habitat enhancement on Mokoia Island and Mt Tarawera.

The issues and management are discussed under five topics:

- general;
- lakes;
- indigenous vegetation;
- volcanic domes;
- geothermal features.

### **3.6.2 General**

#### **Issues**

1. The lack of joint management objectives of the Department and Rotorua District Council results in a lack of complementary recreational management.
2. The high public usage can threaten natural and historic resources, for example by fire, litter, and pollution of water bodies (*see 4.5.1 Visitor Opportunities*).
3. Many important natural and historic resources are not legally protected, or recognised. Some are vulnerable to degradation and destruction (e.g. geothermal site modification) (*see Appendix 3*).
4. Rubbish dumping in many reserves near Rotorua attracts animal pests, contributes to plant pests and is unsightly (*see 4.6.6 Rubbish and Spoil Dumping*).
5. Present classification of some reserves does not reflect their natural and historic resource requirements.

#### **Management**

1. Develop joint recreation objectives with the Rotorua District Council and develop and maintain facilities in accord with the objectives.
2. Manage sites frequently used by the public by providing appropriate facilities and public education e.g. highly developed road ends such as at Lake Okataina and limited facilities on the southern side of Lake Tarawera Scenic Reserve.
3. Continue to provide high quality information on recreation opportunities.
4. Allow low impact ecotourism concessions.
5. Work with concessionaires to improve their interpretation of natural and historic resources.
6. Work with local authorities to minimise fly-dumping of rubbish in reserves (*see 4.6.6 Rubbish and Spoil Dumping*).
7. Undertake a historic resource inventory on lands administered by the Department (*see 4.4 Historic Resources and Wāhi Tapu (Sacred Places)*).
8. Reclassify the following are stewardship areas.

**Table 3.4 ROTORUA MANAGEMENT AREA - STEWARDSHIP AREAS REQUIRING RECLASSIFICATION**

Number	Area (ha)	Ecological District	Future Use
U15013	4,325.6383	Rotorua	Add to Kaimai-Mamaku Conservation Park
U16098	900.0000	Rotorua	Reclassify as Recreation Reserve
U16107	276.5000	Rotorua	Add to Tikitapu Scenic Reserve
V15052	1,300.5176	Rotorua	Add to Rotoma Scenic Reserve

Note: The numbers and locations of these areas are found in Volume II.

9. Increase awareness of natural and historic resources, particularly those associated with geothermal areas (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management, 4.6. 7 Concessions*).

### 3.6.3 Lakes Issues

1. The many agencies and groups with an interest in management of lakes lack common management objectives.
2. The water quality of many Rotorua lakes has been significantly degraded by inappropriate land management of catchments, and discharges, thus reducing the quality of ecosystems for native aquatic life.
3. Stock access to lake shore and riparian margins has adverse effects on indigenous vegetation, aquatic ecosystems, and water quality.
4. The impacts of introduced plants and animals dominate most lakes means that those lakes without these pests are very important (*see 4.3.6 Plant Pests, 4.3.7 Animal Pests*).
5. Lakes with mainly indigenous species are vulnerable to the introduction of plant and animal pests (*see 4.3.6 Plant Pests, 4.3.7 Animal Pests*).

#### Management

1. Legally protect lakes that are to be managed for their natural resources.
2. Work with landowners and local authorities to protect and rehabilitate lake shore and riparian margins (*see 4.3.9 Ecosystem Rehabilitation and Restoration*).
3. Seek agreement of joint management objectives for the Rotorua Lakes.
4. Work with landowners and local authorities to manage catchments in ways that protect the lakes (*see 4.2.3 Statutory Planning*).
5. Work with landowners, local authorities and recreational groups to prevent the introduction of plant and animal pests to lakes (*see 4.3.6 Plant Pests, 4.3.7 Animal Pests*).
6. Raise public awareness of the importance of conservation of lakes (*see 4.2.2 Advocacy and Education for Conservation Management*).
7. Control aquatic macrophytes.

#### 3.6.4 Indigenous Vegetation

### **Issues**

1. Animal pests such as wallabies and possums damage indigenous forest (*see 4.3.7 Animal Pests*).
2. Goats re-invading from adjoining lands continually damage indigenous vegetation (*see 4.3.7 Animal Pests*).
3. Old Man's Beard is infesting forest near Lake Tarawera (*see 4.3.6 Plant Pests*).
4. There is a threat of predators and rats infesting Mokoia Island which is free from these animals.
5. Many important natural and historic resources are not legally protected and vulnerable to degradation (*see Appendix 3*).

### **Management**

1. Control animal pests on lands administered by the Department in accordance with Tables 5.3.1 and 5.3.2 (*see 4.3.7 Animal Pests*).
2. Work with Environment BOP and local organisations to eradicate Old Man's Beard (*see 4.3.6 Plant Pests*).
3. Work with the owners of Mokoia Island to maintain the island as predator and rat free (*see 4.2.2 Advocacy and Education for Conservation Management*).
4. Support the Rotorua District Council in identifying areas of:
  - significant indigenous vegetation;
  - significant ecosystems containing indigenous species;
  - outstanding natural features;

and developing mechanisms for protecting them (*see Appendix 3*).

## **3.6.5 Volcanic Domes**

### **Issues**

1. The natural resources on Mount Tarawera are being degraded by inappropriate visitor activities such as use of four wheel drive vehicles off formed roads.
2. Pine regeneration on Mount Tarawera is continuing to degrade indigenous regeneration and landscapes.
3. The lack of legal public walking access on the south side of Mount Ngongotaha prevents use of public lands.
4. Landscape attributes are impacted by structures on volcanic domes, e.g. Mount Ngongotaha and Rainbow Mountain (*see 5.6.2 Utilities and Easements*).
5. Quarrying and mining pose a threat to volcanic domes.

### **Management**

1. Work with the owners of Mount Tarawera on conservation management of the mountain, including continuation of the pine control

programme, and controlling visitor impacts (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management, 4.3.6 Plant Pests, 4.5.2 Managing Visitor Impacts*).

2. Seek legal public walking access to the south side of Mount Ngongotaha (*see 4.5.3 Access*).
3. Reduce as practicable the visual impact of current and future structures on volcanic domes.
4. Advocate the protection of volcanic domes from mining and quarrying, and associated activities.

### **3.6.6 Geothermal Features**

#### **Issues**

1. Recreation and tourist use of geothermal areas can conflict with the maintenance of geothermal features and natural vegetation.
2. The lack of protection and suitable management of geothermal surface features and ecosystems leads to their continuing damage e.g. geothermal fields tapped for energy will affect geothermal surface features associated with those fields.
3. The lack of appreciation of geothermal vegetation and features leads to their destruction (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation*).

#### **Management**

1. Manage geothermal reserves on land administered by the Department to conserve the natural resources of these places. For reserves subject to high levels of recreational and tourist use, an analysis of the limits of acceptable change may be undertaken (*see 4.5.2 Managing Visitor Impacts*).
2. Participate in regional council planning on geothermal field management to seek protection of geothermal fields and surface features (*see 4.2.3 Statutory Planning*).
3. Develop greater understanding of geothermal processes amongst landowners, the public and decision makers (e.g. regional councils) (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
4. Seek conservation management, protection, and rehabilitation of geothermal surface features and ecosystems by working with tangata whenua and administrators of these features e.g. the geothermal flats at the head of Sulphur Bay (Te Arikiroa), various features in the Government Gardens (especially Rachel Spring) and Kuirau Park (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).

### **Priority activities for Rotorua Management Area**

- Seek better protection of lake margins.
- Seek better protection and management of geothermal surface features.
- Manage recreation and tourism on land administered by the department by:
  - providing information and interpretation;
  - providing appropriate facilities;
  - developing joint management objectives with the Rotorua District Council; and
  - allowing appropriate recreation and tourism concessions.
- Develop cooperative management objectives to areas such as Mount Tarawera Mokoia Island.
- Eradicate Old Man's Beard in consultation with other agencies.
- Restrict the spread of wallabies and control possums and goats.
- Complete inventory of remaining lands not legally protected.
- Seek conservation of volcanic domes.
- Undertake an archaeological survey of the 13 sites identified in *4.4 Historic Resources and Wāhi Tapu (Sacred Places)*.

## 3.7 ATIAMURI - TOKOROA MANAGEMENT AREA

### 3.7.1 Background



This management area includes the western part of the Mamaku Range and rolling land south of Rotorua and the Paeroa Range. The dominant features of the area are the native podocarp/hardwood forest on the Paeroa Range and the Mamaku Plateau, part of which is included in the Kaimai-Mamaku Conservation Park. The two gazetted and one proposed ecological areas in the management area are on the Mamaku Range (see Appendix 1.7).

Most of the area was originally covered with tall forest; some was destroyed by Maori burning. In the Tokoroa district, by the time of European settlement, there were mostly shrubland and

fernland which have now been replaced by farmland and plantation forests (see Figure 11).

Geothermal features are significant and include the relatively unmodified Te Kopia Field in the flanks of the Paeroa Range. The Waitapu and Orakeikorako geothermal areas are highly developed tourist attractions, though 75% of the Orakeikorako geysers were flooded when Lake Ohakuri was filled. Hot springs are tapped for public use at Waikite.

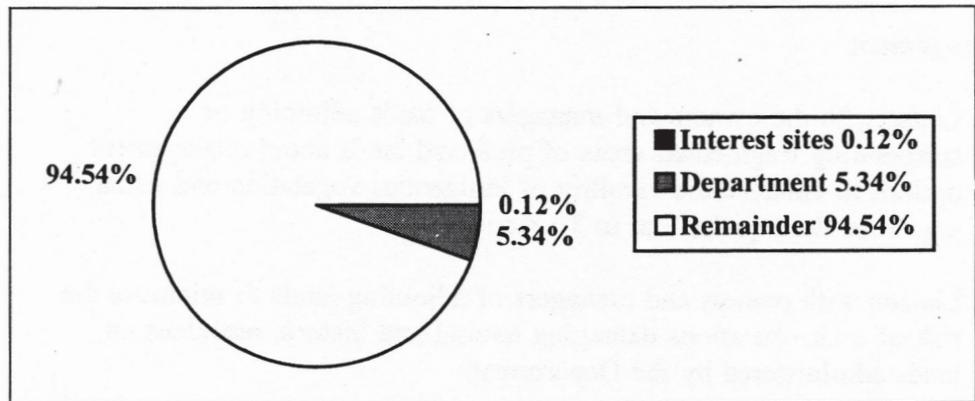
The Mamaku Plateau is home for 57 species of native birds. Threatened bird species include a large population of kokako as well as blue duck, kiwi, kaka, and fernbird. Two species of bat also live in the forest.

The native and exotic forests are popular for pig and deer hunting by local people.

This area includes part of the Waikato River catchment. Some tributary streams managed by the Department are important domestic and farm water sources. One of these, the Torepatutahi, is particularly prone to soil erosion and flooding. The Waikato River is highly modified by hydro-electric development and farming activities. It is likely that historic sites have been covered by artificial lakes and development of plantation forests.

The major primary industry is forestry, centred round milling and pulp and paper manufacturing.

The Department administers 5.34% of the land within the management area (see Figure 11).



**Figure 11 Land administered by the Department in the Atiamuri-Tokoroa Management Area (total 176,360 ha).**

The issues and management are discussed under four topics:

- general;
- south Mamaku;
- geothermal features; and
- freshwater ecosystems.

### 3.7.2 General

#### Issues

1. The fragmented distribution of protected lands means that the viability of natural resources is often doubtful.
2. Present classification of some reserves does not reflect their natural and historic resource requirements (*see 5.1.2 Classification of Land Administered by the Department*).
3. Some grazing leases and licences on lands administered by the Department do not adequately conserve natural and historic resources.
4. Pines have invaded some marginal strips and reserves.
5. Natural and historic resources on lands administered by the Department can be adversely affected by activities and resource use on adjoining lands.
6. The lack of inventory or assessment of historic resources means that important sites may be damaged or lost.
7. Landscape attributes are being impacted by structures on volcanic domes.
8. The lack of legal public walking access prevents use of public lands.

#### Management

1. Liaise with the owners and managers of lands adjoining or surrounding fragmented areas of protected lands about management options to enhance the viability of indigenous vegetation and fauna e.g. from Earthquake Flat to Te Kopia.
2. Liaison with owners and managers of adjoining lands to minimise the

risk of their operations damaging natural and historic resources on lands administered by the Department.

3. Undertake a historic resource inventory on lands administered by the Department (see 4.4 Historic Resources and Wāhi tapu (Sacred Places)).
4. Reduce as practicable the visual impact of current and future structures on volcanic domes.
5. Review the classification of lands administered by the Department and implement changes e.g. gazette Matahana Ecological Area (see 4.2.3 Statutory Planning).
6. Reclassify the following stewardship areas.

**Table 3.5 ATIAMURI-TOKOROA MANAGEMENT AREA - STEWARDSHIP AREAS REQUIRING RECLASSIFICATION**

Number	Area (ha)	Ecological District	Future Use
T15003	226.7690	Tokoroa	Sell or swap
T15013	3,306.0	Tokoroa	Reclassify as Scenic Reserve
U16112	280.0	Atiamuri	Reclassify as Scenic Reserve
U17003	611.3457	Atiamuri	Sell pasture, reclassify balance as Ohakuri Scenic Reserve

Note: The numbers and locations of these areas are found in Volume II.

7. Harvest exotic trees on marginal strips and reserves and rehabilitate affected areas to a native forest cover (see 4.6.4 *Exotic Forest Management*).
8. Seek legal public walking access to lands administered by the Department e.g. Horohoro and Te Kopia.

### 3.7.3 South Mamaku

#### Issues

1. Animals and invasive weeds threaten gazetted ecological areas.
2. The endangered plant *Dactyloctenium aegyptium* (wood rose) is
  - threatened by possum browsing; and
  - pollinated by short tailed bats.
3. Little is known about short tailed bats and their ecology.
4. Enforcement of legislation is inadequate to prevent rubbish dumping and taking of timber and ponga.
5. Remote recreation areas do not meet user needs (see 4.5.1 *Visitor Opportunities*, 4.5.2 *Managing Visitor Impacts*).
6. Some lands with indigenous forest remnants have little or no legal protection.

## **Management**

1. Control animal and plant pests in Matahana, Mokaihaha, and Pukerimu Ecological Areas.
2. Control possums where they have an impact on *Dactylanthus taylorii*.
3. Undertake studies of short tailed bats, e.g. population viability and ecology.
4. Maintain the remote recreation setting by not developing facilities in this area (see 4.5.1 Visitor Opportunities, 4.5.2 Managing Visitor Impacts).
5. Increase compliance education and law enforcement programmes to reduce illegal activities (see 5.1.1 Compliance and Law Enforcement).
6. Complete the survey and allocation of the remnant indigenous areas of the former State Forest areas leased to Carter Holt Harvey by the New Zealand Forestry Corporation (see 5.1.2 Classification of Land Administered by the Department and Appendix 3).

### **3.7.5 Geothermal Features**

#### **Issues**

1. Outstanding relatively unmodified geothermal areas such as Te Kopia and Maungaongaonga may be threatened by tourism and energy extraction.
2. The Reporoa, Waiotapu, Waimangu Geothermal Fields' surface features are on lands administered by the Department but can be threatened by heat or fluid extraction from bores located outside lands administered by the Department.
3. The lack of legal protection of the Orakeikorako Geothermal Field may lead to damage to surface features and geothermal ecosystems.
4. Some land and water management practices have damaged some geothermal deposits, springs and ecosystems.
5. Public information on geothermal features and processes is inadequate and often lacking, leading to poor management (*see 4.2.2 Advocacy and Education for Conservation Management*).

#### **Management**

1. Retain the relatively unmodified condition of Te Kopia and Maungaongaonga geothermal areas and seek their protection from energy extraction.
2. Seek protection of the Waiotapu, Waimangu, and associated geothermal fields (including Te Kopia and Maungaongaonga) from any heat or fluid extraction through the regional councils (*see 4.2.3 Statutory Planning*).
3. Seek increased interpretation of geothermal features and ecosystems of the Waiotapu Geothermal Field in association with the lessee (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and*

*Education for Conservation Management).*

4. Seek the protection of the Orakeikorako geothermal surface features in association with the owners (*see Appendix 3*).
5. Seek the conservation of geothermal features and ecosystems on land not legally protected (*see 4.2.2 Advocacy and Education for Conservation Management*).

### **3.7.6 Freshwater Ecosystems**

#### **Issues**

1. Plant pests threaten the significant botanical attributes of Kapenga Swamp.
2. Land use outside the stewardship area (U16102) is adversely affecting Lake Orotu and its associated vegetation and fauna. There are impacts on Lake Orotu and environs from game bird hunters.
3. The Waikato River is highly modified by:
  - hydro-electric development having created barriers to fish passage and flooding of natural and historic resources; and
  - catchment development causing sedimentation and eutrophication.
4. The active stream bank erosion in the retired areas of the Torepatutahi Stream causes trees to topple into the water course thus worsening erosion and presenting a hazard to public use.
5. The catchment management upstream of the Torepatutahi Stream retirement area is resulting in faster run off, leading to more flash flooding.

#### **Management**

1. Control plant pests in Kapenga Swamp.
2. Add stewardship area (U 16102) containing Lake Orotu to Waiotapu Scenic Reserve, and manage hunting to minimize impacts on its ecosystem.
3. Participate in district and regional council planning processes to seek controls on adverse effects of discharges and land-use activities that threaten indigenous aquatic life in the Waikato River.
4. Manage retired areas along the Torepatutahi Stream Catchment in ways that allow for and minimise the affects of active erosion by replacing all the trees with shrubby indigenous vegetation.
5. Seek increased protection of the Torepatutahi Stream in association with land managers and the local authorities.
6. Investigate the vesting of the Torepatutahi Stream in the Regional Council as a soil and water reserve.
7. Foster local community involvement in the management of the Torepatutahi Stream.

### **Priority activities for Atiamuri-Tokoroa Management- Area**

- Improve legal public walking access across private lands to lands administered by the Department
- Increase protection of ecosystems containing *Dactyloctenium aegyptium*.
- Conserve unmodified geothermal features and ecosystems such as Te Kopia and Maungaongaonga.
- Protect the Reporoa/Waiotapu/Waimangu and Te Kopia geothermal fields from energy extraction.
- Improve Management of the Torepatutahi Stream retirement areas.
- Undertake an archaeological survey of the 3 sites identified in 4.4 *Historic Resources and Wāhi Tapu (Sacred Places)*
- Manage southern Mamaku and Horohoro for remote experience.

## 3.8 EASTERN VOLCANIC MANAGEMENT AREA

### 3.8.1 Background



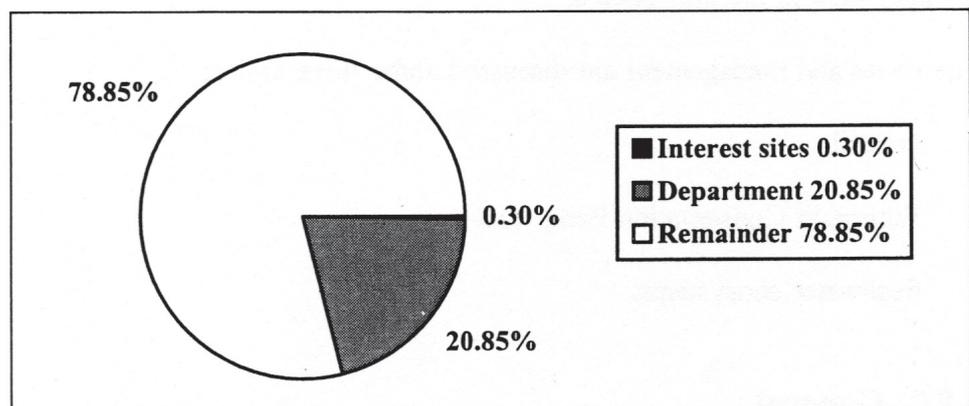
This management area has the second largest area of land administered by the Department in the Conservancy (see Figure 12).

Three features dominate this management area:

- The Whirinaki Basin and its spectacular native forests;
- The Kaingaroa Plateau is a highly modified landscape dominated by plantation forests. Reserves are small, fragmented, and conserve little of the original landscape and ecosystems.
- The Galatea Basin, an alluvial

outwash plain from streams flowing from the Ikawhenua Range. The basin is mostly dairy farmland (see Appendix 1.8).

Whirinaki Conservation Park has forests of international importance and interest. The park has an extensive network of walking tracks and high quality recreational facilities used by trampers, hunters, and anglers. The forests contain a remnant of the once extensive dense lowland podocarp forests of New Zealand. They range from the dense lowland podocarp forest, through podocarp-hardwood and podocarp-beech forests, to pure beech forests at high altitudes.



**Figure 12 Land administered by the Department in the Eastern Volcanic Management Area (based on 369,890 ha).**

Bird populations in the native forest include the following species which are under threat: kaka, kakariki, kiwi, blue duck, and the New Zealand falcon. Kokako have been found in small numbers and kereru were once common.

There are five ecological areas and one forest sanctuary in Whirinaki Conservation Park. There is one other ecological area; Oruatawehi on the Kaingaroa Plains, an example of the forest thought to have covered the northern Kaingaroa Plain after the Taupo eruption. Most of the forest on the plains was cleared by Maori burning (*see Table 1.1.2*). By the time Europeans arrived the Kaingaroa Plain and Galatea Basin were covered with shrubland, tussock land, and fernland. There were rare pockets of podocarp forest and wetlands. Today, the area is mostly covered with exotic forest, with farms in the Galatea Basin.

The Kaingaroa Forest (148,000 ha) is the largest exotic plantation in New Zealand. Planting began in 1901; in 1923 more extensive planting was undertaken. By 1936 more than 60,000 ha had been planted. Major species are radiata pine, Douglas fir, Corsican pine, and ponderosa pine.

Species under threat in the Rangitaiki River catchment include kiwi, blue duck, kaka, robin, and fernbird. Spotless crane live in the Galatea district and the speckled skink is known to live in the Rerewhakaaitu-Murupara area. The vulnerable lesser short-tailed bat has been found near Te Whaiti and Minginui.

The rivers and streams have native fish species and introduced trout. Deer and pigs are common and attract hunters from all over the North Island.

Historically, the Rangitaiki and Whirinaki Rivers were important for Maori access and settlement. Most historic sites on the plains have been lost by the development of plantation forests. Others may also be covered by ash from the Mt Tarawera eruption. The Kaingaroa Rock Art Site is an important example of pre-European art work. Investigation of nearby Fort Galatea provided ample evidence that the tangata whenua extensively used the Kaingaroa and Galatea Plains. In the Whirinaki Conservation Park a range of sites demonstrate that Maori lived in this area in both prehistoric and historic times. Many of the pa and large kainga were occupied during the land wars in the mid-1860's.

The issues and management are discussed under three topics:

- general;
- Whirinaki Conservation Park; and
- freshwater ecosystems.

### **3.8.2 General**

#### **Issues**

1. Historic resources may be damaged because their locations are not known (*see 5.2.1 Landscapes, Landforms, Geological Features and Soils, 4.4=Historic Resources and Wāhi tapu (Sacred Places)*).
2. The taking of species such as kereru conflicts with their protected status and may threaten their viability.
3. Exotic forest management on lands adjoining those administered by the Department on the Kaingaroa Plateau and Whirinaki Basin can result in:

- restrictions on public access during times of high fire risk (*see 4.3.5 Fire*); and
  - damage to natural and historic resources, e.g. sedimentation from forest operations (*see 5.2.1 Landscapes, Landforms, Geological Features and Soils, 4.4 Historic Resources and KIN tapu (Sacred Places)*).
4. Wilding pines are invading monoao, manuka shrublands, and marginal strips reducing native biological diversity.
  5. The status of some stewardship areas does not reflect their natural and historic resources (*see 5.1.2 Classification of Land Administered by the Department*).
  6. The small reserves in Kaingaroa Forest are vulnerable to animal and plant pests, and the effects of forestry operations.

### **Management**

1. Liaise with relevant forest owners and other land managers to:
  - minimize public access restrictions to lands administered by the Department; and
  - minimize damage to lands administered by the Department arising from forestry operations and other land management e.g. farming on adjoining land.
2. Recognise and support forest operations codes of practice that meet Departmental objectives, and be involved with any revisions of the codes.
3. Identify and manage historic resources in consultation with tangata whenua (*see 4.1 Relationship with Tangata Whenua, 4.4 Historic Resources and Wāhi tapu (Sacred Places)*).
4. Increase compliance and law enforcement programmes to reduce illegal taking of protected species (*see 5.1.1 Compliance and Law Enforcement*).
5. Remove wilding pines from areas of monoao, other shrublands and marginal strips.
6. Assess the management requirements and classifications of stewardship areas.
7. Reclassify the following stewardship areas :
8. Investigate vesting and/or disposal of lands currently grazed in the Horomanga Wash (V17024).
9. Control plant and animal pests in the few small reserves and liaise closely with the adjoining forestry managers (*see 4.3.6 Plant Pests, 4.3.7 Animal Pests*).

**Table 3.6 EASTERN VOLCANIC MANAGEMENT AREA - STEWARDSHIP AREAS REQUIRING RECLASSIFICATION**

Number	Area (ha)	Ecological District	Future Use
U18002	322.5	Kaingaroa	Reclassify as Government Purpose for Vegetation Protection
U18008	1,373.33	Kaingaroa	Reclassify as Government Purpose for Vegetation Protection
V16028	279.5040	Kaingaroa	Reclassify as Ecological Area
V17035	400.0	Kaingaroa	Add to Whirinaki Conservation Park
V18001	4,006.25	Kaimanawa	Add to Whirinaki Conservation Park
V 18002	11,233.4067	Kaimanawa	Add to Whirinaki Conservation Park
V17029	293.2246	Whirinaki	Add to Whirinaki Conservation Park
V 18003	500.0	Whirinaki	Add to Whirinaki Conservation Park

Note: The numbers and locations of these areas are found in Volume II.

### 3.8.3 Whirinaki Conservation Park

#### Issues

1. The high public usage can threaten natural and historic resources, for example fire and litter (*see 4.5.2 Managing Visitor Impacts*).
2. The international knowledge of Whirinaki creates an interest in the Conservation Park and its story (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).
3. Possums are damaging indigenous vegetation, especially rata forests.
4. Goats are able to invade from the south.
5. Removal of totara for Maori cultural purposes is not sustainable at current-level's (*see 4.6.3 Collection and Taking of Natural Materials*).
6. The public is not being made aware of the access covenants through Kaingaroa Forest to Whirinaki Conservation Park and the Waipunga.

#### Management

1. Provide and promote high quality recreation opportunities such as camping and picnic sites, short walks and a high quality 4-5 day loop track (*see 4.5.1 Visitor Opportunities*).
2. Consider allowing appropriate transport and ecotourism guiding concessions (*see 4.6.7 Concessions*).
3. Target possum control initially to rata forest associations (*see 4.3.7 Animal Pests*).
4. Control goat invasion from the south.
5. Manage sustainable taking of totara (*see 4.6.3 Collection and Taking of Natural Materials*).
6. Continue the interpretation programme for visitors.
7. Foster local involvement and encourage volunteer activities in the park (*see 4.1 Relationship with Tangata Whenua, 4.2.2 Advocacy and Education for Conservation Management*).

8. Establish and train honorary warranted officers to raise local awareness of the importance of indigenous fauna such as kereru and undertake compliance and law enforcement (*see 5.1.1 Compliance and Law Enforcement*).
9. Promote public awareness of the area through Kaingaroa Forest to land administered by the Department.

### **3.8.6 Freshwater Ecosystems**

#### **Issues**

1. Barriers to indigenous fish (including eel) migration, have been caused by hydro-electricity dams and poorly designed roading culverts in the headwaters of the Rangitaiki River resulting in reduced aquatic diversity and loss of a key traditional food source (*see 4.3.11 Freshwater Fisheries*).
2. Most wetlands adjoining the upper Rangitaiki River are not legally largely protected and vulnerable to modification and loss.
3. Some activities on adjoining lands can adversely affect water quality and quantity, and aquatic ecosystems.

#### **Management**

1. Ensure provision of fish passes across dams and other barriers (*see 4.3.11 Freshwater Fisheries*).
2. Conserve riparian wetlands through covenants and other protective measures (*see Appendix 3*).
3. Conserve water quality and quantity from the adverse effects of management on adjoining lands by liaison with forest managers, relevant land owners and Environment BOP.

#### **Priority Activities for Eastern Volcanic Management Area**

- Conserve and interpret a range of remaining natural areas on the Kaiangaroa Plateau.
- Seek cooperative management with adjoining land managers for conservation of natural and historic resources and public access.
- Managing and interpret Whirinaki Conservation Park for recreation and ecotourism (*see 4.1 Relationship with tangata whenua, 4.2.2 Advocacy and Education for Conservation Management*) by providing recreation facilities, e.g. tracks, roadside camping areas and on-site interpretation.
- Manage wilding conifer invasion to protect remaining indigenous shrublands.
- Protect Whirinaki and indigenous remnants in exotic forest from animal pests, particularly goats and possums.
- Undertake an ecological survey of the five sites identified in *4.4 Historic Resources and Wāhi Tapu (Sacred Places)*.

# Chapter 4: Departmental Activities

## Overview

In an operational sense the Department is responsible for the conservation of New Zealand's indigenous plants and animals and ensuring that they continue to exist and evolve in accord with natural systems and processes, in so far as these can be defined. The Department is also responsible for the conservation of historic resources, and development of recreational facilities where such development does not compromise the ecological or historic attributes present (except in the case of recreation reserves which are managed primarily for recreation purposes under the Reserves Act 1977).

There is now international recognition of the great importance of conserving and sustaining the earth's natural diversity, its indigenous biological diversity (biodiversity). Conservation of indigenous biodiversity is a primary focus for the Department. This has important implications for the way the Department views the remaining elements of nature on land not legally protected, and in the way lands administered by the Department are assessed and managed. There are some significant challenges to be met, to achieve practical conservation of indigenous biodiversity and processes (*see Appendix 5*).

In Chapter 3, 'Places', natural diversity and some of the key threats to that diversity were identified. It is clear that to ensure the longer term survival of our rich indigenous biodiversity there is a need to ensure important ecosystems beyond lands the Department administer are maintained intact. A cursory glance at the 1:250,000 Conservancy Map (inside the back cover) showing the lands administered by the Department, makes it quite clear that most are inland and on higher, less accessible country with very little in the lowlands and on the coast. This is not necessarily to suggest that the answer to the longer term conservation of indigenous biodiversity is that more land should be administered by the Government. In some cases this will be appropriate, but the real solution lies in a broader acceptance of responsibility for conservation of indigenous biodiversity including the geological and soil features, by landowners, local authorities and the public, and ensuring that ongoing land management and use respects the integrity of natural and historic resources. As well as the Department's own legislation the Resource Management Act 1991 has an important part in this solution.

This chapter begins by looking at the Department's relationship with tangata whenua, advocacy and then focuses on conservation issues which arise in the broader context in the Bay of Plenty. It also identifies the objectives, and their implementation, for lands and natural and historic resources the Department administers. The individual management issues, objectives and implementation provisions are not ordered by importance.

## 4.1 RELATIONSHIP WITH TANGATA WHENUA

### Background

*“Ruia taitea, kia to ko taikākā anake”*

*Strip off the sapwood, gather only the heartwood*

“Consulting involves the statement of a proposal not yet finally decided upon, listening to what others have to say, considering their responses and then deciding what will be done.”

(McGeehan, 1992)

Justice McGeehan noted that consultation should be a reality, not a charade. He found that essential elements of genuine consultation should include:

- **sufficient information** provided to the consulted party, so that they can make intelligent and informed decisions;
- **sufficient time** for both the participation of the consulted party and the consideration of the advice given; and
- **genuine consideration** of the advice, including an open mind and a willingness to change.

The Royal Commission on Social Policy stated

“The process by which decisions are made and policies formed alienates many Maori people. There was a high degree of scepticism about the value of making submissions and the likelihood of fundamental changes even being made to the position of Maori.”

“Consultation fatigue, analysis paralysis and submission depression were terms frequently used to convey a sense of weariness and futility in the face of yet another enquiry.”

(New Zealand Today 1988)

Two strong themes have emerged from the expression of Treaty of Waitangi Principles: Partnership and active protection of resources of importance to Maori in accord with Maori cultural and spiritual values. In order to obtain the information necessary for these principles to be fulfilled, genuine consultation is required.

The Department of Justice principles (Principles for Crown Action) are as follows:

#### **1. Act reasonably and in good faith**

##### **Comment**

Commonly called the partnership principle and accords with a Court of Appeal conclusion that: “the better view is that the responsibility of one Treaty partner to act in good faith fairly and reasonably towards the other . . .” (Richardson J, *New Zealand Maori Council v Attorney-General* [1987] 1 NZLR 641 - “the Lands” case).

## **2. Make informed decisions**

### **Comment**

To inform oneself does not always require consultation. Consultation is not negotiation. While agreement between parties is the ideal it is not necessarily required. The nature and scope of consultation will depend on the purpose and objectives of consultation. Also part of Court of Appeal conclusion referred to above and continues as:

“... puts the onus on a partner ... when acting within its sphere to make an informed decision” (Richardson J - the Lands case).,

## **3. Active protection**

### **Comment**

“The duty of the Crown is not merely passive but extends to active protection of Maori people in the use of their lands and waters to the fullest extent practicable” (Cooke P - The Lands case).

## **4. Avoid action which will prevent the redress of claims**

### **Comment**

This principle derives from the finding that: “The obligation of the parties of the Treaty to comply with its terms is implicit, just as is the obligation of parties to a contract to keep their promises. So is the right to redress for breach which may fairly be described as a principle . . . As in the law of partnership a breach by one party of his duty and the other gives rise to a right of redress so I think that breach of the terms of the Treaty by one of its parties gives rise to a right of redress by the other - a fair and reasonable recognition of, and recompense for, the wrong that has occurred.” (Sommers J, in the Lands case, P 683).

## **5. Governments must be able to govern**

### **Comment**

This principle is a literal application of Article 1 of the Treaty which conferred on the Crown the exclusive right to make laws for the good governance of the country.

### **The Department**

The requirement to act in utmost good faith includes establishing clear two-way communication between parties, and providing a clear explanation if one Treaty partner chooses not to heed the advice of the other. This is an essential principle of consultation as expressed by Mr Justice McGechan in the High Court in 1992.

In adopting a proactive stance toward tangata whenua consultation, the Department may find it necessary to discuss or explain such issues in a place where the tribal decision-making body (i.e., iwi, hapu, and whanau) have a chance to query or make comment directly to decision-makers, whether this is on a marae or in a Trust Board meeting room.

The Department and Conservancy must recognise that silence by tangata whenua does not constitute approval. Tangata whenua groups may not respond to requests for comment or submissions for many reasons, only

one of which may be lack of concern about the issue. Other factors working against response include insufficient time to canvass tribal views by the deadline set and competing demands on very limited tribal resources. Past experiences with the Conservancy's inability to understand and provide for tribal concerns, have led to a cynicism about the value of expending effort to make their views known.

### **The Conservancy**

All parts of the Conservancy have tangata whenua who can trace their mana whenua (customary authority) and occupation back through whakapapa (genealogy). Maori tribal government was and still is practically oriented. Both tribal and Conservancy resources are limited, and need to be carefully managed. For maximum benefit for both parties, clear objectives and procedures are required.

Much of the "consultation overload" taxing limited iwi resources can be avoided through better co-ordination. Keeping all previous submissions and information from tangata whenua together in the same place (and maintaining staff awareness of their contents) prevents duplication of effort by tangata whenua and assists staff in predicting which issues need to be raised.

To establish an effective relationship, the Conservancy needs to ensure that those consulted have the authority and mandate from the appropriate hapu and iwi. It needs to ask tangata whenua what role they may wish to participate in and be prepared with prior agreement to give technical assistance where there is a need for tangata whenua to compile reference documents.

Consultation is the responsibility of all Conservancy staff and Conservation Board members as part of their work.

### **Issues**

1. The mana whenua of iwi and hapu is not always recognised by the Department when it carries out its responsibilities.
2. Iwi and hapu do not have adequate resources to fully participate as equals in consultation with the Department.
3. The Department in undertaking its statutory responsibilities uses processes and timings that are inconsistent with tangata whenua decision making processes and timings.
4. The Department and tangata whenua have different interpretations of silence or lack of response, leading to misunderstandings and inappropriate consultation.
5. The history of the relationship between the Department and its predecessors and tangata whenua means there is a tension or distrust at the sincerity of efforts to consult.
6. The Conservancy boundaries do not conform with iwi boundaries.

### **Objective**

The practical expression (by effective consultation and establishment of Charters of Partnership) of the Principles of the Treaty of Waitangi in all aspects of the Department's responsibilities for management of natural and historic resources.

### **Implementation**

1. Negotiate Charters of Partnership with tangata whenua groups of each area that will establish practical aspects of partnership including (but not limited to):
    - procedures and expectation for consultation;
    - parameters for decision making;
    - procedures for initiating and facilitating dialogue;
    - responsibilities for maintaining the Charters; and
    - information and resource sharing.
  2. To recognise that a history of poor relations exists between government agencies and tangata whenua, and work diligently, openly and honestly to facilitate healing of the relationships by acknowledging the hurt contained in that history and recognising the mana whenua of tangata whenua.
  3. To undertake all implementation of this CMS in accordance with Charters of Partnership.
  4. The jointly agreed charter of partnership will set out:
    - issues and areas of interest and concern to tangata whenua, prioritised where possible;
    - ground rules for a relationship with tangata whenua; and
    - respective responsibilities of tangata whenua and the Conservancy.
- Departmental staff will be responsible for establishing and maintaining the charter of partnership between tangata whenua and the Conservancy.
5. Recognise that consultation is an on an ongoing process and requires:
    - explanation of technical data and statutory requirements to the satisfaction of tangata whenua;
    - accepting that consultation requires genuine consideration of the advice so received, with an open mind and the willingness to change and clear reasons why advice was not heeded;
    - focusing on tangible issues and clearly stated objectives and outcomes;
    - early consultation to allow tangata whenua sufficient time to consider the issues and respond in a culturally appropriate manner;
    - involving tangata whenua in procedure and policy setting, consent applications being made by the Department and consideration of

- applications to the Department e.g. concessions;
- undertaking consultation in a forum and format where tangata whenua feel most at ease;
  - recognising that values and preferences on issues may differ from iwi to iwi; and
  - recognising that Conservancy boundaries do not follow iwi boundaries.
6. Ensure that requests from tangata whenua are directed to the most appropriate (statutory) bodies responsible for the subject of that request.
  7. Facilitate consultation with tangata whenua by assistance from the Department and the Conservation Board.

## 4.2 ADVOCACY

### Overview

Advocacy of conservation is a function of the Department (s.6 (b) Conservation Act 1987) (*see Appendix 5.3*). It includes public awareness of the importance and management of natural and historic resources and statutory planning.

### 4.2.1 Advocacy

#### Background

Many important native plants, animals and historic resources including many wāhi tapu occur on private land. Some are vulnerable to disturbance or destruction by activities such as land clearing, draining wetlands for farming, rubbish dumping, or introduction of weeds or animal pests. Many historic resources including wāhi tapu have not been adequately identified. The Department's role is to advocate conservation of historic resources in consultation with the Historic Places Trust. Landscapes are an important resource which are not adequately protected. "Landscape" is a term used to express what is seen and experienced as a whole, in the aggregate. The Bay of Plenty is seen and experienced as a series of unique landscapes, large and small, all of which are interconnected. "Landscapes" are the most tangible, most explicit, expression of the underlying systems and processes. Landscapes are what embrace or alienate, nurture or impoverish human communities. Landscapes are the environment of people.

The Department must work with tangata whenua, local communities, other crown agencies, land owners, and land managers to win their support for conserving natural and historic resources under their guardianship. The protection of these resources will complement the conservation work done by the Department on land it administers as well as building community support for conservation.

## Issues

1. The Bay of Plenty has lost much of its indigenous biodiversity because of:
  - destruction and degradation of indigenous ecosystems e.g. land development and introduced animals and plants; and
  - inappropriate catchment and riparian land and water uses that degrade freshwater, marine, and geothermal ecosystems;

which has resulted in limited representation of some ecosystems e.g. freshwater and coastal forests).

2. Genetic pollution of indigenous populations can occur from planting species that originate outside the area.
3. Public understanding of natural and legislative processes is poor.

### Landscapes, Landforms, Geological Features, and Soils

4. The existing protected land does not adequately conserve representative examples of the original landscapes, landforms, soils and geological features such as the Rotorua Geothermal Field which are often of outstanding historical, scientific, and cultural significance.
5. The existing information on geothermal, geological, and geomorphological sites of significance, vulnerability, and threat (Kenny and Hayward, 1993) is not effectively used .
6. There is limited information about the diversity and significance of landscapes in the region.
7. The public and Departmental staff have limited awareness and understanding of landforms, geological features, soils, and their origins and linkages with biota.
8. Except for geothermal features and some volcanic landforms,..the concept of conservation of representative as well as spectacular landforms, geological features, and soils is not widely recognised (*see 3.6.5-6, 3.7.5, 4.3.1 Landscapes, Landforms, Geological Features and Soils*).
9. There is little information about underwater landforms in the Bay of Plenty.
10. The international significance of the Conservancy's volcanic and geothermal features and landforms is: generally underrated.
11. Public and staff often do not recognise when a geothermal feature, landform or soil is in a degraded, vulnerable or threatened state.
12. Some activities and developments can have a significant impact on the generally not renewable landforms, geological features, and soils, depending on the scale of the feature involved, e.g. forestry planting on Putauaki (Mount Edgecumbe).
13. The Department has no clear objectives about advocating conservation of geological features, landforms, and soils, especially when those features are under exotic vegetation.

## Ecosystems

14. There are few legally protected, representative, marine and estuarine ecosystems.
15. The lack of legal protection of the habitats of indigenous fauna threatens their existence in spite of legal protection for the fauna itself.
16. The existing fragmented pattern of remnant habitats does not provide sufficient viable ecosystems for indigenous freshwater fish, marine mammals and native birds.
17. Impacts and threats to freshwater, geothermal, estuarine and marine ecosystems, and associated Maori values and recreation, include:
  - input of sediments, contaminants, and nutrients from catchment land management;
  - inappropriate riparian management;
  - dumping of wastes, soil, and sewage;
  - excessive collection of fish, shellfish, and other aquatic life;
  - encroachment of residential and industrial development which may result in increased run-off and construction of sea walls and other retaining structures;
  - grazing by domestic stock;
  - oil spills;
  - dams intercepting sediments and preventing migration of fish;
  - sand and mineral mining;
  - reclamation, drainage and dredging;
  - aquaculture;
  - loss of adjoining freshwater wetlands which are essential for buffer protection and healthy functioning of waterways and estuaries;
  - invasion of exotic plants and animals including marine plants and animals brought by ships in ballast water;
  - water diversion and excessive extraction; and
  - energy extraction in the case of geothermal ecosystems.

## **Historic Resources and Wāhi tapu (Sacred Places)**

18. The public and tangata whenua have an unrealistic understanding about the authority the Department has to conserve historic resources on lands it does not administer.
19. The incomplete inventory of historic resources means there is inadequate understanding of these resources.
20. Historic resources are threatened by natural and human processes.
21. The public and land owner knowledge of historic places is lacking due to many sites having no surface features.

22. Tangata whenua may not want locations or information relating to wāhi tapu publicised.
23. Historic places are not renewable and once damaged or destroyed cannot be replaced.
24. The legal protection of historic resources is poorly understood leading to their 'progressive loss and damage.
25. Some organisations that manage historic resources (e.g. local authorities) do not give adequate recognition to historic places and historic resource management or the ICOMOS Charter (*see Appendix 2*).
26. The Historic Places Trust cannot assess all proposed activities that could affect historic places due to lack of resources.
27. Proposals that can adversely affect historic places are not always made known to the Historic Places Trust.

### **Objectives**

1. Recognition by the community of its responsibilities for conservation.
2. Conservation of representative examples of the diversity of the Conservancy's remaining natural resources.
3. The conservation of historic resources and wāhi tapu.

### **Implementation**

#### **Advocacy**

1. Advocate natural resource conservation to tangata whenua, land owners, land managers, district and regional councils, and other agencies, and to use techniques in Appendix 3. The priorities will be in lowland, coastal, wetland, and geothermal ecosystems (*see 3.3 - 3.8, 4.1 Relationship with Tangata Whenuta, 4.2.2 Advocacy and Education for Conservation Management, 4.2.3 Statutory Planning, Appendix 3*).
2. Seek the protection and restoration of indigenous vegetation corridors between remnant indigenous terrestrial ecosystems with areas requiring vegetation corridors; such areas are:
  - Kaimai-Mamaku Conservation Park at Mt Karangahake and SH 29 margins (*see 3.4.3*);
  - Ottawa-Otānewainuku forest tract (*see 3.4.4*); and
  - indigenous remnants on the Kaingaroa Plateau (*see 3.8.4*).
3. Increase the number of legally protected, representative, marine and estuarine ecosystems.
4. Seek appropriate local authority reserve classifications to ensure the protective status reflects the natural and historic resources present (*see 4.2.2 Advocacy and Education for Conservation Management, 4.2.3 Statutory Planning*).

5. Assist and support the Ministry of Agriculture and Fisheries to seek the sustainable management of aquatic life outside of marine reserves.
6. Liaise with the Ministry of Agriculture and Fisheries on accidental catch of seabirds and marine mammals.

### **Survey**

7. Identify significant, not legally protected, representative ecosystems. Emphasis will be on ecological districts with an inadequate network of protected lands.
8. Identify significant, not legally protected, representative landscapes, landforms, geological features, and soils. Geothermal landforms will be priority for conservation (*see 3.6.5-6, 3.7.5*).

### **Statutory Advocacy**

9. Participate in local authority planning and management to seek provisions that will result in:
  - increased legal protection of unprotected representative terrestrial and aquatic ecosystems;
  - conservation of the representative diversity of landscapes, landforms, soils and geological features (*see 4.2.3 Statutory Planning*);
  - remediation, mitigation or avoidance of adverse effects on lands administered by the Department arising from activities on private lands;
  - preservation of the natural character of the coastal environment and the margins of lakes and rivers;
  - recognition of the contribution land owners make to conservation by rates relief or those who forego development opportunities;
  - appropriate management of catchment lands and water uses that are, or could, adversely affect aquatic ecosystems;
  - establishment of planning provisions for the protection of important marine ecosystems (*see 3.5.3*);
  - reduction of the number of barriers to fish passage such as dams and floodgates (*see 3.8.6, 4.3.11 Freshwater Fisheries*);
  - conservation of indigenous ecosystems, particularly those that are threatened or rare. These include ecosystems on islands, estuaries, dune lands, geothermal areas, wetlands, aquatic, lowland, and coastal forest (*see 3.2-3, 3.4.6-7, 3.5, 3.6.2-3, 3.6.6, 3.7.5-6, 3.8.6*); and
  - maintenance and enhancement of public access to waterways and public lands.
10. Advocate strict controls on the potential introduction of marine organisms in ship ballast water.

### **Historic Resources and wāhi tapu (Sacred Places)**

11. Consult with tangata whenua before undertaking any inventories of historic resources and on the management of culturally significant sites.
12. Support the Historic Places Trust in district and regional council planning processes to seek provisions that will result in:
  - the identification of areas or places of historic significance that warrant extra legal protection (*see 3.3.2*)
  - processes that ensure historic resource issues are adequately addressed before works commence;
  - development conforming with ICOMOS Charter (*see Appendix 2*) in areas of historic significance; and
  - developers and land owners being informed of the ICOMOS Charter, Historic Places Act 1993 and that Act's requirements.
13. Work with tangata whenua, the Historic Places Trust, Maori Heritage Council, and the New Zealand Archaeological Association and other interest groups to achieve better conservation of historic resources by for example establishing "silent files" (*see 4.2.2 Advocacy and Education for Conservation Management*).
14. Liaise with the Historic Places Trust and support them, where appropriate, by:
  - encouraging the adoption of ICOMOS principles (*see Appendix 2*) and the production of conservation plans for historic places;
  - encouraging land managers to carry out an inventory of historic resources where their activities could affect the conservation of those resources;
  - encourage research on historic resources;
  - utilising appropriate opportunities, such as conferences, public seminars and the distribution of information to raise awareness of people generally about historic resources; and
  - participating in district council meetings.
15. Support tangata whenua initiatives to conserve wāhi tapu.

### **4.2.2 Advocacy and Education for Conservation Management**

#### **Background**

Nearly all of the work undertaken by the Bay of Plenty Conservancy involves or affects the public to some degree. It is therefore vital that responsibility for advocating conservation to the public is accepted by all staff, and that public awareness perspectives are addressed in planning and implementation of all projects.

The Conservation Act 1987 provides the Department with very comprehensive advocacy functions as follows:

- advocate the conservation of natural and historic resources generally;

- promote the benefits to present and future generations of conservation of natural and historic resources; and
- prepare, distribute, and promote educational and promotional material relating to conservation.

The Department has a National Public Awareness Strategy (Department of Conservation, 1994) which identifies:

- areas that provide key opportunities for the public to be involved in, and committed to, conservation; and
- priorities and actions to be taken. 99

The strategy identifies a number of national goals, the most significant being:

- Biodiversity - New Zealand's responsibility as a signatory to the International Convention on Biological Diversity offers some significant challenges and opportunities. Understanding of the concept is currently limited, both within the Department and the community.
- Visitors - an expected increase in international visitors has major implications for conservation. There will be significant threats to the environment and education will be needed to help minimise these.
- Partnership and co-operation - achievement of conservation results will depend on help from the community, and clear productive relationships with tangata whenua, community groups, volunteers, individuals and public agencies.
- Community involvement - all the conservation work that is required can only be done if people are empowered to develop and carry out their own conservation projects. The Department should not be afraid of letting go if there are others willing and able to help it achieve its conservation results.
- Internal involvement - for public awareness work to be effective it needs to be integrated with conservation work. Public awareness opportunities/threats need to be identified at the project planning stage and provision made for taking advantage of the opportunities to improve conservation awareness and avoiding/minimising the threats.

The strategy pointed out that public awareness is not about telling people what to think and do. It is about developing and improving relationships with individuals and organisations who can help us achieve our conservation goals. The working group identified a number of key relationships. The most significant of these for public awareness are: tangata whenua, local and central government, visitors, volunteers, landowners.

### **Issues**

1. Some expectations and needs of the public, associates, visitors, supporters and potential supporters often conflict with the Department's objectives.

2. The Department cannot undertake its work without public support and a positive public profile.
3. The poor understanding of the concept of biodiversity limits the effectiveness of the Department's and community's responsibilities under the International Convention on Biological Diversity.

### **Objectives**

1. A high proportion of the public enjoying and appreciating New Zealand's natural, historic and cultural resources and understanding the need for their conservation.
2. Productive working relationships with iwi, community groups, volunteers and other public agencies.
3. Individuals, iwi, community groups and other agencies taking their own conservation initiatives.
4. Effective systems and processes for public awareness.

### **Implementation**

1. Public awareness work within the Conservancy will follow the National Public Awareness Strategy
2. A Public Awareness Strategy for the Bay of Plenty Conservancy will be maintained (Bay of Plenty Conservancy, 1992). Issues the strategy will include, but not necessarily be limited to, are:
  - statutory advocacy (Conservation Act 1987, Marine Transport Act 1994, Biosecurity Act 1993, Forests Amendment Act 1993, Local Government Act 1974, Resource Management Act);
  - domestic animals on Departmental lands, including stock trespass;
  - freshwater fisheries regulations;
  - compliance and Law Enforcement e.g. signs;
  - cultural take;
  - marine protected areas (including the promotion and compliance of no fishing zones and the significance of such areas);
  - rehabilitation and restoration;
  - plant and animal pests (including impacts and prevention);
  - threatened plants and animals;
  - visitor awareness of their impacts (e.g. islands, wetlands, geothermal, estuaries) and the Environmental and Water Care Codes;
  - visitor information that is up to date and accessible;
  - safety in forests, lakes and sea;
  - underwater interpretation trail;
  - fire danger publicity;

- general information on sites for recreation (including signs in different languages);
  - rubbish and spoil dumping;
  - preparation of information on important concessions and access agreements;
  - community support e.g. Dune Care programmes;
  - historic resources; and
  - Conservation Board.
3. Interpretation of the Public Awareness Strategy for the Bay of Plenty Conservancy will be assisted by interpretation plans for each management area. Priority areas include geothermal sites (*see 3.4.6*), Whirinaki Conservation Park (*see 3.8.3*), and historic places in the Kaimai Range (*see 3.4.3*).
4. The Conservancy will;
- work with its associates, supporters and visitors;
  - keep the public informed about projects which may have an impact on them and projects in which they may have an interest
  - train staff in public awareness skills;
  - run visitor and volunteer programmes to teach people directly about conservation;
  - produce and distribute publications; and
  - provide an informed and professional service for visitors through area offices, field centres and visitor centres.

### **4.2.3 Statutory Planning**

#### **Background**

There are six Acts that enable the Department to promote the conservation of landscapes, ecosystems, habitats, ecological processes, historic sites, and native species on lands and in waters which are not managed by the Department (*see Appendix 5*).

The Conservation Act 1987 (and First Schedule enactments) enables the Department to

“advocate the conservation of natural and historic resources generally” s 6(b), and

“promote the benefits to present and future generations of the conservation of natural and historic resources generally, and the natural and historic resources of New Zealand in particular” s 6(c).

The Department’s role in protecting freshwater fisheries is

“To preserve so far as is practicable all indigenous freshwater fisheries, and protect recreational freshwater fisheries and freshwater fish habitats” s.6(ab).

Most impacts on freshwater fisheries originate from land-based activities. The Bay of Plenty Conservation Board is established under the Conservation Act 1987 and its role is outlined in section 6.2.4.

Fish and Game Councils were established under the Conservation Law Reform Act 1990 and replaced the former Acclimatisation Societies in the management of the sports fish and game resource for the benefit of recreational Minters and anglers. Sports fish include brown, rainbow and brook trout. Gamebird species include introduced species such as mallard duck, black swan, pheasant and quail and some native species such as NZ shoveler and grey duck.

The Bay of Plenty Conservancy is mostly situated in the Eastern Fish and Game Council's region with part in Auckland/Waikato Fish and Game Council's region.

The Department liaises closely with Fish and Game Councils through regular attendance at council meetings and through supporting council initiatives which are consistent with the Department's own conservation objectives.

Fish and Game Councils are required to establish management objectives in "Sports Fish and Game Management Plans". The Conservation Act 1987 states that nothing in any sports fish and game management plan should conflict with a CMS.

#### **Resource Management Act 1991**

The Crown is partially bound by the Resource Management Act 1991. The Department is fully bound by policies developed by regional councils and partially bound by district council policies. There are 3 regional councils and 12 district councils within the Conservancy.

The Department has delegations from the Minister of Conservation to participate in planning processes to promote the conservation of natural and historic resources under the Resource Management Act 1991 e.g. prepare submissions on policy statements, plan preparation and resource consent matters.

#### **Local Government Act 1974**

This Act defines the administration of the powers and functions of local government. The Department has opportunities to make submissions on draft annual plans under which local authorities implement objectives under other legislation e.g. Resource Management Act 1991.

#### **Marine Transport Act 1994**

The Marine Transport Act 1994, administered by the Ministry of Transport, makes provision for preventing and dealing with pollution of the sea. Regional councils have oil spill responsibilities within harbour limits. The Department is involved with responding to oil spills and the dumping of material at sea.

The statutory responsibility for all oil spill response is with the Ministry of Transport and regional councils. The Maritime Safety Authority is responsible for preparing a New Zealand Marine Oil Spill Response

Strategy and National Marine Oil Spill Contingency Plan. The Department is represented on the Oil Pollution Advisory Committee and has been involved in preparing the National Oil Spill Contingency Plan.

Under the New Zealand Marine Oil Spill Strategy, the Department has accepted an advisory role in identifying priority areas for conservation in regional oil spill response strategies, and an operational role in wildlife rescue and rehabilitation. A five year strategy for dealing with oiled wildlife has been drafted by the Department.

Regional councils must:

- prepare regional oil spill contingency plans;
- implement statutory oil spill requirements;
- plan operations and maintenance of equipment; and
- develop, control and monitor a management structure for oil spill prevention, containment and cleanup.

Before any material can be dumped at sea (e.g. dredgings), a dumping permit must be obtained. The Department is consulted by the Ministry of Transport when dumping applications are assessed.

### **Forests Amendment Act 1993**

This Act is administered by the Ministry of Forestry. The Department is consulted over every personal use application, draft sustainable forest management plans and permits.

### **Biosecurity Act 1993**

This Act is administered by the Ministry of Agriculture and locally by regional councils. The Minister of Conservation is able to propose national pest management strategies, and the Department can request regional councils to prepare regional pest management strategies. The Minister can also undertake small scale management of unwanted organisms. The transitional provisions bind the Department until 1996, after which pest management strategies will set any “obligations” (or earlier if a noxious plant is covered by an approved pest management strategy).

### **Issues**

1. Responsibilities for managing the environment are spread across a number of statutes and organisations leading to:
  - differing objectives, priorities and time tables for management;
  - confusion about responsibilities; and
  - impacts on the Department’s ability to carry out its own responsibilities.

<b>Objective</b>
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Appropriate participation in all statutory processes.
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## **Implementation**

1. Advocate through relevant legislation clearly identified objectives for
2. conservation of natural and historic resources and practicable implementation of the objectives.
3. Advocate priorities and timetables for management of natural and historic resources that are compatible with the Department's responsibilities.

## **4.3 NATURAL RESOURCES**

### **Overview**

The Department administers 171,111 ha of land to conserve native plants, animals, rocks, landforms and other natural features, and thereby, the biodiversity.

The Department's role includes fostering of recreation, allowing tourism, and the promotion of public use and enjoyment of those natural resources.

### **4.3.1 Landscapes, Landforms, Geological Features and Soils**

#### **Background**

The Bay of Plenty has diverse landscapes, landforms, geological features and soils derived from volcanic activity. Most protected lands have been set apart for scenery or biological conservation. This has resulted in a number of areas not being protected for their landform, geological features or soil significance.

Kenny and Hayward (1993) state the objective of "earth science conservation" should ensure representativeness of landscapes, landforms, geological features, soils and the active processes to assist in understanding the development of landforms and evolution of biota. The biggest hindrance has been a lack of information on sites that are significant or representative.

The Bay of Plenty Geopreservation Inventory (Kenny and Hayward 1993) lists 182 sites of importance, 35 being of international importance, the highest number of any regional inventory. A further 66 sites were assessed as nationally important.

An inventory of representative soils is in Arand et al. (1993). Issues

1. Departmental staff have limited awareness, information and understanding about the diversity and significance of landscapes, landforms, geological features, soils, and their origins.
2. Because of the establishment processes of setting apart protected land there is inadequate representation of landforms, geological features, and soils.
3. Staff often do not recognise when a geothermal feature, landform or soil is in a degraded, vulnerable or threatened state.

### **Objectives**

Management of lands in ways that conserve representative examples of geothermal features, landforms and landscapes, and soils.

Timely acquisition of lands that include representative examples of geological features, landforms, and soils.

### **Implementation**

1. Upgrade the inventory of representative landscapes, landforms, geological features, and soils based on the Geopreservation Inventory
2. (Kenny and Hayward, 1993) (*see 4. 7./ Information Management, 4.7.2 Survey and Monitoring*).
3. Oppose and avoid activities and structures that significantly damage landscapes, landforms, geological features, and soils (*see 4.6.1 Mining and Quarrying, 4.6.2 Utilities and Related Structures*).
4. Raise the understanding and awareness of Departmental staff about the significance of landscapes, landforms, geological features, and soils, through education programmes (*see 4.2.2 Advocacy and Education for Conservation Management*).
5. Foster appropriate research on landscapes, landforms, geological features, and soils.

#### **4.3.2 Ecosystems**

Many ecosystems are degraded, or invaded, or both, by exotic species and active management programmes are now required to conserve vulnerable ecosystems and species. The Department administers and manages a wide range of ecosystems.

#### **Issues**

1. The use of inconsistent assessment systems has led to data sets with varying amounts of precision.
2. Survey and monitoring of ecosystems has not been kept up to date (*see 4.7.2 Survey and Monitoring*).
3. The fragmented nature of some ecosystems means that the viability of natural resources is often doubtful (*see 3.3, 3.4.6, 3.5*).
4. Many mainland terrestrial ecosystems are threatened by introduced animals and plants (*see 4.3.7 Animal Pests, 4.3.8 Domestic Animals*).
5. The Department has unclear objectives about island management, e.g. advisability of restoration work or introduction of indigenous species (*see 3.2, Appendix 2*).
6. The disturbance of tops of high hills for structures results in disturbance of significant vegetation (*see 2.1.7.8, 3.4.3, 3.6.5, 4.6.2 Utilities and Related Structures*).
7. Culturally significant and biologically representative ecosystems may not be managed in appropriate ways, e.g. because of lack of awareness

(see 4.2.2 *Advocacy and Education for Conservation Management*).

8. The current legislation is inadequate for effective conservation of ecosystems.

### **Objective**

The effective conservation of both culturally significant and biologically representative ecosystems.

### **Implementation**

1. Establish and maintain a register of ecosystems which includes attributes, vulnerabilities, threats and management requirements (see 4.7.2 *Survey and Monitoring*).
2. Review the existing network of transects and plots and assess their adequacy.
3. Systematically analyse information on ecosystems to assess them for their representativeness and cultural significance.
4. Protect and manage representative and culturally significant ecosystems to maintain their viability (see 4.3.4 *Threatened Species*, 4.3.5 *Fire*, 4.3.6 *Plant Pests*, 4.3.7 *Animal Pests*, 4.3.8 *Domestic Animals*, 4.3.9 *Ecosystem Rehabilitation and Restoration*, 4.3.10 *Established Marine Protected Areas*, 4.3.11 *Freshwater Fisheries*, 5.1.1 *Compliance and Law Enforcement*, 5.1.2 *Protected Areas Classification*).
5. Reclassify lands administered by the Department and other protected lands to best recognise their natural resources (see 5.1.2 *Protected Areas Classification*).
6. Require rehabilitation as an integral part of extractive activities, e.g. mining, or exotic timber harvest (see 4.6.1 *Mining and Quarry*, 4.6.2 *Utilities and Related Structures*, 4.6.3 *Collection and Taking of Natural Materials*, 4.6.4 *Exotic Forest Management*).
7. Consider restricting access to sensitive ecosystems, e.g. wildlife breeding areas and geothermal site (see 3.2, 3.5.3, 4.3.4 *Threatened Species*).
8. In the absence of a national strategy, manage islands according to five categories: minimum impact, refuge, restoration, open sanctuary and multiple use (Atkinson, 1990).
9. Rehabilitate selected islands such as Moutohora (Whale) to provide a range of coastal terrestrial ecosystems (see 3.2, 4.3.9 *Ecosystem Rehabilitation and Restoration*).
10. Consider transferring indigenous plant and animal species as part of a terrestrial ecosystem rehabilitation programme in accordance with national species transfer protocols (Department of Conservation, 1990).
11. Improve staff awareness of :
  - culturally significant ecosystems; and
  - importance of healthy, functioning ecosystems.

12. Continue advocacy and support for legislative changes to enable the effective conservation of ecosystems.

### 4.3.3 Marine Mammals

#### Background

The Department has responsibility under the Marine Mammals Protection Act 1978 for the protection of marine mammals and collection and distribution of bones and teeth. Marine mammals have a high profile and attract a lot of public attention. The species most frequently seen are minke, killer whales (*Orca*), and pilot whales, as well as common and bottlenose dolphins. Fur seal visits to the Bay of Plenty are increasing, especially during Spring.

Marine mammal stranding occur on Bay of Plenty shoreline from time to time. The Conservancy responds to 2-3 whale strandings throughout the year which are usually single animals (especially pygmy sperm or beaked whales). The Department is equipped with pontoons and other rescue equipment which can be mobilised in the event of a stranding.

There are approximately 40 reports from the public each year about seals, generally seals which have come ashore. In most cases the Department's role is to see that they are not disturbed and that curious members of the public do not put themselves at risk. In other cases the seals are dead or dying or have come ashore in unusual or inappropriate locations.

There is a by-catch of marine mammals in the Bay of Plenty and all persons who accidentally catch or kill marine mammals have to report these to the Department of Conservation.

Public education has an important role to play in the Department's approach to marine mammal protection. If a successful rescue attempt is to be made it is essential the Department is notified of a whale stranding as soon as possible. In the case of seals, public education is the most effective method to prevent unnecessary disturbance of the animals.

Four permits have been issued under the Marine Mammals Protection Regulations 1992. Three of these permits have been for swimming with wild dolphins (two operations based in Whakatane and one in Tauranga) and one for viewing wild dolphins (based in Whakatane).

#### Issues

1. Lack of legal protection of marine mammal habitats threatens their existence despite the legal protection of the mammals themselves.
2. The insufficient public awareness of threats to marine mammals means that their management requirements are not understood.
3. The emotional attachments to some whale species produces considerable concern about a whale stranding especially when whales need to be euthanased.
4. Marine mammals that do not engender the same emotional attachment as some whales may not be recognised for their intrinsic worth e.g. killer whales (*Orca*).
5. The demand for viewing marine mammals can have an adverse impact on their behaviour.

6. The Department must respond rapidly to a whale stranding. This requires adequate training and coordination of staff.

<b>Objective</b>
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Protection of all marine mammals and their habitats.
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### **Implementation**

1. Actively gather information and document sightings of marine mammals observed along the coast in accordance with the Marine Mammals Protection Act 1978.
2. Maintain the Conservancy Marine Mammal Stranding Contingency Plan so that the Department and community can respond rapidly and effectively to a marine mammal stranding.
3. Train staff and volunteer groups to enhance their response capability.
4. Use dead marine mammals for scientific purposes in accordance with national policy. Priority will be given to taking detailed measurements and tissue samples. Skeletal material and teeth may be taken, for use by museums or cultural purposes (*see 2.2, 4.6.3 Collection and Taking of Cultural Materials, 4.7.3 Research*).
5. Advocate conservation of marine mammal habitats by participating in the preparation of regional policies and identifying areas of significant natural and historic resources (*see 4.2.3 Statutory Planning*).
6. Investigate the establishment of marine mammal sanctuaries under s.22 of the Marine Mammals Protection Act 1978.
7. Ensure disposal of dead marine mammals in accordance with the Marine Mammals Protection Act 1978.
8. Euthanase animals beyond recovery in accordance with the Department's Animal Ethics Committee guidelines.
9. Undertake education programmes about marine mammals, their habitats and the importance of early notification of a marine mammal stranding (*see 4.2.2 Advocacy and Education for Conservation Management*).
10. Permit marine mammal watching in accordance with the Marine Mammal Act 1978, Marine Mammal Protection Regulations 1992 and the draft Marine Mammal Management Strategy for the Regulation of Commercial Marine Mammal Watch Operations within the Bay of Plenty. The Department will monitor the operation and ensure compliance with the provisions of the regulations.
11. Maintain a response time of 6 hours from call out to a marine mammal stranding.

#### 4.3.4 Threatened Species

##### Background

Bay of Plenty Conservancy has a wide variety of ecosystems and habitats. Many are unique and some of international importance. The variety includes some endemic plants and special associations reflecting the local conditions e.g. hydrothermally altered soils and high ground temperatures at geothermal sites.

Many indigenous plants have become threatened or even extinct as a result of human activities such as vegetation clearance, wetland drainage, introduction of browsing animals, competing exotic plants, and wild fires.

Identification and surveys of threatened plant species are the vital first steps in ensuring species survival. Monitoring and development of active management programmes where required can then follow.

Bay of Plenty Conservancy is home to a number of New Zealand's special, or threatened animal species. Birds such as the kokako live in lush podocarp hardwood forest of the Mamaku Plateau and Rotoehu Forest, and are subject to a special recovery programme.

Less well known but no less important are threatened invertebrates, e.g. the Te Aroha Stag Beetle, found on one or two areas of the Kaimai Range, and the internationally known threatened reptile, tuatara, found on isolated offshore islands.

The Department's primary aim for threatened species is to sustain the viability of populations in the wild. This can be achieved by the use of complementary methods and techniques. For example, habitat protection is a high priority for the Department. This includes controlling and removing plant and animal pests to prevent a population decline of the threatened species. The conservation of habitats can then be complemented by reintroducing threatened species.

##### Issues

1. Management of most threatened species cannot be undertaken because of lack of ecological information (*see Table 4.1, 4.7.1 Information Management and 4.7.2 Survey and Monitoring*).
2. Simply protecting the habitats of some species (e.g. kokako and kereru) in representative ecosystems may not be adequate for their survival because they:
  - have already fallen below a minimum viable population size;
  - require large areas of habitat;
  - are migratory; or
  - are being affected by excessive taking.
  - The survival of some species such as *Dactylanthus*, bats, kokako and native fish is threatened by :
    - predation from, and competition with, introduced animals (see 4.3.7 Animal Pests); and

- loss, fragmentation, and damage to their ecosystems and habitats.

Tangata whenua have a strong interest in the future management of some protected species, in particular titi (sooty shearwater), flesh-footed shearwaters, kereru and kauka (godwit).

**Objective**

The conservation of threatened species and their habitats.

**Implementation****Survey and Monitoring**

1. Survey and monitor the distribution, numbers, and health of threatened species identified in Table 4.1 and Beadel (1992a). Tangata whenua may be involved in survey and monitoring programmes.

Table 4.1 PRIORITY RANKINGS FOR CONSERVATION OF THREATENED PLANTS AND ANIMALS IN THE BAY OF PLENTY CONSERVANCY (see Molloy and Davis, 1994 for details of the rankings).

Taxonomic Group	Rank	Taxonomic Name	Common Name	MA <sup>1</sup>	
Plants	A	<i>Archidium elatum</i>		5	
		<i>Dactylanthus taylorii</i>	woodrose <sup>4</sup>	5,6	
		<i>Pterostylis micromega</i> <sup>2</sup>		2	
	B	<i>Frullania suiblana</i>		5	
		<i>Lepidium oleraceum</i>	Cook's scurvy grass <sup>4</sup>	1	
		<i>Myriophyllum robustum</i> <sup>2</sup>	water-milfoil	1	
		<i>Peraxilla colensoi</i>	scarlet mistletoe	3	
		<i>Peraxilla tetrapetala</i>	red mistletoe	3	
		<i>Pittosporum lumen</i>		7	
		<i>Prasopbyllum "aff." patens</i> <sup>2</sup>		5	
		<i>Rorippa divaricata</i>		1,3,5	
		<i>Schistochila pellucida</i>		7	
		<i>Tupeia antarctica</i>		2,3,4	
		<i>Urtica linearifolia</i>	Tupeia, pirita	6	
		C	<i>Euphorbia glauca</i>	shore spurge	1
			<i>Pimelia tomentosa "sub. sp"</i>		1-5
			<i>Stycos australis</i>	mawhai	1
			<i>Thelypteris confluens</i>	swamp fern	2,4-6
		I	<i>Hampeella pallens</i>		1
Q	<i>Calaena minor</i>	duck orchid	5		
	<i>Chiloglottis validus</i>	bird orchid	7		
	<i>Cyclosorus interruptus</i>		2,4-6		
	<i>Juncus boloschoenus</i>		4-6		
	<i>Kortbalsella salicornioides</i>	dwarf mistletoe	5		
	<i>Marattia salicina</i>	king fern	1-3		
	<i>Pterostylis tasmanica</i>		5		
Birds	A	<i>Apyterx "North Island"</i>	North Island brown kiwi <sup>3</sup>	2-7	
		<i>Himantopus novaeseelandiae</i>	kiwi <sup>3</sup>	2	
			black stilt <sup>3</sup>		
	B	<i>Anarhynchus frontalis</i>	wrybill	2,4	
		<i>Callaeas cinerea wilsoni</i>	North Island kokako <sup>3</sup>	3,5,6	
		<i>Charadrius obscurus</i>	NZ dotterel <sup>3</sup>	1-4	
		<i>Falco novaeseelandiae</i>	NZ falcon	1-7	
		<i>Gallirallus australis greyi</i>	North Island weka <sup>4</sup>	5	
		<i>Hemiphaga novaeseelandiae novaeseelandiae</i>	NZ pigeon	1-7	
		<i>Hymenolaimus malacorhynchos</i>	blue duck <sup>3</sup>	3-7	
		<i>Nestor meridionalis septentrionalis</i>	North Island kākā stitchbird (hihi)*	1-7	
		<i>Notiomystis cincta</i>		5	
		<i>Sterna albostrata</i>	black-fronted tern	1-4	

Table 4.1 (cont.)

Birds (cont.)	C	<i>Chiaradrius bicinctus bicinctus</i> <i>Cyanoramphus auriceps</i> <i>Haematopus unicolor</i> <i>Ptilisternus carunculatus rufusater</i> <i>Podicepsbalus rufopectus</i>	banded dotterel yellow-crowned parakeet variable oystercatcher North Island saddleback <sup>3</sup>  NZ dabchick	1-5
	O	<i>Botaurus poiclotilus</i> <i>Egretta alba modesta</i> <i>Egretta sacra sacra</i> <i>Platalea regia</i> <i>Sterna caspia</i>	Australasian bittern white heron reef heron royal spoonbill Caspian tern	
Mammals	A	<i>Mystacina tuberculata rhyacobia</i>	volcanic plateau short-tailed bat <sup>4</sup>	
	B	<i>Chalinolobus tuberculata</i>	long-tailed bat <sup>4</sup>	
Invertebrates	A	<i>Dorcus auriculatus</i>	Te Aroha stag beetle	3
	I	<i>Mecodema aptrox</i> <i>Mecodema pluto</i> <i>Nesoptychias simpliceptis</i> <i>Paracorophium lucasi</i>		2-3 3 3 5
Frogs	B	<i>Leiopelma hochstetteri</i>	Hochstetter's frog <sup>1</sup>	2,3
Fish	A	<i>Galaxias postvectis</i>	short-jawed kokopu	2,4
	B	<i>Galaxias argentus</i>	giant kokopu	2-4
	C	<i>Galaxias brevipinnis</i> <i>Galaxias fasciatus</i>	koaro banded kokopu	2,5 2-5,7
Reptiles	A	<i>Leiopisma striatum</i>	striped skink	6
	B	<i>Sphenodon punctatus punctatus</i>	northern tuatara <sup>3</sup>	1

<sup>1</sup> Management Areas: 1 Islands, 2 Tauranga, 3 Otago, 4 Te Aroha, 5 Whakatane, 6 Rotorua, 7 Atiamuri-Tokoroa, 8 Eastern Volcanic.

<sup>2</sup> Plant species identified in Beadel, (1992a).

<sup>3</sup> Recovery plan approved for this species.

<sup>4</sup> Draft recovery plan prepared for this species.

\* Transferred onto Mokoia Island on 6/9/1994.

^ Species which are threatened in New Zealand but secure in other parts of their range outside New Zealand.

### Management

2. Active management in consultation with tangata whenua and other groups will be determined by the following:

- priority plant and animal species in the Conservancy (identified in Table 4.1 and Beadel, 1992a);
- relative vulnerability of species, ecosystems and habitats e.g. dune lands and coastal pohutukawa forest;
- threats to species, ecosystems and habitats from predators, herbivores and loss of ecosystems and habitats (*see Appendix 1.1 Table 1.1.3 and Table 1.1.4*);
- where the loss of a particular species, could mean the loss of the entire or a substantial part of that species;

- availability of appropriate effective conservation management techniques; and
  - existing species recovery plans.
3. Where possible, threatened species will be protected in their natural ecosystems.
  4. Management will use a variety of techniques, e.g. ecosystem protection and manipulation, animal and plant pest control, species transfers, and captive breeding (*see Table 4.1*).
  5. Any proposed species transfer will be in accordance the with s.26zm of the Conservation Act 1987 of Department's species transfer protocols and relevant policies (Department of Conservation, 1990).
  6. Specimen removal will not be authorised where it may adversely affect the population of that species (*see 4.6.3 Collection and taking of Natural Materials*).
  7. Single species management on islands may be undertaken where the factors above (Implementation 2) apply and, are compatible with the islands status and management.
  8. Captive breeding and intensive population manipulation of threatened species will only be undertaken after approval of the Department's Animal Ethics Committee.
  9. The Conservancy will continue to implement species recovery plan programmes (*see Table 4.1*).
  10. Injured indigenous animals may be assigned to authorised volunteers, other individuals and organisations to care for in accordance with criteria in 4.6.3 Collection and Taking of Natural Materials Implementation 7.
  11. Where necessary, animals will be euthanased in accordance with the Department's animal ethics procedures.
  12. Protect and manage, in conjunction with tangata whenua, threatened species of cultural importance (*see 4.1 Relationship with Tangata Whenua*).

#### **4.3.5 Fire**

##### **Background**

Under s.11 of the Forest and Rural Fires Act 1977 the Minister of Conservation (delegated to the Department) is a Rural Fire Authority for all lands administered by the Department and all unalienated Crown lands. This authority extends over a 1 km fire safety margin around all of these lands except marginal strips (*see Conservancy Map inside the back cover, and Volume II*).

As a Rural Fire Authority the Department is responsible for the prevention, detection, control, restriction, and suppression of fires. It is also required to prepare an annual fire plan which sets out procedures for reporting fires, people to contact, resources available, and fire fighting

organisational requirements. The fire plan also identifies three zones in the Conservancy: coastal, inland, and hinterland (highest risk to lowest) (Bay of Plenty Conservancy 1993).

As a rural fire authority within the Bay of Plenty the Department participates with all other Bay of Plenty rural fire authorities and organisations to provide mutual assistance should that be needed when a wild fire occurs.

### **Issues**

1. Natural and historic resources can be threatened, damaged or destroyed by fire, especially at road ends, and coastal and lake margins.
2. Burn-offs and open fires pose significant risks to indigenous ecosystems.
3. The Department has inadequate resources and trained staff to fight a major wildfire.
4. The Department must respond immediately to any fire. This requires co-ordination and adequate training of staff.
5. The 1 km fire safety margin around all lands administered by the Department and all unalienated Crown land, apart from marginal strips, puts considerable pressure on Conservancy staff and is a cost to the Department and public.

### **Objectives**

- 1 Prevention of fire damage to natural and historic resources.
- 2 Prevention of human injury by wildfires.

### **Implementation**

1. Give highest priority to the safety of human life and second priority to the control of wild fires.
2. Maintain fire equipment in accordance with the Rural Fire Management Code of Practice (National Rural Fire Authority).
3. Maintain fire depots and equipment at all area offices and field centres.
4. Train staff in fire fighting techniques (at least three times a year) and where possible with adjoining rural fire authorities.
5. Liaise and co-operate with other fire authorities and rural fire fighting organisations and be a member of the Bay of Plenty Rural Fire Co-ordinating Committee.
6. Review the requirement of the 1km fire safety margin.

## **4.3.6 Plant Pests**

### **Background**

A plant pest or weed is a plant or population of plants that cause problems at a particular place. The problems are usually caused by

populations of plants, e.g. various conifers are a valuable resource on the Kaingaroa Plains, but a problem on top of Mount Tarawera. There are, however, some species which, because of their reproductive, or growth strategies, or both, are likely to be a more general problem.

Many introduced plants have established successfully in the wild with a number causing significant damage to indigenous ecosystems. A survey of plant pests in the Conservancy, excluding the Rotorua Lakes (Beadel, 1990a) found 8 species which posed an existing or potential threat to resources administered by the Department. Fifteen of the 83 species present a serious threat at 21 sites with significant natural resources. These include: old man's beard, conifers, pampas and wandering willie.

The marine and freshwater lands administered by the Department have an additional range of introduced plant pests. Many lake ecosystems have been invaded by exotic monocultures of oxygen weed and water net (*Hydrodictyon reticulatum*), an introduced alga which is not managed by the Department (Froude and Richmond, 1990). Various willow species can pose a threat to wetland margins of streams, rivers and lakes.

The Department has three roles with respect to plant pests. The first is to manage plants that are damaging or could damage significant natural and historic resources on lands administered by the Department. This is the major role discussed in this chapter. The second role is for the Department to discharge obligations as specified in national and regional weed pest management strategies under the Biosecurity Act 1993. Under transitional provisions in the Biosecurity Act 1993, the Department is required to continue its control of or eradication of category '13' noxious plants (under the Noxious Plants Act 1978) until 30 June 1996, or until a national or regional weed pest management strategy is in place. The third role is to manage plant pests that are adversely affecting recreation use of sites and facilities on land the Department administers.

Broad criteria for priority setting for plant pest management are contained in Beadel (1990a) and include;

- areas with significant natural resources;
- protecting ecosystems that currently contain no plant pests;
- early infestations of plant pests that pose a significant threat, e.g. old man's beard; and
- plant pest infestations which have the potential to significantly threaten features with natural resources.

### **Issues**

1. Plant pests pose a significant threat to natural and historic resources.
2. Introduction of new plant species into New Zealand may add to the number and extent of plant pests.
3. Management of initial infestation of plant pests and research on them is often inadequate because the plant is not recognised as a threat early enough or new infestations are not detected until they have become widespread.

4. The impacts of plant pests on indigenous ecosystems is not always appreciated by the community (*see 4.2.2 Advocacy and Education for Conservation Management, Issue 2*).
5. Damaged or remnant ecosystems are generally the most vulnerable to weed invasion, e.g. small forest remnants are more vulnerable than extensive, intact forest tracts (*see Table 4.2 Priority Areas for Plant Pest Control*).
6. Departmental objectives for plant pest control may not match regional council and landowner objectives under the Biosecurity Act 1993.
7. Departmental staff are not always able to recognise new species of plant pests.
8. Plant pests can adversely affect public use and enjoyment of some recreational sites and facilities, e.g. oxygen weed growth boat ramps.
9. Plants that have recognised pest potential are sold as garden plants.
10. Some plant pest control methods such as poisons are not acceptable to the public.

#### **Objectives**

1. Identification of natural and historic resources at risk from plant pests.
2. Eradication or containment of plant pest populations affecting natural and historic resources.

#### **Implementation**

1. Implement plant pest control for natural resources in accordance with Table 4.2.
2. Identify priority historic resources requiring plant pest control using Grouden (1992) and Beadel (1990a).
3. Use the following criteria for determining the level and type of control around recreational facilities or sites:
  - level of demand;
  - the degree of adverse effects on the use and enjoyment of the facility or site;
  - the ability of effective or economic control; and
  - any statutory requirements.
4. Begin plant pest control programmes only when resources and techniques are available to complete them.
5. Plant pest management will use a variety of techniques which take account of environmental safety standards, impacts on indigenous species, cultural and community concerns (*see 4.7.3 Research*). Techniques may include ecosystem management such as:
  - removing stock to allow a salt marsh to regenerate;

- raising water levels in a wetland; or
  - laying artificial matting around boat ramps to exclude oxygen weed.
6. Take an active role in the development of regional pest management strategies under the Biosecurity Act 1993.
  7. Prepare and review as required, plant pest management plans to help control of plant pests on lands administered by the Department and to assist the Department's obligations under any regional pest management strategy.
  8. Control freshwater aquatic macrophytes as required.
  9. Liaise with relevant organisations, land owners and regional councils to develop effective and cost efficient plant pest management programmes (see 4.2.2 *Advocacy and Education for Conservation Management*, 4.2.3 *Statutory Planning*).

Table 4.2 PRIORITY AREAS FOR PLANT PEST CONTROL (Beadel, 1990a).

Management Area	Site	Plant Pests
Islands	Plate Island Wildlife Sanctuary (Motunau Island) V14018	Inkweed
	Mayor Island Wildlife Refuge U13020	Radiata pine
Tauranga	Tauranga Harbour Matakana Island Wildlife Refuge U 13006	Spartina Marram, willows, floating sweetgrass, and royal fern
Otanewainuku-Te Aroha	Orokawa Bay Scenic Reserve T13045	Maritime pine and radiata pine
	Kaimai-Mamaku Conservation Park T13037	Wandering willie
	Killarney Lakes Covenant T14023	Spanish heath and willow
Whakatane	Motuotu Island Nature Reserve W15061	Pampas
	Ohiwa Harbour	Spartina
	Ohiwa Harbour Wildlife Refuge W15076	Pampas
	Ohope Scenic Reserve W15035	Wandering willie
	Oscar Reeve Scenic Reserve W15070	Old man's beard
	Port Ohope Recreation Reserve W15052	Pampas
White Pine Bush Scenic Reserve W15033	Wandering willie	
Rotorua	Rainbow Mountain Scenic Reserve U16087	Japanese honeysuckle, ivy, radiata pine
	Lake Tarawera Scenic Reserve U 16083	Pines ( <i>P. radiata</i> , <i>P. contorta</i> , <i>P. nigra</i> ) and old man's beard
	Te Kopia Scenic Reserve U17005	Radiata and maritime pine, Spanish heath
	Waione Scenic Reserve <sup>1</sup>	Willows
Lake Okareka Scenic Reserve U16071	Old man's beard	
Eastern Volcanic	Whirinaki Conservation Park V 18007	Lodgepole pine, gorse, heather, and hawkweed on the frost flats and Old man's beard

<sup>1</sup> This land is administered by the Lake Okataina Reserve Board. The Department undertakes work on this land in consultation with the Reserve Board as part of integrated work in the Rotorua Lakes catchments.

#### 4.3.7 Animal Pests

##### Background

The Department administers the Wild Animal Control Act 1977 which governs the management of animals deemed to be “wild animals” (e.g. deer, feral goats, possums, and wallabies) and regulates the commercial hunting, removal and movement of these animals. There are other animal pests not included under the Wild Animal Control Act 1977, but which have a major impact on natural and historic resources, e.g. ferrets, weasels, stoats, rats, cats, mice, hedgehogs, rabbits and wasps.

The Department has to discharge obligations as specified in national and regional animal pest management strategies under the Biosecurity Act 1993. Other agencies, private land owners and hunters also carry out animal pest control work, e.g. regional councils, and the Department liaises and shares information with them.

Some animal pests are jointly controlled by the Department and other land managers. These include the Tasman Accord area on the Mamaku Plateau, Maketu Spit (Recreation Reserve vested in the Western Bay of Plenty District Council), and Sulphur Point at Tauranga (Port of Tauranga Ltd.) (see Table 4.3.2). Recreational hunters control deer and pig, and there is some commercial hunting.

Animal pests present in the Bay of Plenty Conservancy include red deer (throughout), sika, fallow and sambar deer (local), goats (throughout), wallabies (local) and possums (throughout). The Bay of Plenty contains the North Island’s largest population of dama wallabies. There is a lack of sound information as to whether this population is spreading, and what are the natural movement patterns. Possums and goats are particularly damaging. There are potential pests (e.g. koi carp and catfish) in freshwater ecosystems.

The following operations are currently undertaken;

- possum control in various locations;
- goat control in areas such as the Whirinaki and Kaimai-Mamaku Conservation Parks;
- fencing to protect lands from feral and domestic stock;
- wallaby control in part of their range;
- rats, mice, ferret, stoat, weasel, hedgehog, cat, and dog control at some sites where there are breeding populations of kokako, New Zealand dotterel, and variable oyster catcher;
- eradication of various species either sought or maintained on, some offshore islands, e.g. Moutohora (Whale) Island (see Table 4.3.2); and
- wasp control in high public-use areas including Rotorua Lakes and coastal reserves where they are adversely affecting recreation activities and, possibly for natural resource conservation.

National possum (Department of Conservation, 1994a), goat deer, pig and wasp control plans are either published or in preparation, as is a draft strategy for management of kiore on New Zealand islands (Department of Conservation, 1994b). The management strategy for kiore attempts to

balance the need to eradicate kiore from islands with important natural resources, with the need to ensure kiore remain as a cultural and scientific resource in New Zealand. Any introduction of biological pest control agents will require an environment impact assessment.

### **Issues**

#### **Planning**

1. Animal pests pose significant threats to natural and historic resources.
2. Change in public perception of the use of animal products has decreased demand, resulting in commercial hunting being uneconomic, e.g. hunting possums for fur clothing.
3. Economic incentives for animal pest control are inefficient, because if the rewards are high enough to be “economic”, the pests tend to be farmed.
4. Departmental objectives for animal pest control may not match regional council or other community objectives.
5. Islands are vulnerable to reinvasion of animal pests and threaten natural and historic resources.
6. Wasps compete with indigenous animals for high energy foods, predate indigenous animals and plants and are a nuisance to visitors, e.g. on Rotorua Lakes, and Moutohora (Whale) Island.
7. Some indigenous and introduced bird species may cause localised pest problems, e.g. pukeko and black swan may be a pest for land owners, and southern black-backed gulls at rubbish dumps.
8. Koi carp and catfish could be introduced into rivers and lakes, threatening indigenous fish species.
9. There is a risk of new animal pests which threaten natural and historic resources, e.g. marine organisms (Asian mussels, starfish, various fish species and toxic dino-flagellates), insects (Asian gypsy moth), and mammals (Asian rats).

#### **Information**

10. The identification and priority setting of ecosystems and species that require animal pest control has not been completed (*see 4.12. Ecosystems*).
11. The level of pest control needed to maintain or enhance some ecosystems is lacking and difficult to obtain (*see 4.3.2 Ecosystems*).

#### **Public Awareness**

12. Effective communication with recreational hunters on animal pest management is lacking.
13. The impact of pests on indigenous ecosystems is not always appreciated by the community.
14. Some animal pest control methods such as poisons are not acceptable to the public.
15. There is a lack of awareness by the public of the agencies responsible for controlling tuberculosis.

**Table 4.3.1 PRIORITY SITES FOR POSSUM AND GOAT CONTROL (SEE VOLUME II FOR LOCATION OF THESE SITES) TAKEN FROM THE NATIONAL GOAT CONTROL PLAN (IN PREP.) AND NATIONAL POSSUM CONTROL PLAN 1993 - 2002 (IN PREP.).**

No.	Management unit <sup>1</sup>	Goal
<b>Otanewainuku-Te Aroha Management Area</b>		
T13037	Kaimai-Mamaku Conservation Park CACP61	Rata recovery, stag beetle, kiwi, kākā
T13039	West Ngatukituki CAEA61	Representative vegetation, some rata
T13040	East Ngatukituki CAEA61	Representative vegetation, some rata
T13041	Ngatukituki CASA61	Representative vegetation, some rata
T13045	Orokawa Bay RASRA	Pohutukawa, kākā.
T14002	Wairakau RASRA	Rata recovery, PNA/RAP extension
T14008	Maurihiro RASRA	Rata recovery, kamahi
T15011	Rapurapu CAEA61	Representative vegetation, southern limits, rata
U15009	Mangorewa Forest CAST62	
U15010	Puwhenua Forest CAST62	Representative vegetation, kiwi, king fern
U15023	Otanewainuku Forest CAST62	King fern, kokako breeding Representative vegetation, kokako, king fern
U15041	Kaharoa Forest CAST62	
U15055	Onaia CAEA61	Kokako Representative vegetation, kokako breeding, king fern
U15056	Mangapapa CAEA61	
U15057	Mangorewa CAEA61	Kokako, representative vegetation
V15020	Ohinekoao RASRA	Kokako, representative vegetation
V15082	Pongakawa CAEA61	Pohutukawa Representative forest, kokako breeding
<b>Whakatane Management Area</b>		
V15022	Matata RASRA	Pohutukawa, representative coastal forest
W15035	Ohope RASRA	Pohutukawa, kiwi
W15054	Uretara Island RASRA	Pohutukawa recovery
W15063	Pataua Island RASI	Coastal vegetation
W16002	Waimana Gorge RASRA	Lowland forest protection
<b>Rotorua Management Area</b>		
	Lake Okataina RASRA <sup>2</sup>	Pohutukawa recovery
	Lake Rotoiti RASRA <sup>2</sup>	Pohutukawa recovery
U16083	Lake Tarawera RASRA	Pohutukawa
U17005	Te Kopia RASRA	Representative forest
V 15052	Rotoma Forest CAST62	Kokako breeding
<b>Atiamuri - Tokoroa Management Area</b>		
U16108	Mokaihaha CAEA61	Representative forest, kokako, kiwi
U16109	Matahana CAEA61	Representative forest, kokako, kiwi
U 16110	Pukerimu CAEA61	Dactylanthus
<b>Eastern Volcanic Management Area</b>		
V17033	Minginui Faces CACP61 South	Rata recovery, representative vegetation
V17033	Whirinaki (Te Hoe) CACP61	Extensive representative forest tract protection (from goat invasion)
V17033	Opureke (proposed) CAEA61	Representative vegetation sequences
V18014	Tuwatawata CAEA61	Rata recovery, representative vegetation

<sup>1</sup> Criteria for selection are those identified in the National Goat Control Plan and National Possum Control Plan.

<sup>2</sup> This land is administered by the Lake Okataina Scenic Reserve Board and Lake Rotoiti Scenic Reserve Board. The Department undertakes work on these lands in consultation with the Reserve Boards as part of integrated work in the Rotorua Lakes catchments.

**Table 43.2 OTHER ANIMAL PEST SPECIES CONTROL PROGRAMMES TO PROTECT THREATENED SPECIES AND THEIR HABITATS**

Location	Pest	Species Impact
Rotoehu Forest V15073	Mustelids Cat Possum Ship Rat	Prey on nest's young and adults of kokako <sup>4</sup> and other bird species. As above As above, plus reduction in overall habitat quality and competition for food. Prey on eggs and chicks of kokako <sup>4</sup> . Also predation of small passerines.
Lake Okataina Scenic Reserve <sup>1</sup>	Wallabies	Impact on regenerating forest.
Whirinaki Conservation Park VI7033	Possum Rat.	Prey on nest's young and adults of kokako <sup>4</sup> and other bird species. They reduce the overall habitat quality and compete for food. Prey on eggs and chicks of kokako <sup>4</sup> . Also predation of adults of small passerines.
Kaharoa Forest U15041	Mustelids/ cats Possum Ship Rat Goats	Prey on nest's young and adults of kokako <sup>4</sup> and other bird species. Prey on nest's young and adults of kokako <sup>4</sup> and other bird species. They reduce the overall habitat quality and compete for food. Prey on eggs and chicks of kokako <sup>4</sup> . Also predation of adults of small passerines. Reduction of habitat quality.
Gammon's Block . including the , Tasman Accord Area. (Mamaku Plateau). U15058	Mustelids/ cats Possum Ship Rat	Prey on nest's young-and adults of kokako <sup>4</sup> and other bird species. Prey on nest's young and adults of kokako <sup>4</sup> and other bird species. They reduce the overall habitat quality and compete for food. Prey on eggs and chicks of kokako <sup>4</sup> . Also predation of adults of small passerines:.,
U13020 Mayor Island <sup>2</sup> U13020	Pig Cats Kiore Norway Rat	Predation on invertebrates and ground nesting birds. Reduction of food and habitat. Predate on all breeding coastal bird species and reptiles. Insect predation, reptile predation/competition, and small passerine predation. Insect predation, reptile predation/competition, small passerine predation, and predation on ground nesting birds.
U15040 Mokoia Island <sup>3</sup> U15040	House Mouse	Prey on invertebrates, detracts from conservation opportunities, i.e., liberations of reptiles and large bodied insects
Ohiwa Spit Wildlife Refuge W 15076	Rabbits Cats/Stoats/ Possum	Damage pingao. Predate on all species of breeding coastal birds, particular threat to New Zealand Dotterel <sup>5</sup> .
Sulphur Point (Port of Tauranga Ltd.)	Rats/cats	Predation on all species of birds. A particular threat to New Zealand Dotterel <sup>5</sup> and variable oystercatchers.
Maketu Spit recreation reserve (vested in W.B.O.P. District Council)	Cats Rabbits	Predate all species of birds, they are a particular threat to New Zealand Dotterels. Cause significant damage to Pingao

1. This land is administered by the Lake Okataina Scenic Reserve Board. The Department undertakes work on this land in consultation with the Scenic Reserve Board as part of integrated work in the Rotorua Lakes catchments.

2. This land is administered by the Tuhua Board of Trustees. The Department undertakes work on this land in consultation with the Trust Board.
3. Animal pest management programmes to be developed after consultation with the Mokoia Island Trust Board.
4. Recovery Plan for North Island Kokako (Rasch, 1992).
5. New Zealand Dotteral Recovery Plan (*Cbaradrius obscurus*) (Dowding, 1993).

### **Objectives**

Identification of natural and historic resources at risk from animal pests.  
 Eradication or containment of animal pests and domestic animals affecting natural and historic resources and visitor experiences.

### **Implementation**

#### **Planning**

1. Undertake animal pest control in accordance with Tables 4.3.1 and 4.3.2.
2. Identify and monitor areas with high natural resources, their vulnerability, and the practicability of achieving animal pest control (*see Table 4.1, Table 4.3.1-2, 4.7.1 Information Management, 4.7.2 Survey and Monitoring*).
3. Prepare and review as required, animal pest management plans.
4. Work with other organisations regional councils and the Animal Health Board to integrate animal pest management (*see 4.2.2 Advocacy and Education for Conservation Management*).
5. Take an active role in the development of regional pest management strategies under the Biosecurity Act 1993.

#### **Operations**

6. Animal pest management will be directed by national plans, guidelines, and the criteria in Parkes (1992).
7. A variety of techniques for animal pest management will be used, e.g. fencing, encouraging recreational hunters and official control operations (including contractors). Any method used will not pose an undue risk to the environment or public safety (e.g. taking into account environmental standards and impacts on protected species), and will be in accordance with animal ethics procedures (*see 4.7.3 Research*).
8. Approve appropriate local authority possum control projects on lands administered by the Department to meet animal health objectives, including the prevention of bovine TB. Applications for control projects will be assessed against the following criteria:
  - environmental safety standards;
  - cultural and community concerns; and
  - ethical approaches to animal control.

9. Prevent animal pests establishing on islands where they do not currently occur. Eradication of rodents will be guided by the Island Rodent Contingency Plan (Jansen, 1989).
10. The introduction of potentially ecologically harmful organisms (such as Asian rats, koi carp and catfish) will be controlled or prevented through contingency planning, public awareness, or legislative controls and approvals. Where pests exist, the same mechanisms will be used to limit dispersal. This shall not include properly authorised liberations for scientific research or animal control purposes e.g. judas goats.
11. Eradicate any new wallaby populations establishing in the Urewera tract or Kaimai-Mamaku Conservation Park.

#### **Public Awareness**

12. Communicate regularly with recreational hunters and hunting clubs over problem areas and animal densities.
13. Improve public understanding of the responsibilities and roles of various agencies, land owners, and managers in animal pest management.

### **4.3.8 Domestic Animals**

#### **Background**

Domestic animals can include goats, cattle and sheep, newly imported species, pets (including cats, dogs, horses), and animals used for transportation and recreation purposes. The Fencing Act 1978 excludes certain types of land that apply to this Act, one type is marginal strips.

The Department also uses specially trained dogs for wildlife management purposes. Some domestic animals (such as cats) can pose a serious threat to the conservation of indigenous biota. It is important that adequate controls are in place to minimise problems. The Department can identify areas that are “open dog areas” or “controlled dog areas” (Part VC, Conservation Act 1987). Excluded from this section are:

- the grazing of domestic animals under a concession on lands administered by the Department (see 4.6.7 Concessions); and
- domestic animals that have escaped or been released onto lands administered by the Department are managed as animal pests (*see 4.3.7 Animal Pests*).

#### **Issues**

1. Native forests, wetlands and other ecosystems adjoining or contained within pastoral farming areas are vulnerable to stock intrusion or the effects of pastoral farming practices.
2. Physical disturbance and fouling of sites by domestic animals can adversely affect the quality of visitor experiences.
3. Domestic animals can contribute to spreading parasites, e.g. giardia.
4. Domestic animal owners are often unsure as to where they can legally take their animals.

### **Objective**

Domestic animals controlled to conserve natural and historic resources generally, and to allow for recreation

### **Implementation**

1. Formally identify and publicise areas that are open to people with dogs, and areas where dogs will be restricted. In some cases permits may be given to take dogs into controlled areas (s. 26ZZH and s. 26ZZI Conservation Act 1987).
2. Permits are not required to take dogs in controlled areas where:
  - blind people use guide dogs;
  - a person uses a companion dog; and
  - dogs used by authorised persons in search and rescue.
3. Anyone wishing to take domestic animals (excluding dogs) on to lands administered by the Department will require an authority.
4. Negotiate with adjoining land owners for assistance with fencing where appropriate.

#### **4.3.9 Ecosystem Rehabilitation and Restoration**

##### **Background**

Some ecosystems can repair themselves if given time, but many require some intervention if particular associations of plants and animals are to be conserved in perpetuity. Guidelines to the development and monitoring of ecological restoration programmes have been prepared by Atkinson (1994).

Ecosystem repair can take a number of forms. At its simplest there is enhancement, which may involve maintaining or increasing genetic diversity through supplementary planting of exotic and indigenous species, or the prohibition of fishing in a marine ecosystem. Rehabilitation is used where a site is significantly degraded, e.g. after mining or exotic timber harvesting. Rehabilitation is establishing a healthy ecosystem, but not necessarily the same one as before.

Restoration implies the return to a former state (*see Appendix 2*). Examples of restoration include:

- the removal of animal pest species from islands, e.g. Moutohora (Whale) Island;
- the re-introduction of species lost from those sites; and
- establishing ecological corridors.

##### **Issues**

##### **Ecosystems and Species:**

1. Some ecosystems in the Conservancy only exist in a degraded form because of significant plant and animal pests, or alteration of physical

factors, or both, e.g. water levels. Particularly at risk are wetlands, and lakes and rivers.

2. Marine ecosystems throughout the Conservancy have been degraded by excessive taking of marine species.
3. A number of indigenous species are highly vulnerable to introduced biota and may only survive in the long term in places without plant and animal pests.
4. Some ecological processes are not reversible and some ecosystems cannot be recreated once they have been severely degraded or destroyed.
5. The lack of national criteria for undertaking rehabilitation and restoration work has resulted in;
  - an ad hoc basis that has often been politically driven, e.g. the long drawn out process of the Maketu Estuary restoration (started 1978);
  - no clear objectives, or criteria for measuring the success, or failure of a particular project;
    - unsound understanding of ecological processes;
    - a lack of monitoring and reporting so it is difficult to determine success;
    - rehabilitation of corridors using inappropriate species;
    - inadequate maintenance e.g. weeds have not been cleared from around planted seedlings and stock has been allowed into a planted area;
    - inappropriate movement of genetic material, e.g. rimu from Westland has been planted at Whirinaki, and animal species have been introduced to islands where they did not previously exist.
6. Predicting the outcome of rehabilitation and restoration work can be difficult as ecosystem processes are dynamic.
7. Public expectations of ecosystem rehabilitation and restoration projects can be unrealistic.
8. Rehabilitation of sites modified by grazing, mining or exotic timber harvest can be difficult due to plant and animal pests.

### **Objectives**

1. Criteria for rehabilitation and restoration.
2. Successful rehabilitation and restoration projects.

### **Implementation**

1. Plan all rehabilitation and restoration projects to identify objectives, maintenance and monitoring requirements following Atkinson (1994).
2. Develop criteria for rehabilitation and restoration.

3. Prioritise ecosystems for rehabilitation and restoration according to criteria developed in Implementation 2 (above), and in accordance with Charters of Partnership.
4. Seek rational guidelines and criteria for rehabilitation and restoration.
5. Use genetic material collected from the same ecological district or region (unless such options do not exist).
6. Any proposed species transfer will be in accordance with s.26zm of the Conservation Act 1987, the Department's species transfer protocols and relevant policies (*see 4.3.4 Threatened Species*).
7. Promote the use of native species for artificially created wetlands.
8. Consider requests for propagating stock (*seeds, cuttings*) for appropriate rehabilitation or restoration (*see 4.6.3 Collection and Taking of Natural Materials*).
9. Consider the use of exotic species for rehabilitating ecological corridors.

#### **4.3.10 Established Marine Protected Areas**

##### **Background**

There are several mechanisms for conserving marine resources e.g. marine reserves [Marine Reserves Act 1971] taiapure [Maori Fisheries Act 1989 and enacted under Fisheries Act 1983] and mataitai [Treaty of Waitangi (Fisheries Claims) Settlement Act 1992].

The Conservancy currently manages six marine protected areas.. These are:

- Tuhua (Mayor Island) Marine Reserve (Marine Reserves Act 1971)
- Motuotu Island Nature Reserve (Reserves Act 1977)
- Pataua Island Scientific Reserve (Reserves Act 1977)
- Uretara Island Scenic Reserve (Reserves Act 1977)
- Tern Island Wildlife Management Reserve (Reserves Act 1977)
- Nukuhou Conservation Area (Conservation Act 1987)

The latter five areas include only limited inter-tidal and sub-tidal areas. They are all located in Ohiwa Harbour.

The Tuhua (Mayor Island) Marine Reserve extends one nautical mile offshore around the northern quarter of the island. The remainder of the island perimeter is a restricted fishing area which was established under the Fisheries Act 1983 at the same time as the marine reserve.

A baseline biological survey was carried out in 1993 when Tuhua Marine Reserve was established. This has provided a base for assessing future changes in the reserve. No monitoring has been done for the other marine protected areas.

Consultation with tangata whenua is especially important for management of marine protected areas.

## Issues

1. Current marine protected areas do not adequately cover the range of marine environments, landforms and ecosystems, and require research to establish critical area size to enable sustainable aquatic life.
2. The current legislation is inadequate for effective establishment and management of marine protected areas.
3. It is difficult to define and mark the seaward boundaries of marine protected areas.
4. Repeated anchoring in the same location can damage marine ecosystems.
5. Effective management and monitoring of marine protected areas is difficult and costly.
6. The public does not adequately understand the need for marine protected areas or the fragility of the marine environment.

## Objective

Representative network of marine protected areas established and maintained with community support.

## Implementation

1. Promote the establishment of representative network of marine protected areas.
2. Investigate the establishment of a marine reserve on the mainland coast with the objective of making the reserve accessible to visitors and public interpretation.
3. Prepare, where appropriate, conservation management plans for marine protected areas (*see 5.1.2 Classification of Land Administered by the Department*).
4. Monitor marine protected areas to determine the effects of protection on marine ecosystems (*see 3.2, 3.3.3-4, 3.5.3, 4.7.2 Survey and Monitoring*).
5. Prepare a compliance and law enforcement strategy for marine protected areas (*see 5.1.1 Compliance and Law Enforcement*).
6. Where possible and appropriate, mark the boundaries of marine protected areas.
7. Where marine protected area boundaries are not marked other methods will be used to inform the public of the boundaries (*see 4.2.2 Advocacy and Education for Conservation Management*).
8. Designated anchoring or mooring sites will be investigated where anchoring is adversely affecting the natural and historic resources and cultural values in marine protected areas.
9. Promote scientific research and education activities in marine protected areas.

10. Advocate and support legislative changes to enable effective establishment of marine protected areas.

#### 4.3.11 Freshwater Fisheries

##### Background

In the Bay of Plenty, freshwater fisheries have been utilised for traditional Maori, recreational, and commercial purposes. There are traditional Maori fisheries for tuna (eel), kokopu, lamprey, inanga (whitebait), koura (freshwater crayfish), and kakahi (freshwater mussels). The whitebait fishery that exists in the lower reaches of many Bay of Plenty rivers and estuaries, is the most significant traditional Maori fishery.

Under s.6(ab) of the Conservation Act 1987, the Department is “to preserve as far as practicable all indigenous freshwater fisheries and to protect recreational freshwater fisheries and freshwater fish habitats.” The definition of “freshwater” under the Conservation Act 1987 includes river mouths and estuaries.

**Table 4.4 TAKING OF INDIGENOUS FRESHWATER FISH - AUTHORITY REQUIRED FROM THE DEPARTMENT**

	Commercial	Non-commercial
Within a Reserve (Reserves Act 1977)	Prohibited unless commercial taking was a condition of establishment of the Reserve. If it was a condition of establishment then authority is required (s. 50 Reserves Act 1977).	Authority is required (s. 50 Reserves Act 1977).
Within a Conservation Area (Conservation Act 1987)		No authority is required (s. 170(4) Conservation Act 1987).

The Department administers the Freshwater Fishing Regulations 1983. These regulations cover fish passage provisions in structures that obstruct waterways, e.g. dams and control of noxious fish (*see 4.3.7 Animal Pests, Implementation 10*). The Department also administers the Whitebait Fishing Regulations 1994 which regulate the taking of whitebait.

The sustainability of present levels of whitebait taking is of concern to the Department. The Department will take a precautionary approach to managing the fishery. The whitebait fishery contains up to six species of native fish (three endemic and two vulnerable). It is not known whether the taking of rarer species of whitebait giant and short jawed kokopu is adversely affecting adult stocks of these long-lived species. Therefore, any whitebait fishery management should take special account of these rarer species and the impact of fishing on them.

Eels are the main commercial freshwater fishery in the Bay of Plenty. The commercial whitebait fishery is limited. The commercial and non-commercial eel fishery is administered by the Ministry of Fisheries pursuant to the Fisheries Act 1983 and the Fisheries (Amateur Fishing) Regulations 1986. The taking of indigenous freshwater fish (including eels) from land that the Department administers may require authority

depending on the status of the land (*see Table 4.4*).

The largest freshwater recreational fishery in the Bay of Plenty Conservancy is the trout fishery which is managed by the Eastern Region Fish and Game Council. The Rotorua Lakes trout fishery is of international significance. It contributes approximately \$(1986) 17 million to the local economy each year and attracts 45,000 license sales (Shaw, 1992). However trout compete with and predate indigenous fish. Whitebait is the other major recreational fishery in the Bay of Plenty.

The farming of freshwater fish species requires a licence under the Freshwater Fish Farming Regulations 1983 (administered by the Ministry of Agriculture and Fisheries). There are no established freshwater aquaculture farms in the Bay of Plenty, although some are proposed. The Department is responsible for authorising the transfer of live aquatic biota to freshwater aquaculture farms, or to any other location where they are not currently present pursuant to s.26zM of the Conservation Act 1987.

### **Issues**

1. Lack of legal protection for freshwater fish habitat threatens their existence despite the legal protection of the fish.
2. The public does not recognise the existence and diversity of indigenous freshwater fish, rarity of many species, and the degraded state of key ecosystems and habitats.
3. The eel and whitebait fisheries have been reduced by barriers to migration, habitat reduction and degradation, and commercial harvesting.
4. Trout compete with and predate indigenous fish.
5. There are often differing objectives between the Department and Fish and Game Councils over the management of water bodies for sports fish, including trout.
6. There are proposals to introduce exotic fish such as grass carp for clearing drains and plant pests, which could reduce whitebait spawning habitat.
7. Protection of freshwater fish habitats require a range of water management techniques, e.g. maintenance of water quality and adequate minimum flows and protection of riparian margins.
8. The lack of knowledge of populations (numbers and diversity) of indigenous freshwater fish leads to an inability to effectively advocate for their protection.
9. The Department's information of the whitebait fishery is insufficient to effectively manage it.

### **Objectives**

Protection of indigenous freshwater fish habitats.

Viable populations of indigenous freshwater fish.

### **Implementation**

1. Seek wherever 'practicable, upstream and downstream fish passage provisions in structures built before 1983, e.g. dams, culverts, roading and bridge construction, and water diversion works. This will be advocated through the resource consent process under the Resource Management -Act 1991 and the fish pass provisions of the Freshwater Fisheries Regulations 1983. The two priority sites are Matahina and Aniwhenua Dams on the Rangitaiki River (Matahina dam has an up stream eel pass).
2. Require that structures built after 1983 conform with the Freshwater Fish Regulations 1983.
3. Work with land owners and local authorities to identify and, where possible, rehabilitate whitebait spawning areas. The Department will continue enforcing the Whitebait Fishing Regulations 1994 (*see 4.2.2 Advocacy and Education for Conservation Management*).
4. Formal liaison with the Eastern Region Fish and Game Council will be maintained by the Department.
5. Proposals to release exotic fish will be considered under s. 26ZM of the Conservation Act 1987. The Department will consider prosecuting the illegal release of fish.
6. Identify waterways where exotic fish, including trout, are not present and manage them for indigenous freshwater fish species.
7. Investigate the most appropriate mechanisms for protecting freshwater fish habitats.

#### 4.4 HISTORIC RESOURCES AND WAHI TAPU (SACRED PLACES)

##### **Background**

This section deals with historic resources and wāhi tapu on land administered by the Department. Historic resource conservation off lands administered by the Department is covered in 4.2.2 Advocacy and Education for Conservation Management.

The conservation of historic resources is important to ensure a representative range of historic resources will survive to be passed onto future generations. Wāhi tapu are important for tangata whenua in that they provide links with their histories and their rohe. Wāhi tapu need to be managed-and preserved to ensure that tangata whenua can continue to evolve with an integrity that unites them with their past and that Maori culture is maintained.

The Department has a National Historic Heritage Strategy (Department of Conservation, 1995) which identifies conservation resulting from:

- effective management of historic places on land administered by the Department in co-operation -with the community;,,
- management of places special to tangata whenua according to Maori tikanga in partnership with them; and
- co-operation with the community and other agencies resulting in key historic places on all lands being identified and significant gains made in their conservation and appreciation:

The strategy identifies a number of national goals:

- Effective management of historic resources administered by the Department- with greater support and involvement from the community, tangata whenua and associates.
  - Conservation of historic resources not administered by the Department by advocacy- and public awareness, and working with key associates to achieve shared objectives.
  - Develop an effective relationship with tangata whenua in the conservation of their cultural heritage on lands administered by the Department by working in partnership. The Department will acknowledge tangata whenua tikanga and kaitiakitanga in the management of historic places.
  - Work with associates to achieve shared historic conservation objectives by co-operating with others to increase effectiveness.
  - Provide opportunities for people to appreciate and enjoy historic heritage on lands administered by the Department by interpretation of historic resources in the Department's visitor services. The conservation, interpretation and visitor facilities at historic places will be improved.
  - Ensure the Department's historic resource conservation programme is effective, efficient and adequately resourced.

The strategy identifies the role of the Department in the management of historic resources in relation to the Historic Places Trust and local

authorities. The Department is Government's policy advisor on historic conservation management.

### **Issues**

1. The public and tangata whenua have an unrealistic understanding about the Department's financial ability to manage historic resources on lands it does not administer.
2. The incomplete inventory and assessment of historic resources means there is inadequate understanding of historic resources.
3. Historic resources are threatened by natural and human induced processes.
4. Management objectives for historic resources can conflict with natural resource and recreation management.
5. Historic resources are not renewable, often difficult to identify and once damaged or destroyed cannot be replaced.
6. Differing appreciation of historic resources by the Department, tangata whenua and public can lead to conflicts in management objectives.
7. The Department's management of lands it administers has not always adequately recognised wāhi tapu or their management requirements.
8. Tangata whenua may not want locations or information relating to wāhi tapu publicised.
9. Wāhi tapu can be damaged by visitors and offend tangata whenua.

### **Objective**

The conservation of historic resources and Wāhi tapu.

### **Implementation**

1. Undertake archaeological survey and management of sites identified in Table 4.5.1 and Table 4.5.2.
2. Maintain a Historic Resources Strategy for the Bay of Plenty Conservancy (Bowers, 1996).
3. Historic resource management within the Conservancy will follow the National Historic Heritage Strategy (Department of Conservation, 1995), and the Historic Resources Strategy (Bowers, 1996).
4. 4 Work with tangata whenua, the local branch of the Historic Places Trust, Maori Heritage Council, the New Zealand Archaeological Association and other interest groups to improve conservation of historic resources and wāhi tapu by, for example establishing "silent files" (see 4.2.2 *Advocacy and Education for Conservation Management*).
5. Support tangata whenua initiatives to conserve wāhi tapu (see 4.1 *Relationship with Tangata Whenua*).
6. Consult with tangata whenua before undertaking any inventories, and management of historic resources (see 4.1 *Relationship with Tangata Whenua*).

Table 4.5.1 PRIORITY SITES FOR ARCHAEOLOGICAL SURVEY AND ASSESSMENT FOR MANAGEMENT PURPOSES.. (GROUDEN, 1992).

Management Area	Site
Islands	Moutohora (Whale) Island W15073
Tauranga	Motutau Island Scenic Reserve U14129
Otanewainuku - Te Aroha	Tui Mine Wildlife Refuge T13004 Kaimai-Mamaku Conservation Park T13037 Orokawa Bay Scenic Reserve Ti3045 Ngatukituki Forest Sanctuary T13041 Maurihoro Scenic reserve T14008 Wairere Falls Scenic Reserve T14009 Gordon Park Scenic Reserve T14011 Taumata Scenic Reserve U15015 Otanewainuku Forest U15023 Rotoehu Forest V15073
Whakatane	Esplanade Reserve W15055 Tern Island Wildlife Refuge W15057 Ohiwa Scenic Reserve W15060 Motuotu Island Nature Reserve W15061 Waimana Gorge Scenic Reserve W16002 Waiohau Forest W16027
Rotorua	Mamaku Stewardship Area U15006 Horohoro Forest U15013 Lake Okataina Scenic Reserve <sup>1</sup> Lake Rotoiti Scenic Reserve <sup>1</sup> Mt Ngongotaha Scenic Reserve U16005 Lake Okareka Scenic Reserve UI6071 Lake Tarawera Scenic Reserve U16083 Waimangu Stewardship Area U16098 Lake Rotomahana Wildlife Refuge U16120 Lake Rotoehu Scenic Reserve V15008 Lake Rotoma Scenic Reserve V15010 Rotoma Forest V15052 Rotoehu Forest V15073
Atiamuri - Tokoroa	Arahiwi Scenic Reserve T15008 Mokaihaha Ecological Area U16108 Te Kopia Scenic Reserve U17005
Eastern Volcanic	Waipunga Forest U18002 Otangimoana Stewardship Area UI8008 Rerewhakaaitu Stewardship Area V 16029 Whirinaki Stewardship Area V17029 Tuwatawata Ecological Area V18014

1. This land is administered by the Lake Okataina Scenic Reserve Board and Lake Rotoiti Scenic Reserve Board. The Department undertakes work on these lands in consultation with the Reserve Boards as part of integrated work in the Rotorua Lakes catchments.

Table 4.5.2 ACTIVELY MANAGED HISTORIC PLACES IN THE BAY OF PLENTY CONSERVANCY (BOWERS, 1996).

Management Area	Site
Otanewainuku- Te Aroha	Maungaruahine Pa Historic Reserve U15035 Piako County Tramway,-Kaimai-Mamaku Conservation Park T13037 Waitawheta Tramway, Kaimai-Mamaku Conservation Park T13037 Matata Scenic Reserve V15022
Whakatane	Ohope Scenic Reserve W15035 Te Paripari Pa Historic Reserve W15038 Tauwhare Pa Historic Reserve W15040 Paparoa Pa Historic Reserve W15043 Matekerepu Historic Reserve W15066
Rotorua	Okere Falls Power station & turbine, Okere Falls Scenic Reserve <sup>1</sup> Lake Okataina Rock art, Lake Okataina Scenic Reserve <sup>2</sup> Lake Tarawera Rock art, Scenic Reserve U16082
Eastern Volcanic	Fort Galatea Historic Reserve V17019 Rogers (Te Wairoa) Hut, Whirinaki Conservation Park V17033 Te Tapiri Pa, Whirinaki Conservation Park VI7033 Kaingaroa Rock art, Kaingaroa Cave Covenant V17048 Te Ikawhenua Field centre artefacts

1. This land is administered by the Lake Rotoiti Scenic Reserve Board. The Department undertakes work on this land in consultation with the Reserve Board as part of integrated work in the Rotorua Lakes catchments.
2. This land is administered by the Lake Okataina Scenic Reserve Board. The Department undertakes work on this land in consultation with the Reserve Boards as part of integrated work in the Rotorua Lakes catchments.
7. The Department will:
  - follow the ICOMOS Charter for historic site management;
  - identify and assess historic resources on lands administered by the Department and file details of archaeological sites with the New Zealand Archaeological Association;
  - identify management conflicts between natural and historic resources on historic sites;
  - prepare and implement conservation plans where appropriate;
  - prepare and maintain an inventory of historic resources;
  - carry out urgent remedial work in response to significant threats to loss of integrity;
  - consider historic resource conservation when planning all major projects;
  - use s.23 Historic Place Act 1993 criteria for registering actively managed historic places;
  - foster appropriate research on historic resources;
  - provide historic site interpretation;
  - enhance the awareness of Departmental staff on historic resource management; and
  - apply to the Historic Places Trust for consent to damage, destroy or modify an archaeological site.
8. Deal with artifacts in accordance with the Antiquities Act 1975.

## 4.5 RECREATION AND ACCESS

### Overview

Under the Conservation Act 1987 one of the functions of the Department is

“to foster the use of natural and historic resources for recreation ... to the extent [that this] is not inconsistent with [their] conservation” (s.6(e)).

This only applies to lands administered under the Conservation Act 1987. On land administered under the Reserves Act 1977 the Department may provide recreation opportunities where this is compatible with the primary purpose of the reserve. Recreation reserves are managed primarily for recreation, although there is still an obligation to conserve and manage natural resources to the extent compatible with that primary purpose. The management of visitor impacts is an essential component of the Department’s recreation planning and operations.

### 4.5.1 Visitor Opportunities and Trends

#### Background

Visitors want a range of recreational facilities and opportunities, from picnic sites to undeveloped remote areas for hunting and fishing. To cater for the variety of visitor needs the Department has completed a Recreation Opportunity Spectrum (ROS) study of the Bay of Plenty, a major study of visitor demand (APR Consultants Ltd., 1991), and recorded data on all existing recreation facilities on to a database.

There will be no wilderness areas in the Conservancy, as no areas meet the criteria laid down in the Wilderness Policy (Department of Conservation, 1988a).

A draft Visitor Strategy for the Bay of Plenty Conservancy is almost complete and will set directions for recreation development.

#### Issues

1. The Department’s resources cannot match public expectations.
2. Increasing trends in visitors will place a strain on existing facilities, tracks, sites and recreational experiences.
3. The lack of co-ordination between agencies that are providing recreation opportunities leads to poor planning and ad hoc provision of facilities.
4. Recreation opportunities may be adversely affected by adjoining land owners management, e.g. plantation forestry management regimes on adjoining lands may affect recreation access.
5. Inadequate Departmental response to the development of new recreational activities (e.g. mountain biking, wheelchair access) can lead to delays in establishing facilities and policies to manage these activities.

6. There is a demand for high-quality walks including overnight stays and for caravan and motor home owners to camp in reserves.
7. There is a vehicle security problem in car parks associated with some recreation areas.
8. Some natural resources and pests pose a risk to visitor safety, e.g. geothermal areas, stinging nettle and wasps.

#### Objectives

1. Recreational opportunities and facilities that meet reasonable requirements of residents and visitors, and conserve natural and historic resources.
2. Practicable public access to, and free access on, lands administered by the Department.
3. All facilities are constructed and maintained for public safety.

#### Implementation

1. Provide for recreation activities and facilities where these do not damage natural and historic resources or conflict with other uses, and in accordance with the Visitor Strategy for the Bay of Plenty Conservancy.
2. Use the Recreation Opportunity Spectrum (ROS) for all major recreation planning including facilities for disabled people.
3. Ensure that all facilities are built and maintained to relevant safety standards and comply with relevant legislation.
4. Complete a study on the future requirements for tracks and other facilities in the Kaimai Range.
5. Investigate the potential for walkways under the New Zealand Walkways Act 1990.
6. Give priority to short walks with interpretation on sites with high visitor or residential numbers where there are obstacles to access and there is evidence of interest in sensitive recreational use, e.g. short loop tracks in previously inaccessible wetlands.
7. Provide for low impact remote experience recreation by creating “no further development” areas including :
  - Mamaku Plateau (see 3.4.5, 3.7.3);
  - Maungaongaonga Scenic Reserve and Te Kopia Scenic Reserve geothermal areas (see 3.7.5, 3.7.6, 4.3.1 Landscapes, Landforms, Geological Features and Soils); and
  - further areas in accordance with the Bay of Plenty Conservancy Visitor Strategy.
8. Provide limited recreation facilities on the southern shores of Lake Tarawera Scenic Reserve (see 3.6.2).

9. Work with other agencies, particularly Rotorua District-Council, and land owners to co-ordinate recreation opportunities and facilities (*see 3.6.2, 4.2.2 Advocacy and Education for Conservation Management*).
10. Consult with national and local user groups about recreation needs and facility management.
11. Develop methods to minimise vehicle security problems at remote parking sites.

#### **4.5.2 Managing Visitor Impacts**

##### **Background**

Visitor impacts Come from two main sources: the visitors themselves, and the recreation infrastructure. Direct visitor impacts include: crowding, vehicles, trampling, disturbance of wildlife, the removal of specimens, pollution of waterways, vandalism, and out-of-control fires.

Impacts caused by recreation infrastructure include damage caused by the construction and maintenance of facilities such as roads and tracks, rubbish, and the introduction of plant and animal pests.

In response to these threats the Department, along with other organisations, developed the New Zealand Environmental Care Code and Water Care Code. These codes are designed to help visitors protect New Zealand's natural environment. They cover issues relating to plants, animals, rubbish, sewage, fire and water. Consideration of and respect for New Zealand's historic and cultural heritage is also promoted.

The Department has considerable powers to manage vehicle, vessel, and aircraft use on and over land and water bodies it administers by using regulations and bylaws. Vehicles range from mountain bikes to trail bikes, cars, and buses.

Where there is a wildlife refuge or wildlife sanctuary, the Department may allow or prevent vessels from using an area. The Reserves Act 1977 contains provisions for restricting mooring around certain types of reserves, e.g. nature reserves.

In general surface activities on water bodies are controlled by district councils (lakes and rivers) or regional councils (coastal marine area), and by regulations or rules administered by the Marine Safety Authority. Vessels using water bodies associated with lands administered by the Department range from kayaks and dinghies to large powered craft.

Aircraft (including fixed wing, gliders, para-gliders, hang-gliders, microlights, helicopters, and float planes) are controlled by the Civil Aviation Act 1990 and the Civil Aviation Regulations 1953. Over lands it administers the Department is able to control low altitude flights (under 500 feet) including landings.

##### **Issues**

1. Recreation activities can conflict with conservation of natural and historic resources e.g. firewood collection, pit toilets and septic tanks.
2. Relatively low visitor numbers can damage certain sensitive sites, e.g.

dune lands, wetlands, and geothermal sites.

3. Some recreational activities are incompatible with other activities, e.g. off-road vehicle use, horse riding, low flying aircraft, and mountain biking.
4. Vehicles, vessels, and aircraft can have adverse effects on natural and historic resources, e.g. by disturbing wildlife, transferring plant and animal pests, and damaging sensitive ecosystems and habitats (coastal dunes, geothermal sites).
5. The increasing ease of access created by the use of vehicles, vessels and aircraft is increasing the need for search and rescue.
6. The ease of access by boat, aircraft or other vehicles can result in large amounts of rubbish being left on site and high costs of removal.
7. The perception that rubbish is “somebody else’s” responsibility is reinforced by the provision of rubbish facilities.
8. Some campers damage formal and informal camping areas by:
  - clearing vegetation and contouring the ground for a tent site;
  - using native vegetation as part of a shelter;
  - leaving makeshift shelters, fireplaces etc. when they leave.
9. Visitors to lands administered by the Department can affect adjoining land owners, e.g. disturb stock, trespass.
10. The limited information on visitor numbers makes management of effects difficult, e.g. setting limits to acceptable change.

#### Objectives

- 1 Minimised impacts of recreation on the environment.
- 2 Minimised conflicts between recreation activities.

#### Implementation

1. An analysis of the limits to acceptable change (Stankey et al., 1985 will be undertaken for sensitive areas, e.g. geothermal sites, wetlands.
2. Plan for the separation of incompatible recreational activities, e.g. off-road vehicles, mountain bikes and horse riding and implement by promotion and enforcement (*see 4.3.8 Domestic Animals, 4.5.2 Managing Visitor Impacts*). •
3. Use physical barriers where practicable and necessary to exclude vehicles from sensitive environments and walking tracks (*see 4.5.3 Access*).
4. Liaise with other agencies to control aircraft and vessels, where their use could adversely affect natural and historical resources and visitor experiences.
5. An appropriate assessment of environmental impacts will be undertaken before any new recreation development or upgrading project is

undertaken, These should include :

- a demonstrated need;
  - assessment of alternatives;
  - description of environmental impacts (including those on the landscape);
  - identification of mitigation;
  - future maintenance requirements;
  - visitor safety hazard and their mitigation; and
  - adequate public consultation.
6. Consult with other land owners and managers to identify suitable areas for off-road vehicles.
  7. Where an existing toilet is having an adverse effect on the environment replace it with a composting one or similar. The priority areas will be those close to lakes, water courses, and the coast.
  8. Fill in rubbish pits and encourage visitors to take their rubbish home (Department of Conservation, 1991a).
  9. Promote the use of portable cooking equipment such as a primus, rather than open fires.

### **4.5.3 Access Background**

Free public access is encouraged to most areas administered by the Department except where restrictions are needed to conserve natural or historic resources or for safety reasons. (This does not apply to concessionaires who require specific authority for their activity see 4.6.7 Concessions). In some classes of reserves, such as nature reserves, scientific reserves, and sanctuaries, access may be restricted to conserve flora and fauna. Some forms of public access have an adverse environmental impact (e.g., use of vehicles off formed roads) and these uses may not be permitted (*see 4.5.2 Managing Visitor Impacts*): The Department may advocate improved public access to the coast and margins of lakes and rivers. Where access needs to be established across private lands formal agreements can be entered into to protect the interests of the landowners.

#### **Issues**

1. There is a lack of legal public walking access to many areas administered by the Department.
2. Access to areas administered by the Department is sometimes restricted by adjoining land owners, e.g. access through Kaingaroa Forest to Whirinaki Conservation Park at times of tree harvesting and fire risk, and by locked gates and structures.
3. The public is often unwilling to accept closure of historical access routes (*see 4.5.2 Managing Visitor Impacts*).
4. Vehicle access to some places administered by the Department are expensive to maintain because of distance, e.g. Okahu Road in Whirinaki Conservation Park.

5. Formed roads or tracks that do not follow the legal route can create misunderstanding between the public and land owners.
6. Local authorities and Transit New Zealand are under no obligation to maintain public roads that lead to lands administered by the Department.

Objective

Suitable public access where it does not compromise natural and historic resources and wāhi tapu.

### Implementation

1. Seek legal and practicable public walking access to lands administered by the Department by:
  - easements, walkways, rights of way, and other legally enforceable agreements;
  - considering funding stiles and fences to promote the use of paper roads; and
  - liaison with adjoining land owners and local authorities.

The priority-areas are Horohoro (*see 3.7.3*), Te Kopia Scenic Reserve (*see 3.7.4*), the western side of the Kaimai Range (*see 3.4.3*), and Oropi Forest (*see 3.4.4*), and Ottawa-Otanewainuku (*see 3.4.4*).

2. Use signs to explain the rights and obligations of visitors using legal access ways across private land to lands administered by the Department.
3. Seek adequate maintenance of existing road access to the boundaries of lands administered by the Department by liaison with local authorities.
4. Where necessary close or restrict entry to areas administered by the Department to conserve:
  - natural and historic resources;
  - wāhi tapu and other sites of cultural significance, e.g. Moutohora (Whale) Island (*see 3.2.3*); and
  - public safety.
  - Where areas are closed to the public all reasonable steps will be taken by the Department will publicise the action and the reason for it.
5. Where possible remove structures that block legal access to lands administered by the Department.
6. Where possible maintain key access roads, e.g. Okahu Road in Whirinaki Conservation Park,

## 4.6 USES OF LANDS ADMINISTERED BY THE DEPARTMENT

### Overview

Certain commercial and utility uses of land and resources managed by the Department are provided for in statute e.g. Wildlife Act 1953, Reserves Act 1977, and Crown Minerals Act 1991. These activities include mining, structures (e.g. telecommunication towers), collection of natural materials (including “biological prospecting” for commercial development), exotic timber harvest, military use and rubbish dumping.

### 4.6.1 Mining and Quarrying

#### Background

Mining activity on lands administered by the Department is managed under the Crown Minerals Act 1991 and the Resource Management Act 1991. The only exception to this relates to a number of applications for mining consents lodged under the former statutory regime, prior to the passing of the Crown Minerals Act 1991. The Crown Minerals Act 1991 requires that mineral permits be obtained from the Ministry of Commerce for the prospecting, exploration, or mining of all Crown-owned minerals. Resource consents under the Resource Management Act 1991 may also be required for prospecting, exploration, or mining activities.

Access for mining requires an access arrangements between the Minister of Conservation and the holder of the mining permit. Except where lands have been closed to mining by an Order in Council, the Department must consider each application for access to the land managed by the Department for mining on its merits. Section 61 of the Crown Minerals Act 1991 states that the Minister shall have regard to:

- the objectives of the relevant legislation under which the land is held;
- the purpose of the land status;
- any policy statements or plans; and
- safeguards against the potential adverse affects of the proposed mining activities.

Under the Crown Minerals Act 1991 the Minister has the consenting role for all land administered by the Crown that are either administered by the Department or vested in another body under the Reserves Act 1977, such as a local authority.

Extraction activities for sand and shingle from river beds and beaches do not come under the control of the Crown Minerals Act 1991. Regional councils are responsible for managing and allocating sand and shingle resources from these sources under the Resource Management Act 1991.

Current mining and quarrying activities on lands administered by the Department in the Bay of Plenty Conservancy include:

- andesite, rhyolite, and pumice quarrying in the Kaimai Range;

- silver and gold prospecting, and exploration and mining in the Kaimai Range;
- shingle extraction from the Horomanga River; and
- gold prospecting in thermal areas around Rotorua.

Current mining and quarrying activities on lands not administered by the Department include:

- sand extraction from old sand dunes near Thornton and part of Otamarakau;
- various quarries (pumice, rhyolite, andesite);
- sulphur and silica mining from geothermal areas near Rotorua;
- shingle extraction from rivers generally;
- geothermal mud removal; and
- prospecting and exploration on claims covering much of the Conservancy.

The Bay of Plenty Conservancy is less mineral rich than the adjoining Waikato Conservancy. The main area of potential activity in this Conservancy is in the Kaimai Range, especially Mt Te Aroha, which is the southern extension of the mineral-rich Coromandel Range.

### **Issues**

1. Mining and quarrying (including prospecting and ancillary works) can result in:
  - erosion and soil loss;
  - sedimentation and contamination of water bodies;
  - loss and damage to ecosystems;
  - loss of scenic qualities and changes in landform;
  - damage or loss of geothermal and other geological features;
  - damage to historic resources, wāhi tapu and taonga.
  - disturbance to recreational users.
2. Rehabilitation of mining and quarry sites can be difficult and expensive.
3. Many of the adverse environmental impacts from mining can be long term and may not start until after the mine has closed e.g. leaching of contaminants from mine tailings and mines.
4. Some mines have not been properly rehabilitated after abandonment or closure. This can occur because the conditions on the consent were not adequate.
5. Public can be at risk around disused mines.
6. The public is often strongly opposed to mining because of:
  - the potential impacts on the environment and neighbourhood amenities; and
  - a philosophical opposition to mining generally.

7. There can be strong industry and local pressure for mining and quarrying. The industries can be seen as both a source of employment and supplier of material for local construction, e.g. aggregate.
8. Adverse effects can arise on lands and-resources administered by the Department from mines and quarries on private land.

### **Objectives**

Recreational opportunities and facilities that meet reasonable requirements of residents and visitors, and conserve natural and historic resources.

Practicable public access to, and free access on, lands administered by the Department.

All facilities are constructed and maintained for public safety.

### **Implementation**

1. All persons wishing to enter into an access agreement under the Crown Minerals Act 1991 will be required to provide a comprehensive environmental impact assessment that:
  - accurately describes the site and the relative importance of natural and historic resources;
  - accurately describes potential environmental impacts;
  - assesses alternatives;
  - identifies mitigation measures;
  - addresses rehabilitation-requirements; and
  - provides evidence of consultation with tangata whenua.
2. Each case will be considered against the matters outlined in 3, 4, 5, 6, and 7 (below), and advice will be sought from the Conservation Board.
3. Access agreements will not be recommended where there could be:
  - a net loss of natural and historic resources on the land;
  - significant damage to freshwater ecosystems;
  - unacceptable modification of historic places, wāhi tapu, or taonga;
  - contravention of the purposes for which the land is held.
4. When an access agreement is supported, conditions will be recommended to ensure operations do not conflict with the objectives of this CMS and will include:
  - compensation to cover assessment of the application, ongoing monitoring, and the loss of natural and historic resources; and
  - a requirement to prepare and have approved by the Department a comprehensive rehabilitation plan.

- appropriate bonds;
  - maintenance of public access except for reasons of safety.
5. Rehabilitation plans should include sealing mine shafts and adits, stabilising rock faces, revegetation and provide for ongoing maintenance (see 4.3.9 *Ecosystem Rehabilitation and Restoration*).
  6. All holders of access agreements will be responsible for ensuring that visitors are in no danger from their operations and will be required to hold adequate fire and public liability insurance.
  7. Investigate areas for exclusion from mining and make appropriate
  8. recommendations to the Minister (s.62 Crown Minerals Act 1991).
- 4.6.2 Utilities and Related Structures

### **Background**

There are public and private structures and utilities located on lands administered by the Department. Currently in the Bay of Plenty there are:

- telecommunications structures on some prominent hill tops including Mount Ngongotaha, Mount Te Aroha, Te Kopia (Scenic Reserve), Rainbow Mountain, and Moutohora (Whale) Island;
- water, gas, and other pipelines;
- high-voltage transmission lines;
- dams, storage lakes and associated roadways, structures and buildings. These can be for water supply, or hydro-electric generation, or both; and
- access ways and bridges, mostly across marginal strips and streams.

Most utilities require consents under the Resource Management Act 1991 and Building Act 1991 as well as one or more of an easement, permit, lease, or licence from the Department.

### **Issues**

1. Many important sites for structures and utilities are on lands administered by the Department. There is pressure for an increase in the number of facilities.
2. Structures and utilities have already damaged ecologically and culturally significant sites in the Conservancy, e.g. the summit of Mount Te Aroha
3. Wāhi tapu and Maori cultural values can be adversely affected by inappropriately located and maintained structures and utilities.
4. Structures and utilities are often visually prominent and can adversely affect landscape attributes.
5. There may, be increasing pressure from power supply companies wanting to-locate or undertake activities which have an impact on lands administered by the Department.
6. Power generation buildings and structures may damage natural and historic resources and recreation attributes by:

- flooding or modifying terrestrial, ecosystems e.g. geothermal ecosystems;
  - degrading freshwater ecosystems and preventing fish passage;
  - damaging natural character/landscape attributes; and
  - damaging recreation attributes, e.g. angling, canoeing, walking, and rafting.
7. Upgrading or constructing, access roads and power lines to structures and utilities may damage natural and historic resources, cultural values and scenic attributes.
  8. Maintenance of utilities such as vegetation control along transmission lines and pipe lines can adversely affect natural and historic resources.
  9. If fish passage is not provided for, dams and culverts can block migration.

#### **Implementation**

1. All persons responsible for a structure or utility will require a concession.
2. All applications for concessions must conform with 4.6.7 Concessions.
3. Encourage public utility operators to locate away from lands administered by the Department.
4. Encourage operators to share sites and reduce the size of their structures.
5. Maintenance and minor upgrading of roads through lands administered by the Department will be carried out in a way that minimises effects.

<h4><b>Objectives</b></h4> <ol style="list-style-type: none"> <li>1. Minimised impacts of recreation on the environment.</li> <li>2. Minimised conflicts between recreation activities.</li> </ol>
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6. Operators will be required to provide unrestricted public access except where this conflicts with public safety and security.

### **4.6.3 Collection and Taking of Natural Materials**

#### **Background**

Under a variety of statutes and regulations the Conservancy may permit:

- collecting native plants and animals, geothermal mud, rock samples, and other natural materials from lands administered by the Department;
- catching, collecting, or holding of fully or partly protected wildlife or game; and
- catching, collecting, holding, or disturbance of marine mammals or their remains.

The purposes for which native flora and fauna can be taken include:

- Maori cultural uses (such as medicines, weaving, carving, and as a food source);
- propagating stock for restoration or rehabilitation (see 4.3.9 Ecosystem Rehabilitation and Restoration);
- biological prospecting of samples for assaying potential commercial development (low impact collection); and
- scientific research and education.

Not addressed in this section are indigenous freshwater fisheries, mining, quarrying, and exotic timber removal (see 4.3.11 *Freshwater Fisheries*, 4.6.1 *Mining and Quarrying*, 4.6.4 *Exotic Forest Management*).

### **Issues**

1. Administering the legislation is confusing because:

- different Acts contain differing provisions, e.g. the Conservation Act 1987 is less restrictive on taking for cultural purposes than the Reserves Act 1977;
- there are a number of different Acts administered by the Department that land is held under. Each have different provisions for giving authority for the taking-of plants;
- there are few national guidelines on the processing of permits or criteria for assessing applications.

2. There is poor public understanding of the legislative requirements relating to protection of natural materials and the need for a permit before material can be taken.

3. Legislation can conflict with traditional uses of indigenous flora and fauna.

4. There are requests to use, and keep marine mammal bones and other cultural materials.

### **Objectives**

1. Collection and taking of natural materials for cultural, educational and scientific purposes consistent with conservation of natural resources.
2. Recognition of the mana of tangata whenua over their taonga.
3. Captive bred wildlife held for private enjoyment, or education, or both, must be consistent with the conservation of the species.

### **Implementation**

1. Applications under the Conservation Act 1987 for the collection or taking of natural material will be assessed to ensure that:

- collection is for bona-fide research or educational purposes;
- demands are not excessive;

- environmental impacts will be minor; and
  - there are no suitable alternatives on lands not administered by the Department (*see 5.8 Overview*).
2. Permit conditions will include requirements for monitoring and reporting.
  3. Applications for traditional taking will be assessed by the Department in consultation with tangata whenua in accordance with Charters of Partnership and the principles of sustainability.
  4. Consult tangata whenua on the taking of species of cultural significance.
  5. Encourage landowners and tangata whenua to plant their own supply of plant material (including totara) to ensure sustainability and conserve environmentally and culturally sensitive locations.
  6. Use only accidentally killed birds to meet the demand for feathers for cultural uses.
  7. Promote the use of traditional or other low impact methods of taking cultural materials, e.g. timing and method of kiekie collection.
  8. Assess requests to hold captive-bred wildlife (apart from parakeets or legally unprotected lizards) for private enjoyment or educational purposes, or rehabilitated or injured wildlife not able to survive in the wild, using the following criteria:
    - the application is in accordance with any specific policies, procedures, or captive management plans that have been adopted by the Department;
    - the size of the cage, enclosure or facility is adequate;
    - the quality of the facilities provided is of a high standard; and
    - the applicant can demonstrate appropriate skills to hold wildlife species.
  9. Train staff in appropriate ecological and cultural collection techniques.
  10. Advocate a review of the legislation relating to collection and taking of natural materials.
  11. Encourage the use of alternative materials to whale bone and teeth. Any allocation of whalebone and teeth for cultural purposes will be made on the recommendation of the Department in accordance with Charters of Partnership and in consultation with tangata whenua from the area where such material was recovered (*see 4.1 Relationship with Tangata Whenua, 4.6.3 Collection and Taking of Natural Materials*).

#### 4.6.4 Exotic Forest Management

##### Background

The Conservancy has approximately 200 ha of high density exotic forest and 500 ha of low to medium density exotic forest, mostly conifers. Forestry Corporation of New Zealand has rights to manage and harvest some areas of exotic forest on lands administered by the Department e.g. joint management of some lands - Rotoehu, Mangawiri Basin. The Conservancy and Forestry Corporation have prepared a schedule of cutting rights and land management techniques to assist indigenous revegetation on completion of harvest. The Conservancy administers these areas for the following reasons:

- many of these exotic forests are small, isolated pockets with boundaries that are difficult to survey. At the time the lands were allocated to the Department it was impractical to separate these pockets of forest out from the surrounding lands which were to be administered by the Department. In addition, it was uneconomic for the New Zealand Forestry Corporation to manage these forest areas.
- some areas of exotic forest were allocated so that the Department could facilitate the rehabilitation and regeneration to indigenous ecosystems after the exotic trees had been harvested.

##### Issues

1. Harvesting operations (including construction of tracks) can have adverse effects on natural and historic resources.
2. Exotic forests on some sites are difficult or uneconomic to log because of topography.
3. Logged sites are vulnerable to long-term weed invasion and fire.
4. Although revenue earned from harvesting exotic trees has to be spent in the year it was earned, management of rehabilitation is required for several years.

##### Objective

Management of sites after removal of exotic trees so as to conserve or enhance natural and historic resources.

##### Implementation

1. The Department will assess exotic forests to identify areas for harvesting or retention according to the following criteria:
  - the need to assist regeneration;
  - soil conservation purpose;
  - minimisation of reseeded;
  - landscape character;

- any previously negotiated management agreements (including Forestry Corporation agreements and schedules); and
  - conservation of historic resources, wāhi tapu, special ecosystems and riparian margins.
2. All harvesting will be in accordance with forestry codes of practice.
  3. The Department will programme any harvesting to optimise revenue for rehabilitation programmes of the sites, or land purchase, or both.
  4. The Department will consider exchanges of exotic forested land for areas containing indigenous ecosystems.
  5. Each timber harvesting or felling operation will have a rehabilitation plan.
  6. All harvesting contractors will be required to hold public liability and fire insurance.
  7. Work with forest health authorities to maintain stand health.
  8. Where marginal strips exist in forested areas, the Department will work with relevant regional councils to establish suitable indigenous vegetation on the strips at time of harvest.

#### **4.6.5 Military Use**

##### **Background**

Under the Military Manoeuvres Act 1915 the Governor General may proclaim lands (including lands administered by the Department) to be available for military manoeuvres. Any other intended defence activity requires the approval of the Department. The Department and New Zealand Defence Force are party to a Defence Training Agreement (signed 8/3/90) which provides for military training to be carried out, provided certain conditions are met. The agreement provides conditional access rights to the New Zealand Defence Forces but that authorisation is required from the Department prior to defence activities being carried out. In return, the New Zealand Defence Force may make available fire fighting assistance and have helped the Department with various other projects.

The size and remoteness of some lands administered by the Department makes them attractive for defence training. The Department receives a number of requests for the use of its land in the Whirinaki and Kaimai-Mamaku Conservation Parks. Large scale exercises have been carried out in these areas for many years.

Military training within the Conservancy may also involve Royal New Zealand Airforce aircraft participating in low level flying in airspace above the Conservancy. Low level flying is undertaken in accordance with the Civil Aviation New Zealand Aeronautical Information publications which recognise notified wildlife sanctuaries and nature reserves. Prior consent must be obtained from the controlling authority if flying is proposed within restricted airspace.

##### **Issues**

1. Military exercises have the potential to conflict with recreational uses, interfere with wāhi tapu and cause adverse environmental effects such as interference with bird breeding e.g. Volkner Rocks (Te Paepae Aotea).

#### **Objective**

Natural, historic and cultural resources are not threatened by military exercises.

#### **Implementation**

1. Allow military use in accordance with the Defence Training Agreement except during the main visitor periods of statutory holidays and bird breeding seasons.
2. Work cooperatively with the New Zealand Defence Force to avoid, remedy or mitigate adverse effects resulting from military exercises.
3. Negotiate a memorandum of understanding with the New Zealand Defence Forces that avoids, remedies or mitigates the impacts on natural and historic resources of the Volkner Rocks (Te Paepae Aotea).

### **4.6.6 Rubbish and Spoil Dumping**

#### **Background**

Material is dumped on lands administered by the Department. The scale of this dumping ranges from abandoned cars and trailer loads of rubbish to indiscriminate littering. Particular problem areas include South Mamaku and Lake Okataina (*see 3.6.2*). The management of rubbish waste generated by visitors is addressed in 4.5.2 Managing Visitor Impacts.

#### **Issues**

1. Rubbish dumping can :
  - cause pollution and contamination of land, soil and waters;
  - create public health problems;
  - be unsightly; and
  - introduce plant pests, e.g. ginger and wandering willie (*see 4.3.6 Plant Pests*).
2. The identity of the rubbish dumpers is difficult to determine.
3. Fines for illegal rubbish dumping are not sufficient to control the problem.

#### **Objectives**

1. No dumping of rubbish.
2. No unauthorised dumping of spoil on lands administered by the Department.

## **Implementation**

1. Remove rubbish dumped on lands administered by the Department where practicable and possible (*see 3.6.2*).
2. Seek to have road maintenance and upgrading carried out in an environmentally sound way by Transit New Zealand and local authorities.
3. Authorise dumping of spoil on lands administered by the Department where required or as appropriate (*see 4.5.2 Managing Visitor Impacts*).
4. Seek establishment and management of domestic rubbish collection points (transfer sites).

### **4.6.7 Concessions Background**

A concession is “a lease, licence, permit or easement” granted under Part IIIB of the Conservation Act 1987 (from 1 July 1996).

The Department manages land under different categories identified in Volume II. The concession provisions of Part IIIB apply to land held under the Conservation Act 1987, National Parks Act 1980, Reserves Act 1977 and the Wildlife Act 1953.

The Department has inherited from its parent agencies land with private facilities and a number of long-term leases and licences. Most have been in place for many years and include Waimangu and Waiotapu Scenic Reserves, the Port Ohope Motor Camp, and Hamiurana Springs Recreation Reserve. Many of the leases and licences consist of small areas of pasture adjoining the lessee’s property and are often grazed to control weeds along the boundaries (*see 4.3.6 Plant Pests*). Where grazed land is impractical to be rehabilitated the Department may dispose of it (*see 5.1.2 Classification of Land Administered by the Department*) but it can be uneconomic and impractical to identify these areas by survey.

Aircraft landing or taking off from lands administered by the Department require a concession. In the past applications to fly recreationalists into Kaimai-Mamaku Conservation Park have led to widespread public objection and as a result the applications have been declined.

#### **Issues**

1. Structures and facilities which may become the Department’s responsibility if businesses fail result in the expense of removal and rehabilitation.
2. Site interpretation associated with some concession operations can conflict with Departmental objectives and be culturally and environmentally insensitive.
3. Tangata whenua want concessionaires to consult with them.
4. Not all concessionaires consult with tangata whenua.
5. Concessions that result in perceptions of proprietary rights especially when livelihoods depend on them can result in difficulties at time

of review e.g. grazing concessions that are critical to the viability of farms.

6. Uses under the terms of some old leases and licences may be damaging natural and historic resources on lands administered by the Department, and restricting access.
7. Beekeeping at some sites can impact on native bird species through competition for nectar.

### **Objective**

Concessions that ensure the conservation of natural and historic resources, the recognition of cultural values and accurate interpretation and also provide for the following (one or both):

- public enjoyment;
- business.

### **Implementation**

1. All persons carrying out an activity on lands administered by the Department will require a concession. This includes any aircraft taking off and landing with the exceptions of:
  - Departmental operations including wild animal control work;
  - operations by Civil Aviation Authority of New Zealand; and
  - operations by the New Zealand Defence Force in accordance with 4.6.5 Military Use.
2. Any concession may have terms or conditions on it to ensure the relevant matters implemented in this section (4.6.7 Concessions) are fulfilled or adhered to and may include environmental compensation.
3. The Minister will not grant any concession that is inconsistent with this Conservation Management Strategy.
4. Applications for grazing concessions will be most appropriate where:
  - the grazing assists with weed control and helps the Department to meet its responsibilities for noxious plants (see 4.3.6 Plant Pests);
  - appropriate revegetation is not feasible in the long term;
  - the grazing does/will not damage natural and historic resources;
  - the grazing assists the Department in historic resource conservation;
  - the maintenance of public access is required;
  - landscape protection is required e.g. some historic sites;
  - there is appropriate fencing or natural barriers in existence or the applicant will erect adequate fencing to prevent stock from venturing onto other lands, or sites with natural and historic resources; and

- land has been set identified as not suitable for disposal but is suitable for grazing.
5. Applications for beekeeping concessions should include the effects of competition with nectar feeding indigenous birds.
  6. Where appropriate the Department will seek advice of the Conservation Board.
  7. The Department must ensure that proposed applications have adequate regard to the interests of tangata whenua (*see 4.1 Relationship with Tangata Whenua, 4.4 Historic Resources and Wāhi Tapu (Sacred Places)*).
  8. Leases, licences and most easements may be granted for a maximum term of 30 years and in exceptional circumstances 60 years. A permit may be issued for a maximum term of 5 years.
  9. Rents, fees and royalties may be charged at market rates.

## 4.7 INFORMATION

### Overview

The Department needs to know what natural and historic resources are in the Bay of Plenty. These occur both on and off lands administered by the Department. The description and evaluation of resources is undertaken by survey and research, and is needed as a base for monitoring and priority setting. Conservation and impact monitoring is undertaken to identify trends in conditions which may lead to interpretation or management requirements. Effective management requires knowledge of the processes that have produced these trends. This is done by research.

Thus survey identifies “what is there”, monitoring identifies “trends”, and research answers “why is it happening?”.

### 4.7.1 Information Management

#### Background

The Department has recently completed a review of information requirements (Gibb et al., 1992). - This review contained a number of recommendations addressing the need for improved systems for gathering and managing information.

#### Issues

1. The Department is unable to respond effectively to many requests from the public and staff for information, and cannot access much information because:
  - many staff have not been adequately trained in data collection, storage, manipulation and retrieval techniques;
  - deficiencies in the Department’s policies, procedures, and standards; and

- some important information was misplaced when the parent agencies were disestablished in 1987.

### **Objective**

Comprehensive and effective information systems that stimulate and support management decisions

### **Implementation**

Implement the relevant recommendation of the “Review of the information requirements of the Department of Conservation” (Gibb et al., 1992). This includes training and identifying priorities.

2. Identify and assess information on natural and historic resources held in other agencies and retrieve where appropriate.
3. Develop and implement effective information management systems (i.e. information collection, holding and retrieval). These systems will, as far as possible, be kept up to date.
4. Liaise with other agencies, such as local authorities, to rationalise, share and prevent duplication in data collection and manipulation.
5. Collect and analyse data after a clear understanding of information needs have been identified.
6. Identify deficiencies in Departmental policies and standards and advocate their review.

## **4.7.2 Survey and Monitoring**

### **Background**

The Department needs information on the number and location of natural and historic resources under its guardianship, trends in visitor numbers and demands for facilities, as well as information on volunteer and other public awareness work.

Monitoring changes in natural and historic resources is a key area where data must be collected, e.g., pohutukawa response after removal of possums, the impact of visitors on historic sites. Well planned surveys followed by timely analysis of data will provide crucial information for ongoing conservation management.

### **Issues**

1. Variable precision and-accuracy of present databases means that the Department cannot respond effectively to internal and external requests for information and may not correctly target management effort.
2. Effectiveness monitoring is not being undertaken because of insufficient resources and long term planning.
3. Insufficient criteria or monitoring systems means some natural and historic resources cannot be assessed or ranked, for example:

- landscapes;
  - marine and estuarine ecosystems;
  - numbers, distribution, ecology, taxonomy, vulnerability, and minimum population viability e.g. invertebrates, freshwater fish species and threatened species; and
  - monitoring the taking of cultural material and the impact on natural resources.
4. Some parts of the existing network of survey lines and plots, mainly in the larger forest tracts, may no longer be relevant.
  5. As significant areas of the Conservancy in private tenure have not been surveyed there is incomplete information on natural and historic resources.
  6. The present systems for assessing public awareness programmes are inadequate to show their effectiveness.
  7. The limited information on visitor numbers, expectations, impacts and trends leads to problems in catering for demand.
  8. The Departments current management processes do not adequately address long term monitoring.

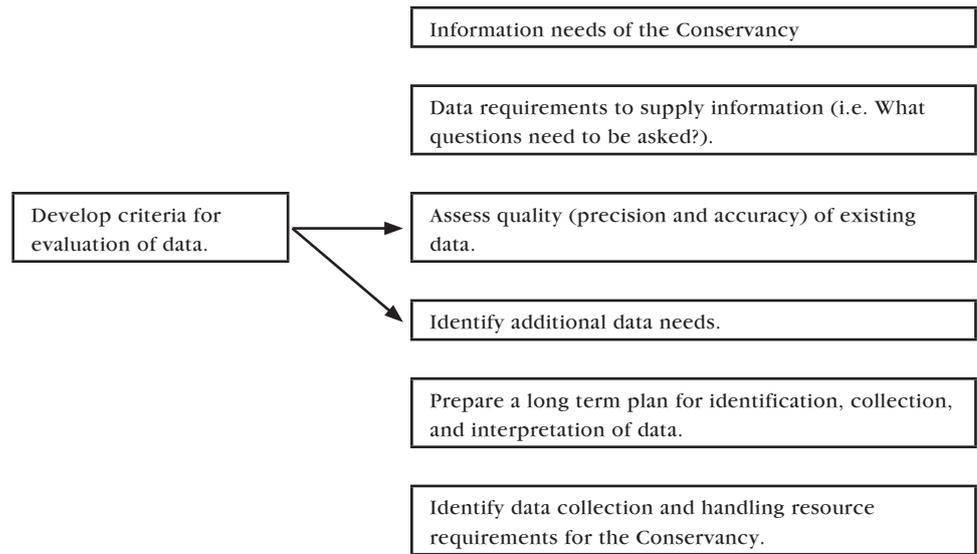
<p><b>Objective</b></p>
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<p>Information and data relevant to the Conservancy's needs.</p>
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**Implementation**

1. Systematically review existing information and future information requirements using Table 4.6 Information Review and Future Requirements.
2. Undertake sufficient, systematic monitoring to effectively manage:
  - terrestrial ecosystems;
  - aquatic ecosystems;
  - historic resources;
  - landscape, landforms, geological features and soils; and
  - visitors and visitor impacts.
3. Encourage community study and monitoring programmes that meet Conservancy objectives.
4. Continue assessing monitoring techniques for public awareness, and evaluate specific projects where possible (*see 4.2.2 Advocacy and Education for Conservation Management*).

**Table 4.6: Information Review and Future Requirements**



5. Survey and monitor, the distribution and rate of spread of plant and animal pests.
6. Monitor the effectiveness of the Department's management activities as required, e.g. in the areas of weed and animal pest management (exclosures, transects and plots).

### 4.7.3 Research

#### Background

Research undertaken by the Department is applied rather than fundamental or pure research, which is undertaken under the auspices of Ministry of Science, Research and Technology. The Department undertakes research to address information deficiencies related to the management of natural and historic resources. For Departmental research the Department's Science and Research Division coordinates, plans, and carries out applied research. It also manages research contracts with external research agencies and individuals.

#### Issues

1. There is insufficient and inappropriate knowledge to enable effective management and conservation of some natural and historic resources e.g. predator research.
2. There is often insufficient knowledge of effective monitoring methodologies e.g. landscape assessment, marine ecosystems.
3. Management decisions often need to be made before research can be adequately completed.

#### Objective

Relevant, adequate and applicable knowledge available to enable effective management and conservation of natural and historic resources.

## **Implementation**

1. The Conservancy will prepare and maintain a science research plan that identifies research needs and priorities which can be used as a basis for research proposals.
2. Priority will be given to research proposals and projects relating to natural and historic resources that demonstrate long-term benefits for conservation.
3. Tangata whenua will be consulted early in the process where research undertaken by the Department could affect them.
4. Departmental staff undertaking research are required to:
  - have the appropriate approvals e.g. Code of Ethical Conduct (Animal Protection Regulations 1987), and Historic Places Trust approval under the Historic Places Act 1993 (see 4.4 Historic Places and Wāhi tapu (Sacred Places)); and
  - to use low environmental impact techniques wherever possible.

# Chapter 5: Management

## 5.1 CONSERVATION MANAGEMENT

### Overview

Compliance and law enforcement, and classification of lands administered by the Department, underpin the management of natural and historic resources. They apply across the Conservancy and are fundamental to aspects of work on lands the Department administers.

### 5.1.1 Compliance and Law Enforcement

#### Background

There are 23 Acts and 31 sets of regulations administered by the Department. In addition there are another 42 Acts and regulations where the Department has powers and duties. These statutes and regulations specify a wide range of actions which are either prohibited or controlled. The main purpose of these controls is the conservation of natural and historic resources whilst recognising partnership under the Treaty of Waitangi,

The main emphasis in compliance work is:

- encouraging people to comply with the law administered by the Department;

Enforcement is where the emphasis is on:

- having a well trained and effective law enforcement response capability;
- having effective and consistent statutory powers; and
- having sufficient and effective resources available to respond to law enforcement situations in a pro-active and positive way.

#### Issues

1. There is little public knowledge of the requirements of legislation administered by the Department.
2. Natural and historic resources are damaged by a range of activities that are contrary to statutes administered by the Department. These include:
  - non-permitted fires during the fire season (see 4.3.5 Fire);
  - unauthorised removal of plant materials, minerals, gravel, and other natural resources;
  - unauthorised vegetation clearance and road formation;
  - the hunting, removal, or killing of protected species (see 4.3.4

*Threatened Species*);

- removal or killing of biota in marine reserves (see 4.3.10 Established Marine Protected Areas);
  - damage to historic resources (see 4.4 Historic Resources and Wāhi tapu (Sacred Places)).
  - trade in endangered species (see Appendix 5.5);
  - dumping of rubbish and spoil (see 4.6.6 Rubbish and Spoil Dumping);
  - inappropriate and unauthorised use of vehicles, vessels, and aircraft (see 4.5.2 Managing Visitor Impacts); and
  - unauthorised grazing or animal trespass (see 4.3.8 Domestic Animals).
3. Cannabis cultivation can pose a threat to ecosystems, the public and Departmental staff.
  4. Holders of concessions may infringe the conditions and thereby damage natural and historic resources, or deprive the Crown of legitimate income, or both (see 4.6.7 Concessions).
  5. The boundaries and status of land administered by the Department are often difficult to determine on the ground.
  6. The Department does not have sufficient resources to effectively carry out compliance and enforcement, resulting in ongoing infringement.

**Objectives**

Compliance with legislation and concession conditions.

Effective enforcement of legislation and concession conditions.

Effective compliance and law enforcement response capability.

**Implementation**

1. Use education programmes to increase awareness of:
  - the relevant requirements of the Acts, regulations, Orders in Council, and bylaws administered by the Department;
  - the damage to natural and historic resources that results from various illegal activities (see 4.2.2 Advocacy and Education for Conservation Management); and
  - the reasons why activities need to be regulated in such a way.
2. Those illegal activities which pose the greatest threat to natural and historic resources will receive the highest priority for compliance and law enforcement.
3. Prosecution action will be taken against serious, blatant or repetitive, offenses.

4. Concessionaires will be monitored for compliance with the conditions of their concession (see 4.6.2 Utilities and Related Structures, 4.6.3 Collection and Taking of Natural Materials, 4.6.7 Concessions).
5. Maintain a team of well-trained honorary and stipendiary officers, that is capable of effective compliance and enforcement.
6. Encourage recruitment of warranted officers from tangata whenua.
7. When dealing with tangata whenua, procedures established under the Charters of partnership will be followed (*see 4.1 Relationship with Tangata Whenua*).
8. Physically identify boundaries and status of lands administered by the Department.

### 5.1.2 Classification of Land Administered by the Department

#### Background

The Department administers land and water bodies with a range of classifications that reflect the emphases of its parent organisations (NZ Forest Service, Department of Lands and Survey, NZ Wildlife Service, and the Ministry of Agriculture and Fisheries for marine reserves). Table

1. (*see Volume 11*) lists the areas of land administered by the Department and their legal status.

#### Issues

1. The overlapping classifications of land administered by the Department and water bodies can lead to inappropriate management and public confusion.
2. A number of areas administered by the Department have classifications that do not reflect their natural and historic resources or management needs.
3. There are inadequate classifications for protecting aquatic and marine ecosystems (*see 4.3.10 Established Marine Protected Areas, 4.3.11 Freshwater Fisheries*).
4. Some lands the Department manages have few or no natural, or historic, or both, resources.
5. Some areas of important natural resources are managed by other agencies under inappropriate classifications.
6. The mechanisms for reclassifying land administered by the Department are complex.

#### Objectives

1. Appropriate classification of land administered by the Department.
2. Legislation that defines appropriate classifications.

## **Implementation**

1. Maintain a register of lands administered by the Department.
2. Prepare an inventory of natural and historic resources on all land administered by the Department.
3. Where necessary reclassify lands to reflect their natural and historic resources and management needs, e.g. Horomanga Wash (V17024) (*see Chapter 3*).
4. Identify lands with little or no natural and historic resources and, evaluate management options. Any disposal will be in accordance with government policy.
5. Disposal of land will be in accordance with the Departments Policy and Procedures Manual.
6. Work with local authorities to rationalise the status and control of lands with high recreational attributes that are administered by the Department; and review-the administration of lands with important natural and historic resources administered by local authorities (*see 4.2.3 Statutory Planning*).
7. Seek a review of legislation to rationalise categories of classifications.

## **5.2 IMPLEMENTATION**

### **Overview**

Processes to ensure the CMS objectives are met, and its provisions are undertaken. The Conservation Board is responsible for a two way flow between the public and Department. To do this the Conservation Board audits the Departments activities.

### **5.2.1 Review, Amendment and Audit of this Strategy**

#### **Background**

The Conservation Act 1987 requires that a Conservation Management Strategy be reviewed no later than 10 years after its approval. There is provision for the Minister to extend this period. An amendment to a Conservation Management Strategy may be initiated at any time by the Director General after consultation with the Conservation Board.

Amendments and reviews follow processes detailed in s.17x and s.17t of the Conservation Act 1987. The exception is where there is an amendment that will not materially affect the objectives of this strategy or the public interest in the particular area. In these instances a more simple process, without public consultation, may be followed.

#### **Issues**

1. The preparation and revision of a conservation management strategy is expensive in time and resources.
2. Parts of this CMS may become outdated or provide inadequate direction.

### **Objective**

A relevant and useful CMS for conservation in the Bay of Plenty.

### **Implementation**

1. The Bay of Plenty Conservation Board will periodically audit the Departments implementation of the CMS in accordance with section 5.2.4 Conservation Board and Figure 15.
2. The Conservation Board will undertake regular, systematic audit, and crisis audit of this Conservation Management Strategy (*see 5.2.4 Conservation Board and Figure 15*).
3. Where the Conservation Board considers necessary, it will seek to initiate a review of this Conservation Management Strategy by the Director General.
4. The review, amendment and audit of this strategy will comply with Charters of Partnership.

## **5.2.2 Management Planning**

### **Background**

The Department has two levels of management planning, nationally and within conservancies (*see Figure 13 Conservation Management Strategy and the Planning Process*).

National planning includes :

- general policies approved by the New Zealand Conservation Authority;
- statutory management strategies (e.g. for kiore) that are advertised, and policies e.g. New Zealand Coastal Policy under the Resource Management Act 1991;
- non-statutory animal control plans e.g. possum, goat and wasp; and
- non-statutory “functional plans” for specific actions in nationally identified areas e.g. Kokako Recovery Plan.

Conservancy planning is both formal and informal. Formal (statutory) plans include :

- Conservation Management Strategies,, Conservation Management Plans and Freshwater Fisheries Management Plans (Conservation Act 1987);,
- Management plans under the Wildlife Act 1953, Reserves Act 1977, Marine Reserves Act 1971 and Forests Act 1949 (for Conservation Park Management Plans).

Informal (non-statutory) plans include :

- “functional strategies” for specific areas of work within a conservancy e.g. Public Awareness Strategy for the Bay of Plenty Conservancy;

- “functional plans” for specific actions in identified areas e.g. Historic Conservation Plans; and
- non-statutory planning actions for a specified area within a conservancy e.g. scoping exercises to resolve planning conflicts.

The Conservation Law Reform Act 1990 established the Conservation Management Strategy as the primary management planning document for natural and historic resources administered by Conservancies.

Conservation Management Plans are to :

- assist in the implementation of a CMS or as required by a CMS;
- establish detailed objectives for the integrated management of natural and historic resources; and provide planning where an area is not subject to a CMS (s.17E Conservation Act 1987).

Freshwater Fisheries Management Plans are to: ↓

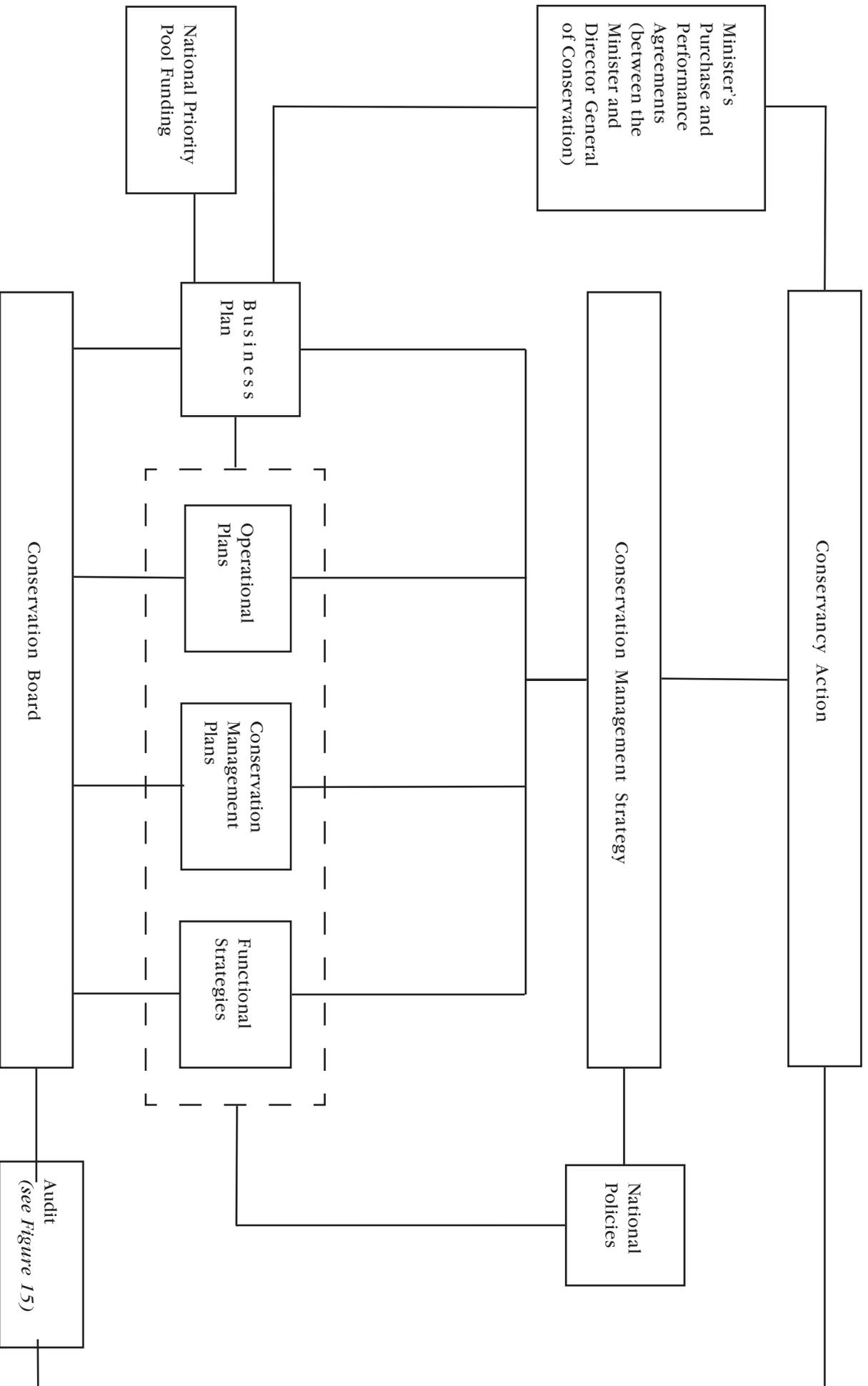
- implement general policies; and
- establish detailed objectives for the management of freshwater fisheries.

Conservation Management Plans and Freshwater Fisheries Management Plans are not mandatory for every parcel of land administered by the Department. The Conservation Management Strategy is required to identify the situations where conservation management plans will be prepared. In addition to Conservation Management Plans the Department has, or will be preparing, a number of non-statutory strategies and operational plans.

### **Issues**

1. The CMS may not be suitable in situations where:
  - there is lack of information;
  - new threats;
  - issues or conflicts arise;
  - issues or conflicts are very complex.
2. Management may require ‘comprehensive site planning that is not possible in a Conservation Management Strategy.
3. Preparation of Conservation Management Plans can be expensive and time consuming.
4. The coverage of various planning documents and their functions, process and terminology are confused.
5. Formal legislative requirements for developing management plans may not be appropriate for areas needing management in accordance with the Treaty of Waitangi and Charters of Partnership.
6. The lack of established procedures for developing informal planning documents may result in relevant parties not being adequately consulted.

Figure 13 Conservation Management Strategy and the Planning Process



### **Objective**

Relevant and efficient planning for the management of natural and historic resources and recreation.

### **Implementation**

1. Conservation Management Plans, non statutory operational plans or non statutory functional strategies may be prepared where the Conservation Management Strategy is lacking, e.g. special issues not covered in sufficient detail, cannot be resolved by consultation or other processes, or arise or become known after approval of this strategy or where;
  - the area has a high public profile or has particular significance to the community or sectors of the community; or
  - there are competing demands on the area;
2. Review the need to complete Conservation Management Plans already started.
3. Assess with the Conservation Board the continuing need for each Conservation Management Plan when due for review.
4. Determine in consultation with the Bay of Plenty Conservation Board the need for a range of planning documents and their objectives.
5. Provisions in any informal planning document must not be inconsistent with this Conservation Management Strategy or with any relevant Charter of Partnership.
6. Development of an informal planning document will be in conjunction with the Conservation Board, will conform with any Charter of Partnership, and may involve public consultation appropriate to the subject being covered.

### **5.2.3 Business Planning Background**

The annual business plan serves as a financial contract between the Department and the Minister for each 12 month period from July to June. Much of the contract is guided by this Conservation Management Strategy. National Priority Pool funding is available for nationally identified projects and the Conservancy may apply for additional funding for “one off” projects. The business plan sets out the work programme for the year and allocates staff time and money to each project in the programme.

There is an audit trail from the CMS, through the business plan to individual projects.

#### **Issues**

1. There may be insufficient resources in any one year to implement highest priorities.
2. National priorities are given precedence, which may result in Conservation Management Strategy objectives not being met.
3. The current reporting systems do not cover conservation effectiveness.



### **Objective**

Effective implementation of the CMS objectives through the business plan.

### **Implementation**

1. Use the Conservation Management Strategy, and Figure 14 to help determine Conservancy priorities and activities of the annual business plan.
2. The Conservancy Business Plan will be consistent with other planning documents identified in the Conservation Management Strategy.
3. Promote the establishment of effective reporting systems to Central Government and the Department's Head Office.

## **5.2.4 Conservation Board**

### **Background**

The Bay of Plenty Conservation Board is the statutory advisory body representing the interest of the public in the management of resources administered by the Department (s.6m Conservation Act 1987). The Conservation Board recognises the importance of advice from tangata whenua, and provides an avenue for public consultation to ensure the Department's management is consistent with expectations of the community. The Conservation Board reports to the New Zealand Conservation Authority and the Minister. The Minister appoints the New Zealand Conservation Authority and the 17 Conservation Boards following nominations from the public.

### **Conservation Authority**

When making appointments to the Conservation Boards the Minister is required to consult the Conservation Authority and have regard to the:

- particular features of land administered by the Department in the Boards area;
- interests of nature conservation, natural earth and marine sciences, recreation, tourism and the local community, including the tangata whenua of the area.

The Minister of Maori Affairs is consulted for any appointment representing the interest of the tangata whenua.

The Conservation Authority deals predominantly with national conservation issues and policy matters related to conservation management. The Bay of Plenty Conservation Board has specific responsibilities of the Bay of Plenty Conservancy.

The functions are:

- Approval of CMS's and some CMP's;
- Advising the Minister on statements of general policy;

- Investigating and advising the Minister or Director-General on conservation matters of national importance;
- Review and report on the Department's\_ management and budget priorities;
- Encourage and participate in educational and publicity activities;
- Propose and consider the change of status of areas of national and international importance.

### **Conservation Board**

The Conservation Board functions are: . \_1

- Oversee the preparation and updating of CMS's and recommend approval by the Conservation Authority;
- Approval of conservation management plans (CMP's);
- Advise the Conservation Authority and the Minister on the implementation of CMS's and CMP's;
- Advising the Authority or the Director-General on regional conservation matters;
- Advising on new walkways in the region;
- To liaise with the Fish and Game Councils.

In the Bay of Plenty Conservancy there are two Scenic Reserve Boards, Lake Rotoiti and Lake Okataina, which the Conservation Board liaises with.

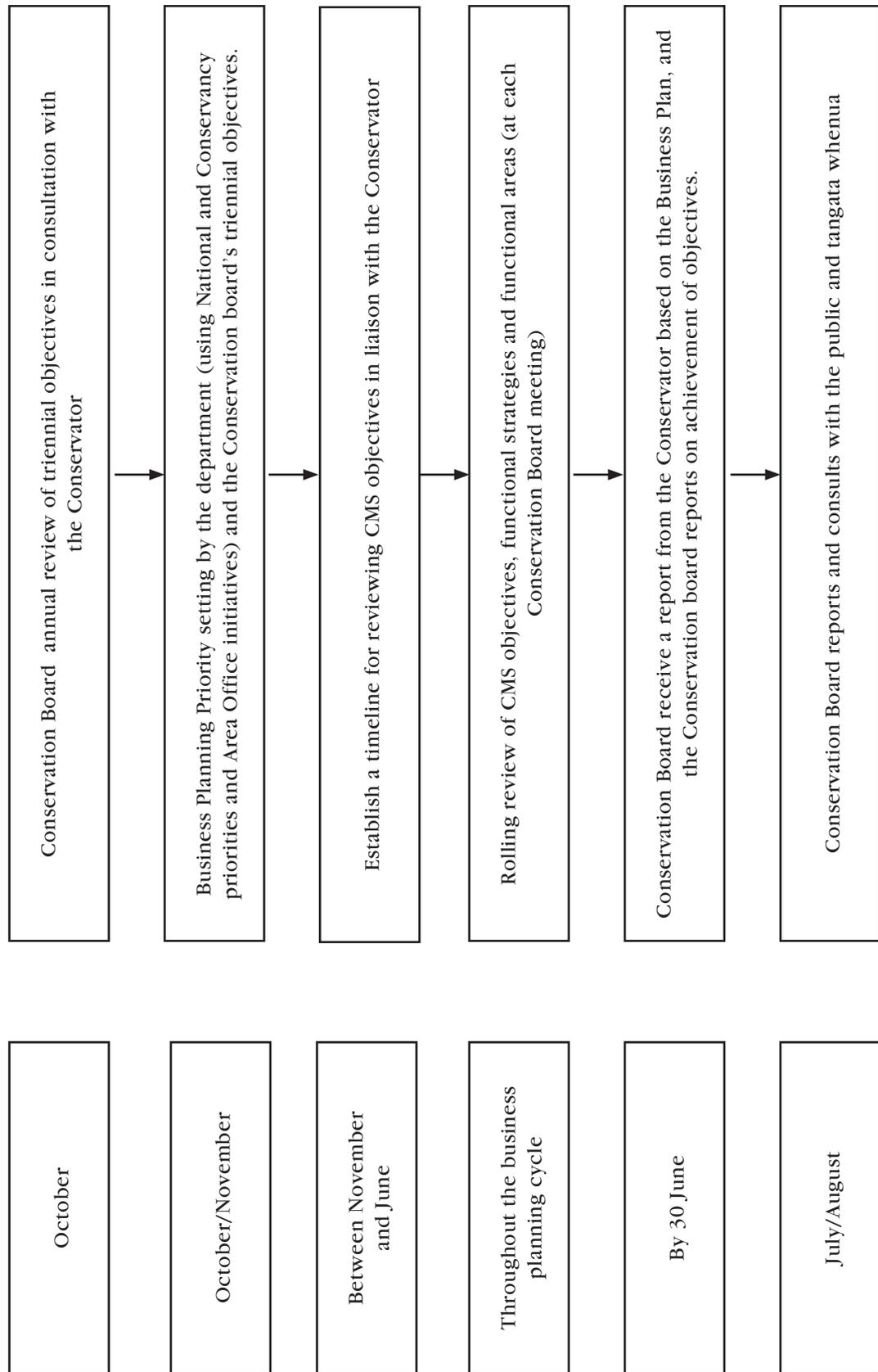
The Bay of Plenty Conservation Board has 10 members and meets 6 to 12 times a year. Committees are appointed to look at specific issues, e.g. mining, wetland management.

### **Issues**

1. The Conservation Board has difficulty adequately dealing with the wide range and volume of responsibilities.
2. There is little public input into setting department's business plan.
3. There is a demand for the Conservation Board to be an effective conservation advocate to the Department and other bodies, for the community.
4. Public awareness of the Department's activities is low.
5. There is a need to audit the implementation of the CMS.
6. The business plan is not suitable for implementing medium term (3-5 years) and long term (> 5 years) objectives.

**Figure 15** Auditing the Implementation of this Conservation Management Strategy by the Conservation Board

(This diagram shows what, and when, the Conservation Board participates in relation to the Department's business planning process over an 18 month process)



### **Objectives**

1. Effective-auditing of the Conservation Management Strategy objectives.
2. Effective communication between the Conservation Board and the public including tangata whenua.
3. Effective fulfilment of the Conservation Board's responsibilities.

### **Implementation**

#### 1. The Department will:

- assist the Conservation Board to meet its responsibilities e.g. providing adequate and timely information;
- keep the Conservation Board fully informed of management issues and recognise it as an important avenue for informing the public, or advising the Minister and Department on issues of public concern;
- assist the Conservation Board to monitor progress in implementing this CMS (see Figure 15);
- take into consideration the Conservation Board's prioritised objectives when preparing the Departments Business Plan; and
- with the Conservation Board, hold public meetings to discuss the Department's business plan (*see 5.2.3 Business Planning*);

#### The Conservation Board will:

- establish its priorities for regular review of the CMS objectives in consultation with the Conservator;
- establish a timetable with the Conservator for reviewing CMS objectives at Conservation Board meetings throughout the year, at the start of each calendar year;
- report to the Conservation Authority on the CMS objectives reviewed and other matters;
- report to the public on Conservation Board activities; and
- consult with the public and tangata whenua on future conservation activities.

# Appendix 1 Management Areas

## APPENDIX 1.1 INTRODUCTION

### 1.1.1 Introduction

This appendix describes the natural and historic resources in the Conservancy, both those which are the responsibility of the Department, and resources on lands not administered by the Department e.g., marine mammals, fire responsibilities, freshwater fish habitats. It complements Chapter 2, Context and Chapter 3, Places.

### 1.1.2 Management Areas

Seven management areas, based on ecological regions and ecological districts, have been identified within the Conservancy (*see Maps 2 and 4, Volume II*).

The use of ecological district and-the identification of management areas is a practical approach to natural ecosystem management. At present, many political boundaries change e.g., regional councils, conservancy's etc.. Ecological district boundaries are stable, identifiable, and are an ecologically sound way of approaching land Management issues for the Department.

The concept of an ecological district enables the natural and historic resources administered by the Department to be put into a context that takes account of the natural diversity present in the landscape around us. These resources are: flora; ecosystems; fauna; landforms; soils; landscapes; geological features; geothermal sites; historic and cultural; recreation; freshwater fisheries; and marine reserves.

The management areas are:

1. **Atiamuri - Tokoroa**; parts of the Atiamuri and Tokoroa Ecological Districts;
2. **Eastern Volcanic**; all of the Kaingaroa and Whirinaki Ecological Districts, and parts of Kaimanawa, Taupo, Waimana, Ikawhenua, Tiniroto, Maungaharuru, and Waikaremoana Ecological Districts;
3. **Islands**; Motiti Island, White Island, and Mayor Island Ecological Districts;
4. **Otanewainuku-Te Aroha**; all of the Otanewainuku Ecological Districts and parts of the Te Aroha, Hinuera, Hauraki, and Waihi Ecological Districts;
5. **Rotorua**; which is all of the Rotorua Ecological District;
6. **Tauranga**; which is all of the Tauranga Ecological District; and

7. **Whakatane**; all of the Te Teko and Taneatua Ecological Districts, and parts of the Opotiki, Waioeka, and Waimana Ecological Districts.

### **1.1.3 Lands**

The Department administers land in all but seven of its 11 ecological districts. Two of these are privately owned islands and five are very small proportions of ecological districts near the boundary of the Conservancy (*see Table 1.1.1 and Volume II*).

The size of the individual sites managed by the Department in this conservancy varies considerably (*see Table 1.1.2*).

### **1.1.4 Threats to Natural and Historic Resources**

There are a number of threats to natural and historic resources that the Department manages. The most common is modification or loss of ecosystems. These occur both on lands the Department does, and does not administer. The Department's conservation thrust is to identify important, representative ecosystems and minimise the threats to them (*see Table 1.1.3 and Table 1.1.4*).

Table 1.1.1 DISTRIBUTION OF LAND ADMINISTERED BY THE DEPARTMENT (AND SEA) BY MANAGEMENT AREAS AND ECOLOGICAL DISTRICTS (MARINE RESERVES ARE IN ITALICS)

Management Area	Ecological District <sup>1</sup>	Ecological District Area (ha)	Total Sites (number)	Total Sites Area (ha)	DOC <sup>1</sup> (number)	Area DOC sites (ha)	Other sites DOC has an interest in	Area (ha)	Other Vestings <sup>2</sup>	Area Other sites (ha)
Atiamuri-Tokoroa	Atiamuri Tokoroa	114,141 62,219	61 15	4681.80 5117.30	37 11	4,305.20 5,106.33	10* 1*	220.16 0*	14 3	156.44 10.97
Eastern Volcanic	Ikawhenua Kaimanawa Kaingaroa Maungaharuru Taupo Tiniroto Waikaremoana Waimana Whirinaki	33,565 49,498 236,173 476 841 447 1,052 198 47,640	1 <sup>3</sup> 8 <sup>3</sup> 64 64 1 <sup>3</sup> 1 <sup>3</sup> 13 <sup>3</sup>	23,792.00 15,761.30 7,263.16 292.00 31,294.21	1 <sup>3</sup> 3 <sup>3</sup> 30 1 <sup>3</sup> 9 <sup>3</sup>	23,792.00 15,617.66 6,110.48 292.00 31,293.48	5* 1.4*	143.64 977.51 0*	20	175.17 0.73
Islands (The + indicates the name of the ecological district)	Mayor* <i>Mayor Marine Res.</i> <sup>#</sup> Motiti + Karewa Plate White* Moutohora Rurima	1,276 <i>631,200</i> 690 3,57 2,83 237.96 143.26 15.88	1 <i>1</i> 1 1 1 1 1	1,075** <i>1,060.00</i> 3.57 2.83 237.96 143.26 15.88	<i>1</i> <i>1</i> 1 1 1 1	<i>1,060</i> 3.57 2.83 143.26	1 <i>1</i>	1075** <i>1075**</i>		
Otanewainuku- Te Aroha etc.	Hauraki Hinera Te Aroha Otanewainuku Waihi	548 26,526 24,554 174,572 3,520	33 18 117 4	376.53 20,534.75 42,240.20 542.74	11 10 73 4	106.69 20,198.49 40,874.55 542.74	4* 15*	259.49* 260.60*	22 4 29	269.84 76.77 1,105.05
Rotorua	Rotorua	130,466	168	27,714.63	56	18,498.74	1.4*	4,491.31*	98	4,724.58
Tauranga	Tauranga	75,658	234	2,196.44	36	532.84	4	551.89	194	1,111.71
Whakatane	Taneatua Te Teko Opotiki Waioeka Waimana	59,604 34,327 359 170 458	70 102	3,706.46 1,197.76	42 31	3,203.94 490.30				
Total Land		1,079,381.50	915 <sup>4</sup>	188,189.78	358 <sup>4</sup>	171,115.1 <sup>4</sup>	78	8,405.99	479	8,668.69
Total Sea #		631,200	1	1,060.00	1	1,060				

1 Lands managed by the Department of Conservation for conservation purposes.

2 Lands the Department of Conservation has certain statutory or approving role under the Reserves Act 1977.

3 Part of Whirinaki Conservation Park and total approximately 54,921 ha as follows: Whirinaki 30,459 ha, Ikawhenua 23,792 ha, Kaimanawa 378 ha, and Waikaremoana 292 ha

4 Includes the three "additional sites" of Ikawhenua 23,792 ha, Kaimanawa 378 ha, and Waikaremoana 292 ha which are all part of the one site, Whirinaki Conservation Park.

# Marine reserve - area of sea surface

\* Proposed easements area not surveyed

\*\* Wildlife refuge

Table 1.1.2 LAND VESTED IN AND ADMINISTERED BY THE DEPARTMENT INCLUDING OTHER CROWN LANDS

Ecological District	Size Classes ( Hectares)							Total sites
	0 - 20	21 - 50	51-100	101-500	501-1,000	1000 - 10,000	10,000+	
Atiamuri	28	9	1	7	1	1		47
Hinuera	9	2						11
Kaiangaroa	23	6	4	8	1	2		44
Kaimanawa	3		2			1	1	7
Mayor Island						1*		1*
Motiti	2							2
Otanewainuku	42	11	9	17	2	6	1	88
Rotorua	37	8	2	12	7	4		70
Taneatua	31	3	2	5		1		42
Te Aroha	6	3	1	2		1	1	14
Te Teko	29	3	2	2				36
Tauranga	31	5		3	2	1		12
Waihi	2		1	1				4
Whirinaki	9			2			1	12
White Island	1			1				3
TOTAL	258	50	27	63	12	18	4	432

\* Marine Reserve

<sup>1</sup> Includes three "additional sites" of Ikawhenua 23,792ha, Kaimanawa 378ha and Waikeremoana 292ha which are all part of the one site.

Table 1.1.3 CONSERVATION ACTIVITIES AND THREATS ON LANDS (AND. WATERS) NOT ADMINISTERED BY THE DEPARTMENT

Activities	Threats	Relative level of threat	Relative level of vulnerability
Freshwater fisheries	As for freshwater fish habitats (see Table 1.1.2)	very high	very high
Marine mammals	Stranding, secondary catch	moderate	very high
Historic places	Human modification, stock, regrowth of vegetation	high	low to very high
Landscapes	Lack of consideration of landscape attributes in the development process.	moderate	moderate
Fire	Possible impact on land administered by the Department front fires on adjoining lands.	low to very high in places	low to very high in places

Table 1.1.4 ECOSYSTEMS AND THREATS TO ECOSYSTEMS FOR THE BAY OF PLENTY CONSERVANCY

Ecosystems and habitats	Threats	Relative level of threat	Relative level of vulnerability
Subalpine, montane forests	Goats, possums, rodents, mustelids, dogs, cats, structures, and access routes,	Low	Low (medium)
Mid-altitude forest	Goats, deer, possums, rodents, mustelids, dogs, and cats.	Low	Low (medium)
Lowland forest and regeneration forest (below 400 in)	Goals, deer, possums, clearance on private land, logging, firewood collection, lack of legal protection, grazing by stock, small size of remnants, loss of ecosystems and habitats, and introduced plant pests in remnants and on edges e.g. smothering creepers, low light tolerant invasive garden plants.	Medium	Medium
Freshwater wetlands	Drainage (lack of water), weeds including willow, stock grazing, stop banking, lack of legal protection, small size of remnants, wood waste dumping, landfills, loss of ecosystems and habitats, nutrient enrichment from surrounding land and water ways, and reduction in indigenous vegetation buffers.	High	High
Riparian (water course margins)	Lack of legal protection, weeds, grazing, impacts of upstream uses (sedimentation, stopbanks, straightening rivers, realignments, cutting off of meanders, clearance of vegetation and resulting instability dumping, loss of wildlife corridors)	Upper reaches - low Lower reaches - high	Upper reaches -low Lower reaches -high
Rivers, streams	Lack of legal protection, (straightening, stop banking), sediment from catchment activities, stock damage, catchment land uses causing lower water quality, removal overhanging vegetation changing water temperature, abstraction (if high), willows choking watercourse, discharges, leachates, barriers to fish migration (e.g. dams, too small or too high culverts, weirs), dumping, and exotic aquatic weeds.	Upper reaches - low  Lower reaches - high	Upper reaches -medium  Lower reaches -high
Saltmarsh and mangroves	Drainage, stop banking, stock, grazing, bunting, dumping (e.g. wood waste, —landfills), encroachment from adjoining land owners, intensive recreational uses, weeds if disturbed, loss of adjoining freshwater wetlands, Spartina, lack of linkage between remnants to allow wildlife to move, wildlife disturbance, loss of ecosystems and habitats, vehicle use, inappropriate structures (facilities, fence lines), title boundaries, and lack of protection from adjoining land uses e.g. housing, lack of buffer for sea level rise, lack of legal protection.	High	High
Coastal forest	Lack of legal protection, stock grazing, intense recreational pressures, wildlife disturbance, loss of ecosystems end habitats, clearance especially for views and house sites, dumping, possums in pohutukawa, and weeds in remnants.	High	High
Dunelands	Housing and urban development, forestry, exotic plants, lack of buffer from adjoining intensively developed areas, wildlife disturbance, weeds, vehicle use, intensive recreation, grazing by stock, burning, sand mining, lack of buffers to take - account of effects of storms and sea level rise, drainage of dune lakes.	Medium	High
Coastal freshwater wetlands	Drainage, stop banking, ( <i>see Freshwater Wetlands</i> ), destruction of edge vegetation and loss of freshwater fish habitats.	High	High
Rocky shore	Adjoining intensive development and vegetation clearance e.g. pohutukawa, boat ramps and other structures, intensive recreational activities,	Low	Low
Estuaries	Catchment impacts on water quality and sedimentation, causeways, reclamations, marinas, ports, structures, out falls, discharges, leachates, harvesting of marine biota, damage to barrier spit, intensive recreation, stop banking, drains, channel construction, wildlife disturbance, loss of ecosystems and habitats, spartina and aquaculture ( <i>see coastal and freshwater wetlands, Saltmarsh and mangroves above</i> ).	High	High
Islands	Reinvasion/invasion by pest species, pressure for high levels of ecotourism are important threats ( <i>see appropriate ecosystems and habitats above</i> ).		
Geothermal	Mining, heat extraction, tourism development, weeds, fire, forestry, farming ( <i>see Freshwater wetlands and Riparian (water course margins) above</i> ).	High	High
Plantation forests	Clearance of mature stands destroying ecosystems that support wildlife, destruction of freshwater fish habitat.	Medium	Low

- 1 The possibility of low probability/high impact events on all ecosystems e.g. volcanic eruptions, earthquake .
- 2 The table shows that lowland ecosystems and habitats are most under threat, particularly those in the coastal environment associated with water and shrublands.
- 3 Legal protection of remaining ecosystems and habitats, and restoration of degraded areas are separate but related issues. There is an issue of priority whether to maintain the least degraded or enhance the barely degraded ecosystem or habitat. The legal protection of a valuable but degraded area should not be foregone simply because restoration activities cannot be undertaken immediately.

## APPENDIX 1.2 ISLANDS MANAGEMENT AREA



The Islands Management Area comprises 633,500 ha, of which approximately 99.6% (631,200 ha) is sea and 0.40%, (2,369 a) is land. The land area includes four major islands and a number of smaller islands, (some are rocky outcrops).

The management area encompasses all of the Mayor Island, Motiti Island, and White Island Ecological Districts. There is potential for management of these islands for restoration of ecosystems and habitats, as refuge for rare species of native plants and animals, for low impact ecotourism, and as marine protected areas.

The tangata whenua have a strong cultural link with the sea and the islands. Joint management of some islands by the Department and tangata whenua may be appropriate. The land administered by the Department is 149.66 ha (6.3%) of the total protected land of 1,478.50 ha (64.40%). The total island area is 2,369.50 ha. Of the remaining 631,200 ha of sea, 1060 ha (0.17%) is gazetted Marine Reserve. There are two wildlife sanctuaries and a marine reserve (Marine Reserves Act 1971).

### 1.2.1 Geography

The Islands Management Area includes Mayor Island (Tuhua) in the north to White Island (Whakaari) in the east. All islands between this line and the coast are included in this management area.

Mayor Island, is a 1,276 ha peralkaline volcanic island situated 37 km north of Mt Maunganui. The highest peak is 355 m and the island has two crater lakes (Wises New Zealand Guide, 1987).

Motiti Island, with an area of approximately 690 ha, is a large plateau reaching 57 m above sea level and surrounded by low coastal cliffs. It is situated 13 km north of Maketu and 20 km east of Mt Maunganui. Other islands near Motiti include Karewa Island (Te Motu o Karewa), and Plate Island (Motunau).

White Island is an active composite andesitic volcano of 238 ha (Kenny and Hayward, 1993). It is 47 km north-east of Whakatane. The crater bottom is below sea level. Three peaks rise above the crater with the highest being Mt Ngatoro at 321 m a.s.l. The Volkner Rocks (Te Paepae Aotea) are 5 km west of White Island, and Club Rocks are just south of White Island.

Other islands in the White Island Ecological District are Moutoki, Rurima, Tokata (collectively known as the Rurima Rocks; they are still volcanically

active), and Moutohora (Whale) Island (still volcanically active) (Hunt, 1992).

Moutohora is considerably different from the other islands in this ecological district in that it is well vegetated. It has been farmed in the past, and is now being restored. It is a 143 ha remnant andesitic volcanic dome. The highest point is 353 m (a.s.l.).

The islands have an oceanic climate with warm humid summers and mild winters. The prevailing winds are north-westerly although north-easterly storms sometimes sweep the Bay of Plenty. The rainfall is less than onshore sites. For example Tauranga Airport has 1,362 mm, Maketu 1,288 mm, and Whakatane Airport 1,227 mm (NZ Meteorological Service 1985). High intensity cyclonic rainfall occur at times from the north-east and north.

### **1.2.2 Legal Status and Management**

The legal status and management of these islands fall into three classes:

1. Land administered by the Department,

This includes Karewa and Plate Islands (both wildlife sanctuaries), Motutau Island (Scenic Reserve), the Rurima Rocks (wildlife refuge), and Moutohora Island (wildlife management reserve and wildlife refuge). Moutohora is managed to conserve indigenous plants and animals, geological and historic places. A conservation management plan is in preparation.

2. **Land jointly administered by the Department or islands managed under the Reserves Act 1977.**

White Island is a private Scenic Reserve pursuant to the Reserves Act 1977.

Mayor Island is jointly owned by some 750 descendants of the Whanau a Tauwhao and the Crown, which bought 16 of the original 195 shares between 1887 and 1885. Negotiations for the return of the Crown shares have stopped pending progress on claims to the Waitangi Tribunal. Mayor Island is managed by a board of trustees for the benefit of the many owners. The general philosophy of management is protection and conservation but appropriate development is allowed. The Mayor Island Trust Order states that 176.5 ha of the Island is a development area "to hold, manage, develop, and turn to advantage" and a further 28.5 ha are Maori Reserve. This leaves, 1075 ha as a Conservation Area to be managed as if it were a National Park. The land was vested in the Trustees under a 438 Trust Order, 23 August 1988, pursuant to the :Maori Affairs Act 1953.

Mayor Island is a big game fishing base. The Tauranga Big Game Fishing Club developed accommodation, club rooms, and other facilities for fisher persons. The board of trustees now manages most of these facilities which include accommodation, ablutions, and camp facilities. The many visitors to Mayor Island include fisher persons, bird watchers, divers, sailors, and trampers.

### **3. Privately owned lands.**

This includes the Motiti Island group. The largest island (Motiti) is farmed.

#### **1.2.3 Geology**

Mayor Island is New Zealand's only Holocene peralkaline volcano. It has a large caldera, lava flows, two crater lakes and was connected to the mainland during the last glacial period. It is known for its unique sodium rich composition and fire obsidian. The soil comprises yellow-brown and brown granular loams (Kenny and Hayward, 1993).

Motiti Island is mainly Miocene andesite with fluvial silts, sands, gravels, and inter-bedded pumiceous tuffs. The soil is volcanic ash from weathered brown ashes, with black sandy loam topsoils and brown friable sandy loam to silt loam subsoils. The soils have good drainage and are suitable for intensive agricultural and horticultural use (McEwen, 1987).

Karewa Island is Pleistocene rhyolite with deep friable soil on the south and west slopes.

Plate Island is welded volcanic conglomerates with rhyolitic tuffs.

White Island is an active andesitic volcano. It is the centre of an area of frequent volcanic activity. The crater is continually active and there is constant violent thermal activity with boiling pools steam and gas vents.

Moutohora Island is a complex andesite-dacite composite volcano. The remnant volcanic dome has been heavily eroded, leaving two peaks. There are some areas of sedimentary rock, hydrothermally altered ground, and hot springs.

#### **1.2.4 Vegetation**

All the islands have been modified by human habitation and introduced animal and plant pests.

Mayor Island is large and still covered in coastal forest. It was modified extensively by Polynesian occupation during pre-European times. The vegetation is largely dominated by pohutukawa, kanuka, and rewarewa. Motiti island has been extensively farmed and cropped for the past 100 years. The remaining indigenous vegetation (predominantly pohutukawa) is restricted to the bordering cliffs.

Karewa Island and Plate Island are dominated by coastal shrubland.

White Island has no vegetation within the crater, but elsewhere around parts of the coast there is pohutukawa forest or scrub and low grass and herb fields. Only seven species of vascular plant were recorded in 1991 (Shaw pers. comm.).

Moutohora Island had significant changes to its plants and animals after burning and the introduction of sheep, rabbits, cats, and rats. These animals were all removed by 1987. An island restoration programme of revegetation was carried out in the late 1980's. Natural regeneration of kanuka and pohutukawa forest is now occurring. There is also some localised ngaio regeneration.

### **1.2.5 Fauna**

Tuatara are common on Karewa Island, Plate (Motunau) Island, and Moutoki Island in the Rurima Rocks group. These islands are also the northern limit for the speckled skink, with Moutohora Island the southern limit for the “shore” skink.

The islands are important for breeding sea birds. For example, the grey ternlet on Volkner Rocks, Australasian gannet and grey-faced petrel on White Island, and the grey-faced petrel on Moutohora Island. The dominant species on Karewa Island is the flesh-footed shearwater and the island is honeycombed with their burrows. Diving petrel also breed there in good numbers.

Mayor Island is covered with native forest with a high population of forest birds including bellbirds and North Island Ma, Pigs, cats, kiore, and Norway rats are also present on this island (McEwen, 1987).

Since the eradication of goats, rabbits, and rats on Moutohora Island, the island has become important for the management and conservation of native plants, such as pohutukawa and animals. The most significant is the large breeding colony of grey-faced petrels, Sooty shearwaters, blue penguins, the threatened variable oystercatcher, and the New Zealand dotterel also breed on the island. Red-crowned parakeet have been released onto the island.

### **1.2.6 The Marine Environment**

Both Tuhua and Whakaari have special marine features. They are in the warm, seasonal, East Auckland Current and have an oceanic marine environment. Due to the warm current, there is a diverse flora and fauna, with affinities to subtropical taxa of plants and animals. The volcanic influence on the marine environment is also a special feature. Whakaari has not been part of the mainland, where as Tuhua is situated on the edge of the continental shelf.

### **1.2.7 Historic Resources**

Mayor Island was an important source of obsidian (volcanic glass) which was widely traded and distributed throughout New Zealand in prehistory. Due to the importance of obsidian, the island has had a history of many battles between warring tribes; as a consequence, there are many wāhi tapu. Archaeological sites of historic origin similar to that on the Kermadec Islands have been identified on Tuhua (Seelenfreund-Hirsch, 1985). The island also has a range of other historic places which are evidence of permanent Maori occupation (Seelenfreund, 1982).

Mayor Island has a tiny settlement at Opo Bay with motel-style cabins and camping accommodation catering to tourists who visit in the summer months. There were over 2,500 visitors to the island in 1991-1992 (Jones pers. comm.), they included people visiting for fishing, walking, and interest groups such as schools and tramping clubs.

A historic resource inventory of Motiti Island was completed in 1987. There are 34 recorded historic places on the island including pa, terraces,

pits, urupa, and one settlement (Walton and McFadgen, 1990).

Motiti Island had 30 residents in 1991. They are families farming cattle and sheep. There is also some horticulture (maize, tangelos, and kiwifruit).

White Island was probably used for seasonal bird harvesting during the prehistoric period. The trader Hans Tapsell acquired White Island in 1868 and it changed hands regularly. It was the site of a small-scale sulphur extraction operation until a mud flow destroyed the factory and killed 11 miners in 1911. Sulphur mining continued intermittently until 1934. The sulphur mining site, factory, and associated wharf are still on the island (Parham, 1973).

The Volkner Rocks (Te Paepae Aotea) are of spiritual importance to Ngati Awa who are the tangata whenua. Ngati Awa traditions state that the rocks is the departing place of the spirits of their deceased and it is therefore regarded as wāhi tapu.

Moutohora Island has traditional and cultural significance for the tangata whenua, with at least 15 historic places on the island (Hayward et al, 1990). Moutohora Island has no permanent residents. It is a good example of an island restoration programme. The potential establishment of threatened species on Moutohora would give the public the chance to see these species. This, with comprehensive interpretation, will increase their awareness of the environment (Hunt, 1992). The island has sites that extend over the range of human occupation in New Zealand. It is one of the few known areas in the country containing the range of human occupation from Polynesian through to post-european, where all site are well preserved and under no threat from development (Bowers, pers. comm.).

A short-lived attempt at farming Moutohora took place early in this century. The last stock were removed in 1943. Rock for the Whakatane Harbour wall was quarried on the island between 1916 and 1920. In 1893, 50 tons of sulphur were shipped from the island (Moore, 1987). Further investigation for the extraction of sulphur was carried- out in the 1940's, but an industry was never developed. Karewa Island has always been a traditional resource area for the taking of titi (mutton birds) and kai moana. The tuatara (which is present on the island) is seen as a sacred Taniwha whose environment and life cannot be interfered with. A well known legend (the legend of Taurikura) relates how the tuatara came to be on Karewa.

The Conservancy will identify tangata whenua then develop and establish a charter of partnership.

### **1.2.8 Lands Administered by the Department**

There is little protected land in this management area. Offshore islands provide relatively secure sites for the conservation of plants and animals from browsers and predators. The most important land administered by the Department is the pest free, relatively large, Moutohora (Whale) Island. With eradication of introduced pests, the island is now an important ecological unit and has the potential for becoming a haven

for threatened species.

Karewa Island, Plate Island, and the Rurima Rocks are also important because of the species present and the fact that they are predator free. Their small size though increases their vulnerability if pest species are introduced. White Island is adequately protected both by legislation and the activity of the volcano.

The conservation of the sea's natural resources is low. There is only one site of 1,060 ha established as a marine reserve located north of Tuhua.

Table 1.2.1 INTRODUCED PESTS ON ISLANDS (JANSEN, P.J.; OWEN K.L. PERS. COMM.)

Island	Pig	Kiore	Norway Rat	Cat	Rabbit	Sheep	Goat	Comment
Mayor	Present	Present	Present	Present			present	
Rurima								Predator free
Motiti		Present	Probable	Domestic		Present		
Karewa				-				Predator free
Plate								Predator free
White		Present						
Moutohora			1920 - 1986	? - 1987	1986 - 1987	1938 - 1943	1890 - 1977	Predator free

Table 1.2.2 SIZE CLASSES OF LANDS ADMINISTERED BY THE DEPARTMENT IN THE ISLAND MANAGEMENT AREA

		Size Classes (ha)						
Ecological District		0 - 20	21 - 50	51 - 100	101 - 500	501 - 1,000	1,000 - 10,000	+10,000
Mayor						•	,	1
Motiti	Motiti#							
	Karewa	1						
	Plate	1						
White	White*				1			
	Moutohora				1			
	Rurima	1						
Total		3			2		1	

\* Private scenic reserve

# Private island

Table 1.2.3 PROTECTED LAND IN THE ISLANDS MANAGEMENT AREA

Ecological District		Total Area (ha)	DOC managed lands(ha)	Area%	Interest Sites (ha)	Area%	Other vested	Area%	Total Area Protected (ha)	Total %
Mayor <i>Mayor Island</i> <i>Marine Reserve</i>		1,276 <i>631,200</i>	<i>1,060</i>		1,075	84%			1075 <i>1,060</i>	84% <i>0.17%</i>
Motiti	Motiti#	690.00								
	Karewa	3.57	3.57 (1 site)	100%					3.57	100%
	Plate	2.83	2.83 (1 site)	100%					2.83	100%
White	White*	237.96			237.96	100%			237.96	100%
	Moutohora	143.26	143.26 (1 site)	100%					143.26	100%
	Rurima	15.88			15.88	100%			15.88	100%
Total Land		2,369.50	149.66	6.3%	1,328.84	56.08%			1,478.50	64.40%
Total Sea		631,200	1060	0.17%					1060	0.17%

\* Private scenic reserve

# Private island

## APPENDIX 1.3 TAURANGA MANAGEMENT AREA



The Tauranga Management Area consists of one ecological district, of approximately 75,658 ha. It includes the Tauranga Harbour, a high quality ecosystem in terms of the Ramsar criteria for wetlands of international importance for vegetation, culture, waterfowl, and fisheries. The land administered by the Department is 0.70% of the Tauranga Management Area with 2.90% being protected land (see Table 1.3.2).

### 1.3.1 Geography

The management area extends along the Bay of Plenty coastline from Otamarakau to Waihi beach. The area includes the Kaituna catchment area, the Maketu Estuary, Little Waihi Estuary, the Tauranga Harbour, and Matakana Island.

The Tauranga Harbour is the dominant coastal feature, extending over approximately 20,500 ha, including tidal mudflats and estuaries to the mean high tide level. The management area has a sandy coastline over 170 km in length and is unusual in that there are only four rocky headlands. There are some islands in Tauranga Harbour, the most significant being Matakana (6,100 ha), Rangiwaea (356 ha), and Motuhua (105 ha).

South-east of the Tauranga Harbour is the lower Kaituna River plains, the Maketu Estuary (240 ha), and the Little Waihi Estuary (285 ha). The Maketu - Waihi estuaries and the Kaituna River mouth complex total about of 863 ha (Owen, 1991b).

The climate is sunny and sheltered with a strong maritime influence. The rainfall is about 1400-1800 mm per annum, generally evenly distributed, but high intensity rains at times come from the north-east and north. The winters are mild with occasional ground frosts in sheltered areas.

### 1.3.2 Geology

The whole area has been covered by recent volcanic material. There are four main geologic features:

1. Pleistocene siltstones, sandstone, conglomerates, and pumiceous ignimbrites on the eastern Coromandel Ranges and Kaimai Range foothills west of Tauranga Harbour.
2. Pliocene rhyolite domes and lava flows forming some notable features e.g. Mt Maunganui.

3. Miocene andesite-dacite lava and breccia form the Papamoa Hills (some quarrying has taken place here).
4. Alluvium and peat are on the coast.

The soil types range from volcanic soils in the south-east to brown clays and Waikato rhyolitic tephra in the north. At the entrance to Tauranga Harbour and surrounding coastal areas are coastal dunes.

Most tephra are rhyolitic in composition and originated from the Okataina Volcanic Centre between 4,000 and 40,000 years ago. The topsoils are generally well developed volcanic loams. Their excellent physical properties and high soil temperatures contribute to their national importance for intensive horticulture and agriculture.

On the coastal side of Te Puke and State Highway 2 are 10,000 ha of low lying peat land, the flood plain of the Kaituna River and the Little Waihi and Maketu Estuaries. These soils are a mixture of grey, organic, and recent soils. Most were poorly drained in their original natural state and susceptible to flooding. Much of the original wetland has now been drained and stop-banked. Little of the wetland remains in its natural state.

### 1.3.3 Vegetation

The original vegetation was a combination of native coastal and wetland forests. Little remains today. Along the coast pohutukawa was abundant, often extending several kilometres inland. Urban development and possums have severely reduced pohutukawa trees. Collectively, the mangrove and salt marsh areas of the estuaries and harbour are of very high botanical status. Many of the remaining freshwater wetlands, salt marshes, and mangroves are grazed-by cattle. This has damaged the plant communities and the wildlife they support (Owen, 1991b).

There are two species of rare ferns on Matakana Island, *Thelypteris confluens* and *Cyclosorus interruptus*. The coastal and estuarine vegetation in this management area have been extensively surveyed (Beadel, 1989, 1990b, 1992b).

The forests are typical lowland forests of mainly tawa, kohekohe, puriri, rewarewa, and rimu over broad-leaved trees and shrubs, In the gullies behind Te Puke there is king fern.

### 1.3.4 Fauna

#### (a) Wildlife

There are 20 Sites of Special Wildlife interest identified by the Fauna Survey Unit of the former Wildlife Service (Rasch, 1989). Ten of these are forest sites, five are saline wetlands, four are freshwater wetlands, and one is a coastal site.

Species of endangered birds include the kokako, kereru, white heron, brown Kiwi, a range of rare wading birds, 14 birds of national importance, and five species of regionally threatened birds.

Other threatened wildlife species include: Various species of skinks,

gecko, indigenous freshwater fish, two species of bats, the flax snail, and the kauri snail. Hochstetter's frog is found in Oropi Forest.

### **(b) Habitats**

The coastal areas are ranked as Outstanding Sites of Special Wildlife Interest (Rasch, 1989). The ranking reflects their large size, diversity of relatively unmodified habitats, and the wide diversity and number of waterfowl (especially shorebirds) inhabiting this area. It is important for feeding nationally endangered white heron and black stilt; nationally vulnerable New Zealand dotterel, banded dotterel, wrybill, reef heron, royal spoonbill, Australasian bittern, Caspian tern and banded rail; nationally rare variable oystercatcher; and regionally vulnerable fernbird, along with a wide range of local, national, and international migratory shorebirds (Owen, 1991b).

The saltmarsh and mangrove areas are important habitats for banded rail, marsh crake, fernbird, and Australasian bittern.

The freshwater wetlands at the northern end of Matakana Island within the wildlife refuge, and the willow dominated wetlands along the western side of Matakana Island, are notable habitats for a wide variety of water bird, species (waders, waterfowl, shags, rails, etc.)

The estuaries are important for shellfish and are nursery sites for many species fish. The tidal flats support a valuable shellfish fishery. The tributary streams support a regionally important whitebait fishery and the lower reaches provide a spawning habitat for inanga. Modification of waterways and intensive fishing has resulted in a decline in numbers of shellfish, whitebait, eels, and certain species of fish.

### **1.3.5 Cultural Characteristics**

Approximately 89,800 people reside within 10 km of the harbour. Key populations are Tauranga City (46,800), Mt Maunganui (13,300), and Western Bay of Plenty District (29,700). About 90% of these people live in the catchment area. This has a significant impact on the wetlands in the area (Owen, 1991b).

Domestic visitors are the main recreational users. They focus mainly on water-based activities such as recreational boating, yachting, sailing, swimming, wind surfing, waterfowl hunting, fishing, water skiing, bird watching and diving.

The wetlands are used extensively for educational purposes and are important for their scenic, aesthetic, and landscape attributes (Smale, pers. comm.). Ad hoc scientific research takes place, but in the main it is driven by the need to supply specific data and environmental reporting information for site specific environmental conflict resolution, such as port dredging, waste water discharges, reclamation, and road expressway proposals:

### **1.3.6 Tangata whenua**

Tauranga District has been occupied by Maori for perhaps 1,000 years. During this occupation many cultural and historical associations have developed. These include local landmarks, wetland features, fishing grounds, shellfish beds, wāhi tapu, urupa, pa, kainga, food storage pits, shell midden, cultivation areas, and terraces. These traditional associations remain regardless of the present ownership of the land.

Traditionally, Tauranga Moana (the harbour) was as significant, if not more so, than the land to the Maori. It was a major source of food and the means of access and communication among the communities around its shores. The wetlands are currently a seafood gathering area for all marae in the district.

The strong traditional and continuing association of the Maori community with wetlands is a notable feature, requiring the maintenance of the highest possible water quality and sustainable kai rnoana resources (Owen, 1991b).

The significance of the management area as an historic landscape was recognised by archaeologists in the early 1960's. Two detailed historic resource inventories were completed by Auckland University archaeologists at Ongare Point (Shawcross, 1964, 1966) and Kauri Point (Ambrose, 1962; Goldson, 1961). The area was intensively surveyed by the Historic Places Trust during the early 1980's. Tauranga was found to have a high density of recorded historic places. More than 50% of these places are shell midden, reflecting the significance of

Tauranga Harbour as a traditional food source (O'Keefe, 1991).

Tawianga has many large and visually impressive pa, such as those at Papamoa, Welcome Bay, and Matapihi. Several small pa have had archaeological investigations (McFadgen, 1982, 1983, McFadgen and Sheppard, 1984).

### **1.3.8 Land Use**

The predominant land use in the area is intensive horticulture and agriculture.

### **1.3.9 Land Administered by the Department**

Of the land administered by the Department in the Tauranga Ecological District 6 areas are over 20 ha (*see Table 1.3.1.*). These are:-

- Crown Land at Wainul River (28.1 ha);
- Waihi Wildlife Management Reserve (29.39 ha);
- Crown Land at Pukehina Beach (32.17 ha);
- Waiau/Athenree Wildlife Refuge Reserve (45,48 ha);
- Wainui River Scenic Reserve (47.77 ha); and
- Lower Kaituna Wildlife Management Reserve (236.88 ha).

There are very few habitats protected in this ecological district and those that are, are especially important due to being situated in wetlands and estuaries.

Table 1.3.1 LAND ADMINISTERED BY THE DEPARTMENT IN THE TAURANGA MANAGEMENT AREA INCLUDING CROWN LANDS

Ecological District	Size Classes (ha)						
	0-20	21-50	51-100	101-500	501-1000	1,000-10000	+10000
Tauranga	31	5		3			

Table 1.3.2 PROTECTED LAND IN THE TAURANGA ECOLOGICAL DISTRICT

Ecological District	Total Area (ha)	DOC Managed lands (ha)	Area %	Interest Sites (ha)	Area%	Other vestings (ha)	Area %	Total Area (ha)	Total
Tauranga	75,658	529.66 (35 sites)	0.70%	551.89 (4 sites)	0.73%	1,111.71 (194 sites)	1.47%	2,193.26 (233 sites)	2.90%

## APPENDIX 1.4 OTANEWAINUKU-TE AROHA MANAGEMENT AREA



The Otanewainuku-Te Aroha Management Area totals approximately 229,720 ha. There are five ecological districts. One ecological district, Otanewainuku, is entirely in this Conservancy. Only part of the other four ecological districts (Te Aroha, Waihi, Hauraki, and Hinuera) are in this Conservancy. The management area includes all of the Kaimai-Mamaku Conservation Park and the rolling hill country to the south-east. It is extensively forested.

The land administered by the Department covers approximately 26.87%, with total protected land being 27.73% of the Management area.

There are seven designated ecological areas, three proposed ecological areas, and one forest sanctuary.

### 1.4.1 Geography

The highest point is Mt Te Aroha (952 m a.s.l.) with the main range being between 500 and 800 m. The Mamaku Plateau is at about 500 m (a.s.l.). Most of the drainage to the west enters the Waihou River system. To the east, streams flow into Tauranga Harbour, often through deep gorges or directly into the Bay of Plenty.

The management area includes most of the Kaimai-Mamaku Conservation Park (39,653 ha), south of the hills behind Te Puke extending out to and along the central Bay of Plenty coastline from Matata to Otamarakau, forming a crescent around the Tauranga Management Area. From Matata, the eastern boundary includes the hills of Manawahe. The southern boundary skirts around the northern edges of Lakes Rotoma, Rotoehu, Rotoiti, and Rotorua, across the Mamaku Plateau to just north of Tapapa, near Putaruru.

The western side is the Conservancy boundary and includes Okoroire, Matamata, and along the western edge of the Kaimai Ranges to Tirohia (north of Te Aroha). The northern boundary is the Conservancy boundary across to Orokawa Scenic Reserve.

The Kaimai-Mamaku Range is the dominant feature. It is over 70 km from north to south but seldom wider than 10 km (NZ Forest Service, 1982). The topography includes steep broken country extending south from Mt Karangahake to the extensive Mamaku and Kaharoa Plateaux which slope down to sea level to the south-east. In places these are deeply dissected, for example the Mangorewa Gorge.

The climate is relatively mild with warm moist conditions most of the year. The Kaimai–Mamaku Range is a major barrier to the predominant westerly air flow, resulting in very heavy rainfalls and high winds on at the range summit. Fog is common in some places.

#### **1.4.2 Geology**

There are five major geological features:

1. The very old extinct volcanoes of the Coromandel Ranges extend south to the Wairere Plateau;
2. the Waiteariki ignimbrite sheets form the extensive Wairere Plateau;
3. the Mamaku ignimbrite sheets form the Mamaku Plateau, extending from Te Poi and Tapapa east to Te Puke, and south to the northern shores of Lake Rotorua;
4. the Rotoiti breccia, generally called the Kaharoa Plateau is east of the Mamaku ignimbrite;
5. a graben is west of the Kaimai Ranges where the Hauraki Fault, down-faulted, created the Wairere Falls (153 m high).

The major geological features have been covered by successive layers of volcanic ash. Minerals occurring within the management area include gold, silver, lead, zinc, cadmium, andesite (for roading and building), sulphur, and silica (Healy et al., 1964; Kenny and Hayward, 1993).

There are hot springs and other geothermal sites located within the management area.

#### **1.4.3 Vegetation**

The management area originally had a bioclimatic zone from coastal to montane forest ecosystems. Much of the management area is still forested, either With modified native forest or pine forest. Where forests have been cleared there is now pasture. The largest areas of forest are restricted to the uplands and steep areas.

The Kaimai Range may have provided a refuge to some plant species during the last glaciation. New Zealand's most northern stands of silver and red beech are found on some high parts of the range. Hard beech is found associated with kauri in the north and as stands in gulleys in the south. Kauri reaches its southern limit on the Kaimai Ranges.

The southern Kaimai Range and northern Mamaku Plateau, before extensive logging, were mainly podocarp forest (rimu) over dense hardwoods (tawa and kamahi). There were also extensive stands of tanekaha, toatoa, miro, and Hall's totara. Now there are only remnant stands left of these species. Toward the Bay of Plenty, the podocarp forest changes to a coastal lowland forest of mixed podocarps (rimu, miro) over dense hardwoods (kohekohe, pukatea, mangeao, puriri, kawakawa, tawa, and .kamahi). Most of these stands have been cleared for farming and horticulture.

Along the coastal cliffs, pohutukawa forest was abundant, with some pohutukawa in the forest for several kilometres inland.

The narrow dune communities below the coastal bluffs in the south-east of the management area have been developed for recreational use, farmed, or altered by exotic plants, roads, and railway lines. At Orokawa Bay in the north, there is dense pohutukawa forest and coastal hardwoods on coastal terraces and up the steep hills.

Even with the extensive forest clearing and logging that took place in the past, the Kaimai-Mamaku Conservation Park and Mangorewa Forest are the largest contiguous areas of native forest in the Bay of Plenty, The Otawa-Otanewainuku Forests also cover a considerable area.

To reduce isolation of populations of kokako, a vegetation "corridor" (Gammons Block) that joins two areas of forest which contain kokako has been established and managed.

Three ecological areas and one forest sanctuary have been reserved, and four ecological areas have been proposed in the Kaimai-Mamaku Conservation Park:

- Rapurapu Ecological Area (229 ha), a small stand of mature kauri close to the southern limit of kauri.
- Opuiaki Ecological Area (3,816 ha), a large area of dense podocarp forest typical of both easy and broken terrain of the district.
- Mangapapa Ecological Area (609 ha), representative of the almost entirely logged podocarp-tawa-beech forest complex of the Mangapapa headwaters. Includes an abrupt boundary with rimu-tawa forest.
- Ngatukituki Forest Sanctuary (1,600 ha), a mixture of virgin and cutover kauri-podocarp-hardwood forest and lowland podocarp-hardwood forest. It also has silver beech/red beech/kauri associations.
- Waiteariki (2,205 ha proposed ecological area), has the full altitudinal sequence across the Kaimai Range from the west to east. It includes low altitude species, mixed podocarp hardwoods, kauri, red and silver beech, pole stands of tanekaha and rimu, and complex second growth forest associations.
- Te Hunga (2,650 ha proposed ecological area), a similar transect across the range as the Waiteariki but at a lower altitude. It includes some of the main areas of unlogged forest and tram-logged forest of the Maungatotara Plateau.
- West Ngatukituki (745 ha proposed ecological area) and East Ngatukituki (600 ha proposed ecological area) were proposed as extensions of the Ngatukituki Forest Sanctuary, so that lower altitude associations including lowland coastal forest types could be taken in.

The three other ecological areas gazetted in this management area are:

- Onaia (35 ha), is the only remnant of unmodified podocarp-hardwood forest with kohekohe and associated lower altitude vegetation. It also has fire-induced secondary forest and abundant podocarp regeneration. There are resident kokako.

- Mangorewa (850 ha), is the only virgin -area of the Mamaku Plateau with rimu- - tawa forest. There are gorges and dissected margins on which hard beech is common and locally dominant.
- Pongakawa (749 ha), is moderately dense podocarp forest with very high numbers of kokako.

#### **1.4.4 Fauna**

Of the many rare forest birds in New Zealand, only the kiwi, kaka, kokako, wino, parakeet, robin, and falcon are found in the Otanewainuku-Te Aroha Management Area today. Even relatively common birds such as whiteheads and pied tits are found only in the large or more remote areas of forest (Rasch, 1989).

There is little information on other indigenous species such as long-tailed bats and Hochstetters frog. Information on other reptiles is limited. One endangered invertebrate of note is the “Te Aroha” stag beetle (*Dorcus auriculatus*) (Owen, 1991a).

On the Otamarakau coast there are local populations of New Zealand dotterel, variable oystercatcher, and other wildlife.

#### **1.4.5 Cultural Characteristics of the Area**

The early Maori used this management area in three ways:

1. a route for access from the Bay of Plenty to the Waikato;
2. for forest food and other cultural materials (birds, kiekie); and
3. as a place of refuge in times of conflict.

The Conservancy will develop and establish a charter of partnership that will identify the tangata whenua and appropriate consultative methods.

There are no towns in this management area, just settlements such as Manawahe, Pongakawa, Kaharoa, Lower Kaimai, Te Poi, and Okoroire.

#### **1.4.6 Historic Resources**

The most significant historic inventory was on industrial sites of the Waiorongomai Valley completed in 1987 (Toohill, 1987). This area contains 86% of the recorded historic industrial sites within the Conservancy. The Kaimai-Mamaku Conservation Park also contains many more unrecorded sites associated with kauri logging and gold mining.

A systematic survey for historic places of Maori origin has not been completed.

#### **1.4.7 Land Use**

Most of the Otanewainuku-Te Aroha Management Area has been developed; firstly by its Maori inhabitants mainly near the coast, and later, more extensively by European settlers.

There has been considerable gold and silver mining activities in the Kaimai Range north of Thompsons Track. This has left a range of historic

resources especially in the Waiorongomai Valley and Mt Karangahake. Due to the hydrothermal nature of the ore there is a problem of heavy metal leachates contaminating streams and rivers.

Quarrying for andesite has left numerous small quarries which have scarred the landscape and destroyed several historic sites. Sand mining takes place at Otamarakau.

Today, the developed areas are in the east and the southern drainage basin of the Tauranga catchment. The management area is currently used for extensive pastoral-farming, horticulture, and plantations of exotic forests. Recreation use is high in the forests which are managed for soil and water protection. Cattle and sheep farming is predominant with some dairying on the lower altitude sites. There was a period of intensive goat farming in the late 1980's, mainly on the partially developed lands.

Removal of lowland forest has impacted on the plants and the animals. Modification of waterways has resulted in severely declining whitebait and eel numbers, and the loss of sand dune communities and freshwater fish habitats on the coast.

#### **1.4.8 Lands administered by the Department**

The lowland forests in the Otanewainuku Ecological District have been severely reduced in size; the largest remaining block is Rotoehu Forest. Not all remaining lowland areas with natural resources are legally protected. The land administered by the Department on low altitude sites in this management area, are but a fragment of the original landscape. The remaining lowland forest elements are often linked to the lowest part of upland forests.

The most important is the Waitekohe Stream Representative Area for Protection (*see Appendix 7*).

The land administered by the Department in the Otanewainuku and Te Aroha Ecological Districts are especially important as they include areas of lowland forest. One site, in the Waihi Ecological District, Orokawa Scenic Reserve, has coastal forest.

**Table 1.4.1 LAND ADMINISTERED BY THE DEPARTMENT IN THE OTANEWAINUKU-TE AROHA MANAGEMENT AREA.**

Ecological District	Size Classes (ha)						
	0 - 20	21 - 50	51 - 100	101 - 500	501 - 1,000	1,000 - 10,000	+10000
Hauraki#							
hinuera	9	2					
OtaneWainuku	42	11	9 <sup>1</sup>	17 <sup>2</sup>	2 <sup>3</sup>	6	1*
Te Aroha	6	3	1	2	(2) <sup>4</sup>	1 <sup>5</sup>	1*
Waihi	2		1	1			
Total	59	16	11	20	2	7	1*

Note: Kaimai-Mamaku Conservation Park (KMCP) is recorded in both Te Aroha (18,091 ha Northern KMCP) and OtaneWainuku (21,602 ha Southern KMCP) Ecological Areas. All ecological areas, proposed ecological areas, and the forest sanctuary have been counted (increasing the total by seven sites).

\* this is one site, the Kaimai-Mamaku Conservation Park which lies in two ecological districts; 18,091 ha is in Te Aroha, and 21,562 ha, is in OtaneWainuku.

# There are no sites in this management area for Hauraki.

1 Includes an ecological area of Old State Forest, 35.2079 ha

2 includes two ecological areas. Rapurapu Ecological Area (229.1 ha) and Onala Ecological Area (315.98 ha).

3 This includes three ecological areas. •Mangapapa Ecological Area (609.0 ha); Pongakawa Ecological Area (749.5 ha); and Mangorewa Ecological Area (849.84 ha).

4 Two areas are actually ecological areas which are the East Ngatukituki Ecological Area (600 ha) and the West Ngatukituki Ecological Area (745 ha).

5 This area includes the Ngatukituki Forest Sanctuary (1,600 ha).

**Table 1.4.2 PROTECTED LAND IN THE OTANEWAINUKU-TE AROHA MANAGEMENT AREA**

Ecological District	Total Area (ha)	DoC Managed Lands (ha)	Area%	Interest Sites (ha)	Area %	Other Vestings (ha)	Area - %	Total Area Protected (ha)	Total
Hinuera	26,526	106.69							
Hinuera	26,526	106.69 (11 sites)	0.40%	-	-	269.84 (22 sites)	1.02%	376.53 (33 sites)	1.04%
OtaneWainuku	174,572	40,874.55 (73 sites)	23.4 1%	260.60 (15 sites)	0.15%	1,105.05 (29 sites)	0.63%	42,240.20 (118 sites)	24.20%
Te Aroha	24,554	20,198.49 (10 sites)	82.26%	259.49 (4 sites)	1.06%	76.77 (4 sites)	0.31%	20,534.75 (18 sites)	83.63%
Waihi	3,520	542.74 (4 sites)	15.42%	-	-	-	-	542.74 (4 sites)	15.42%
Total	229,720	61,722.47 (98 sites)	26.87%	520.09 (19 sites)	0.23%	1,451.66 (55 sites)	0.63%	63,694.22 (172 sites)	27.73%

## Appendix 1.5 Whakatane Management Area



The Whakatane Management Area totals 94,828 ha, made up of five different ecological districts. It consists of all of Te Teko (34,237 ha), a significant part of Taneatua (59,604 ha), and much smaller parts of the Waimana (458 ha), Opotiki (359 ha), and Waioeke (170 ha) Ecological Districts. (The White Island Ecological District, is discussed under the Islands Management Area.)

The land administered by the Department is 3.90% of the management area with 5.17% being protected land.

The Whakatane Management Area is noted for the Ohiwa Harbour and wetlands on the Rangitaiki Plains. The Ohiwa Harbour, is a wetland of international importance (and fulfils the Ramsar criteria) for vegetation, culture, waterfowl, and fisheries. It is the second most important wetland after Tauranga Harbour; many rare Arctic breeding migrants have been recorded there; over 4,000 waders in total (McEwen, 1987).

### 1.5.1 Geography

The management area extends along approximately 81 km of the central Bay of Plenty coastline from Matata to halfway between the mouth of Ohiwa Harbour and the Waiohau Estuary. The management area includes all of the Rangitaiki Plains and the recent alluvial flood plains of the Tarawera, Rangitaiki, Whakatane, and Waimana Rivers. It also includes the rolling hill country of the northern foothills of the Urewera Ranges (up to 675 m a.s.l.), and the undulating coastal ranges draining into Ohiwa Harbour.

Ohiwa Harbour is the dominant coastal feature, extending over 2,800 ha (at mean high water spring tide level) (Owen, 1991b). The Whakatane Harbour to the west is much smaller and elongated. The flat Rangitaiki Plains make up the western half of the management area (Te Teko Ecological District). In the east are the rolling Taneatua Hills, reaching a maximum height of 675 in a.s.l. (Taneatua Ecological District). The western rivers meander across the plains, whereas the eastern rivers are more direct-flowing.

Rainfall ranges from 1,200 mm on the coast to 1,800 mm in the Urewera foothills.

### 1.5.2 Geology

The area is situated on an active fault line and is geologically active. The 1987 Edgecumbe Earthquake and the 1886 Mount Tarawera Eruption are vivid reminders of this fact. There are many less dramatic indicators of the active geological processes taking place. For example, the recent build up of flood plains and the infilling of the harbours and estuaries since the indigenous forested foothills were cleared.

There are two main geological features:

1. Greywacke sandstone which are old uplifted marine sediments forming the coastal ranges and Urewera foothills. Much younger marine sandstones are found along the coast, especially in the Ohiwa Harbour.

This broad, shallow harbour was formed in a tectonic basin during a number of changes in sea level brought about by climatic changes and land uplift. The present harbour is a drowned river valley.

The islands of the harbour were once headlands at the harbour's entrance.

The dynamic nature of this harbour has been observed within the short recorded history of the Bay of Plenty, as the build up of the Ohope Spit has caused the mouth of the harbour to migrate nearly 1 km eastward during the past 120 years.

2. Sorted volcanic alluvium has been transported from the Central North Island Volcanic Plateau by the Rangitaiki, Tarawera, and Whakatane Rivers to the coast. These sediments have slowly filled a trough in the sea called the Whakatane Graben. This graben is situated between the Whakatane and Waiohau Faults.

Similar erosion and deposition occurs in the far eastern portion of the management area, The broad river valley of the lower Waimana River has formed due to deposition of sediment loads from the Urewera Ranges.

### 1.5.3 Vegetation

The management area was originally covered -by a combination of coastal wetland, lowland forests, and coastal forests. Little of this-indigenous vegetation remains today (Shaw and Beadel, 1988).

The Rangitaiki Plains were once a vast array of-lowland forest, coastal forest, and coastal-wetlands. These were frequently flooded and large amounts of alluvium were deposited. There was Polynesian clearance of much of the land. Since European settlement this land has been drained and highly modified for intensive dairying and horticulture. Many plant species have been introduced, including willow to protect river banks and drains from erosion.

The foothills were covered mainly in lowland semi-coastal tawa or tawa-kohekohe forest, in which emergent rata and rimu were characteristic. In wetland areas kahikatea forest was prominent.

Along the coast pohutukawa forest was abundant, often with some pohutukawa growing in the forest for several kilometres inland.

Estuarine vegetation was predominant in the Ohiwa Harbour and in the coastal areas where rivers met the sea. Although a large area of this type of vegetation remains today it has been impacted upon by human development activities. Ohiwa Harbour is the southern most location of mangroves on the East Coast of New Zealand. Many dune communities on the coast have been modified for recreation, or altered by exotic plants and residential development.

Areas of forest are restricted to the more remote hills and steep areas.

#### **1.5.4 Fauna**

The clearing of indigenous vegetation off the land and introduction of alien animals and plants has caused much of its wildlife to disappear. This included the loss of breeding sites for school sharks in Ohiwa Harbour.

Drainage of wetlands and alteration of rivers has resulted in a severe decline of whitebait spawning areas. The habitats of indigenous fish species have also been severely modified. Over-harvesting of eels has led to a drastic decline in numbers.

Of the many rare forest birds, only the kiwi, kaka, and falcon are found in this management area today. Common birds such as robins, whiteheads, and pied tits are found only in large or more remote areas of forest (Rasch, 1989).

Many threatened species of birds remain in the remnant wetlands. These include the Australasian bittern, New Zealand dabchick, spotless crane, fernbird, and banded rail. The small wetland areas are critically important to common waterfowl, whitebait, and other native fish.

There is little information on other indigenous fauna such as bats, reptiles, and invertebrates. Identification of the many invertebrates is a major task.

Ohiwa Harbour is a nationally important habitat for New Zealand dotterel, banded dotterel, Australasian bittern, banded rail, reef heron, fernbird, white heron, and many international migratory species. Many of these birds are threatened.

This harbour is important for shellfish communities (e.g., mussels, pipi, and cockles) and as a nursery for many marine fish species (Owen, 1991b). Intensive fishing, especially with set nets, has modified the fishery.

#### **1.5.5 Cultural Characteristics of the Area**

In this management area there are two districts. Their populations at the last census were:

- Whakatane District - 32,044 (includes Edgecumbe, Ohope, and outlying rural areas); and
- Kawerau District - 8,143 (Bay of Plenty Regional Council, 1991).
- The Bay of Plenty is perceived as a holiday destination; it attracts

high numbers of domestic and some international tourists.

Whakatane in particular, promotes itself as a holiday destination and exploits this to its advantage.

### **1.5.6 Historic Resources**

There is a rich, historic landscape encompassing extensive zones of prehistoric horticulture, a chain of coastal defence fortifications, and midden sites relating to the exploitation of harbour resources (Moore, 1973).

The Whakatane, Rangitaiki, and Tarawera Rivers were the focus of early Maori settlement and horticulture (Jones, 1986, 1991).

The Kohika Swamp Pa is an historic place of international significance, from which a large number of wooden artifacts have been excavated (Lawlor, 1979). An historic resource research project has also been undertaken to examine prehistoric horticulture near Kawerau (Lawlor, 1983).

European settlement along the edges of the Rangitaiki wetland date from the 1870's.

### **1.5.7 Land Use**

Most of this management area has been utilized, firstly by Maori, and later by more extensive European developments. Today, agriculture and horticulture are the dominant land uses. Of the 30,000 ha of wetlands that -- were the Rangitaiki Plains, only 3.4 % is land administered by the Department (Table 1.5.2), The rest was drained to provide high quality agricultural and horticultural land.

Most of the original forest cover was removed for farming, and rolling land today is increasingly being converted to pine plantations. River courses have been straightened and stop banked for flood protection works; dammed (at Matahina) and their sea outlets drastically altered (Tarawera, Rangitaiki, and Whakatane). Ohiwa Harbour, one of the least altered large harbours in the North Island, is still under threat from development and farm runoff.

Major forestry operations and sawmills currently operate in the area and are a potential threat to wildlife habitats and water quality.

### **1.5.8 Land administered by the Department**

Very little land remains covered in native vegetation and not all remaining natural areas are legally protected. The land administered by the Department is in numerous, small scattered parcels.

**Table 1.5.1 SIZE CLASSES OF LAND ADMINISTERED BY THE DEPARTMENT IN THE WHAKATANE MANAGEMENT AREA.**

Ecological District	Size Classes (ha)						
	0 - 20	21 - 50	51 - 100	101 - 500	501 - 1,000	1,000 - 10,000	+10,000
Taneatua	31	3	2	5		1	
Te Teko	29	3	2	2			
Waimana							
Opotiki							
Waioeka							
Total	60	6	4	7		1	

\* There are no sites in these partial Ecological Districts for this management area,

**Table 1.5.2 PROTECTED LANDS IN THE WHAKATANE MANAGEMENT AREA.**

Ecological District	Total Area (ha)	DOC Managed Lands (ha)	Area%	Interest Sites	Area%	Other vestings (ha)	Area%	Total Area Protected(ha)	Total %
Taneatua	59,604	3,203.94 (42 sites)	5.38%			502.52 (28 sites)	0.84%	3,706.46 (70 sites)	6.21%
Te Teko	34,327	490.30 (31 sites)	1.43%	172.55 (5 sites)	0.50%	534.91 (66 sites)	1.56%	1,197.76 (102 sites)	3.50%
Waimana *	458								
Waimana *	458			-					
Waioeka *	170								
Total	94,918	3,694.24 (73 sites)	3.90%	172.55 (5 sites)	0.18%	1037.43 (94 sites)	1.09%	4,904.22 (172 sites)	5.17%

\* There are no sites in these partial Ecological Districts for this management area.

# Appendix 1.6 Rotorua Management Area



The Rotorua Management Area constitutes 130,500 ha. This management area includes the Rotorua lakes, a series of high quality ecosystems in terms of the Ramsar criteria. They are wetlands of international importance for vegetation, culture, waterfowl, and fisheries. There are extensive areas of native forest.

Land administered by the Department comprises 14.18% of the management area with a total protected area of 21.24%.

## 1.6.1 Geography

The management area is also the Rotorua Ecological District, extending from the crest of the Mamaku Plateau south-east to Waitapu and Rerewhakaaitu. The boundary then runs north-east to just west of Kawerau. The northern boundary is across the northern side of Lakes Rotoiti and Rotorua.

The whole management area has been strongly influenced by volcanic activity. The highest point is a volcano, Mt Tarawera at 1,111 m (a.s.l.).

Most of the 22 lakes greater than 8 ha in this management area, have been formed by volcanic action (Donald et al., 1991). The largest is Lake Rotorua. Other lakes include Rotoiti, Rotoehu, Rotoma, Tarawera, Okataina, Okareka, and Rerewhakaaitu (*see Table 1.6.1.*).

Many valleys are deeply incised. There are two types of streams. Within the main lakes basin, streams are usually spring fed, run fast, deep, and clear on pumice beds. They show little variation in flow aside from increased flows during storms. The main streams draining the Mamaku Plateau are characterised by a small base flow but large peak flows immediately following storms. The beds of these streams are very often of smooth flat ignimbrite rock broken by frequent waterfalls (Jane, 1979).

The climate is relatively mild, humid, and sunny with very little wind. The rainfall is generally evenly distributed, about 1200-2000 mm per annum. Sometimes high intensity rains come from the north-east and north. The summers are mild with cool winters and frequent ground frosts.

## 1.6.2 Geology

The landform slopes down from west to east. The west is the top of the raised Mamaku Ignimbrite Plateau at 500 m. The eastern edge is Kawerau at 100 m. The east is characterised by rhyolitic domes, some

only formed 900 years ago. The sloping structure is broken by numerous fissures, faults, and collapsed volcanic domes (calderas) often filled with water, forming lakes.

**Table 1,6.1 SUMMARY OF THE MAJOR ROTORUA LAKES AND CATCHMENT LAND USE. (Donald et al., 1991)**

LAKE	Catchment Area (km <sup>2</sup> )	Lake Area (km <sup>2</sup> )	Altitude (m a.s.l.)	Native Forest WO	Exotic Forest (%)	Pasture (%)	Lake Surface (%)	Urban (%)	Scrub (%)
Rotorua	982.04	79.78	280.00	21.00	7.00	44.00	16.90	6.70	4.40
Tarawera	150.01	41.02	299.00	51.10	8.80	12.10	27.40	0.00	0.00
Rotoiti	120.56	33.48	279.00	35.00	5.00	32.00	28.00	0.00	0.00
Rotomahana	88.58	7.95	335.00	9.70	3.70	41.60	9.90	0.00	31.80
Okataina	63.58	10.80	311.00	71.40	3.00	8.90	16.80	0.00	0.00
Rotoehu	42.25	8.11	295.00	18.70	8.00	42.90	16.10	0.00	14.30
Rerewhakaaitu	40.56	7.47	438.00	0.00	0.00	82.10	17.90	0.00	0.00
Rotoma	33.92	11.16	313.00	26.80	1.50	37.80	32.80	1.10	0.00
Okareka	17.50	3.46	355.00	28.50	0.00	44.40	19.80	0.20	7.10
Rotokakahi	17.45	4.48	394.00	3.10	42.10	11.30	25.40	0.00	18.20
Tikitapu	5.97	1.40	417.80	44.90	8.70	5.90	23.60	0.00	16.90
Okaro	3.58	0.33	423.00	0.00	0.00	90.80	9.20	0.00	0.00
Total Area	1066.00	209.44							

The basement rocks are overlain by deep layers of pumice ash, many from local eruptive centres (Pullar and Birrell, 1973). The most recent occurred from Mt Tarawera, covering the land with a thin sheet of dark coloured basaltic ash.

Lake Rotorua occupies the floor of a caldera formed by the eruption of Mamaku ignimbrite 140,000 years ago. The lake is surrounded by several rhyolite domes including Mt Ngongotaha (757 m a.s.l.) and Mokoia Island. The larger Okataina Volcanic Centre forms much of the rest of the district, and has young volcanic domes including Mt Tarawera.

### 1.6.3 Vegetation

This management area was originally covered by podocarp-hardwood forest, wetland, mire, and geothermal vegetation. There are also "coastal" plant species around the lakes. A considerable number of endangered, rare, and vulnerable plants occur in this management area (Clarkson et al., 1991).

Substantial remnants of mostly logged podocarp-hardwood forests occur mainly on the higher or cold sites. These forests are predominantly rimu, tawa, and kamahi. On warmer sites the podocarp-hardwood forest has an element of pukatea and mangeao. There are small areas of hard beech in gorges on the edge of the Mamaku Plateau. On some wetland sites, especially lake margins, remnant groves of kahikatea remain. On

the well drained lake margins and geothermal sites are “coastal” species including pohutukawa. Some of these may have been brought in by Maori. Freshwater wetlands are found around all the lakes. Many of the lake margins have been modified and the presence of livestock has had a major impact on the vegetation and wildlife habitat. Modification for farming and urban development including housing, industry, or recreation use are major reasons for loss of these habitats (Owen, 1991b).

The geothermal sites have their own unique plants, characterised by a prostrate form of kanuka and rare frost tender ferns with tropical affinities. The eruption of Mt Tarawera has resulted in extensive areas of early successional vegetation. On Mt Tarawera scoria fields, there are early stages of regeneration.

Rare, endangered, and vulnerable plants include king fern, *Cyclosorus interruptus*, *Thelypteris confluens*, “wood rose”, *Caleana minor*, *Calochilus robertsonii* “thermal” orchids.

#### **1.6.4 Fauna**

There are 76 Sites of Special Wildlife Interest identified by the Fauna Survey Unit of the former Wildlife Service. Of these, 32 are forest sites, 34 are freshwater wetlands, and 10 are scrub or shrublands (Rasch, 1989).

Species of endangered birds include Kokako, saddleback, kiwi and weka. Other threatened species include skinks, gecko, indigenous freshwater fish, and two species of bats. There are 14 birds of national importance, and five species of regional importance.

Due to the specialized habitat, some geothermal sites have a range of rare or threatened species not normally found together. An example of this is at Sulphur Bay, Lake Rotorua, where several bird species breed in geothermal localities including banded dotterel, black-billed gulls, and red-billed gulls.

The forest birds include kereru, (Make), tui, bellbird, grey warbler, lit, and kiwi. The threatened volcanic plateau short-tailed bat has been found near Mamaku Village.

The wetlands and lakes support notable populations of New Zealand scaup, New Zealand dabchick, little black shag, black shag, little shag, the New Zealand shoveler, and other waterfowl. Spotless crane and fernbird are also present in the wetlands adjoining the lakes. Weka breed on Mokoia Island and banded dotterel breed on Mt Tarawera and at Sulphur Bay, Lake Rotorua.

#### **1.6.5 Cultural characteristics of the Area**

Rotorua is the major population centre for the Rotorua District. Small scattered settlements occur in the District around the other lakes.

The population of Rotorua City including Ngongotaha, is 53,611, an increase over the previous 5 years of 3.1%; The Rotorua District figure for 1991 is 61,370 (1991 Census). The city is a popular venue for conferences and is capable of entertaining large crowds with a variety

of entertainments from both Maori and European cultures. Rotorua is the centre of New Zealand's thermal region and the North Island's Lake District. Tourism is a major industry.

The thermal waters have been harnessed for pleasure or therapeutic bathing. The geothermal activity and cultural institute at Whakarewarewa are a major tourist attraction. The lakes are a world renowned trout fishery.

These natural features have made Rotorua a major tourist centre. It is also the commercial centre for the farmlands and forests of the central North Island.

There are also some small engineering workshops and saw mills. The main rural activities in the surrounding district are pastoral farming, logging, saw milling, and tourism.

### **1.6.6 Historic Resources**

The Rotorua lakes are a significant prehistoric inland cultivation zone, which has not been systematically investigated by historic research. Pit and terrace sites comprise 57% of recorded sites. A small-scale survey of part of the margin of Lake Rotorua revealed the presence of settlement and horticultural sites (Forbes, 1989).

The surface recognition of historic places may be hampered by a heavy mantle of Tarawera ash in some parts of the management area.

There is considerable European history relating to the use of the geothermal waters and timber extraction on the Mamaku Plateau.

### **1.6.7 Land Use**

European settlement began, as in other parts of New Zealand, with missionaries and traders. This was on a small scale. Mission settlement in Rotorua began in 1835, and was followed by attempts to farm land with extensive large holdings for sheep and cattle from the late 1860's onwards. The pumice land looked attractive with vast stretches of open tussock, but the feed was in fact poor, and most of the area was unable to support large-scale farming. Dairy farming on the Volcanic Plateau had its beginnings before the First World War, when the Rotorua Dairy Company commenced production at its Ngongotaha factory in 1911. After the First World War the Government provided leasehold land for returning servicemen; they began dairy farming at Reporoa. The effect of mineral deficient soil on pasture quality and the effect on cattle was recognised as "bush sickness". Research commenced to find ways to improve soil condition and animal health. In 1936, cobalt deficiency was confirmed as the cause. Topdressing with cobaltised superphosphate effectively treated this deficiency (National Resources Survey, 1962).

In later years with the advent of intensive agriculture the soil was also found to be deficient in available potassium, sulphur, magnesium and selenium. This is remedied by adding potash to superphosphate fertilizer and direct oral or intravenous administration of mineral and trace element

mixes to stock. To maintain high levels of production on this soil type mineral deficiency is an ongoing concern.

The lakes are used for recreation, tourism, a source for drinking water, but also for refuse, sewage, trade waste disposal, and land drainage. They are also areas for trout fishing, boating, and many other water-based activities, and as attractive settings for houses and towns (Chapman, 1980).

### 1.6.8 Protected Lands

There are some large ecosystems protected in this management area, particularly the forested areas, (see Tables 1.6.1. and 1.6.2). The most important threatened habitats both regionally and nationally are geothermal sites, wetlands, and the lake systems. Many sites have been lost or severely modified by development and in some cases exploitation (see Table 1.6.3.).

The Department manages three reserves with geothermal features: Waimangu Scenic Reserve (966 ha), Sulphur Point Wildlife Sanctuary (1 ha), and "Hot Water" Beach; part of the Tarawera Scenic Reserve (5,835 ha).

**Table 1.6.2 SUMMARY OF THE AREAS OF PROTECTED LANDS IN THE ROTORUA ECOLOGICAL DISTRICT**

Ecological District	Total Area (ha)	DOC Managed lands (ha)	% area	Interest Sites (ha)	Area%	Other Vestings (ha)	Area %	Total Area Protected (ha)	Total
Rotorua	130,466	18,498.74 (56 sites)	14.18%	4,491.31 (14 sites)	3.44%	4,724.58 (98 sites)	3.62%	27,714.63 (168 sites)	21.24%

**Table 1.6.3 SUMMARY OF AREAS OF LAND ADMINISTERED BY THE DEPARTMENT IN THE ROTORUA MANAGEMENT AREA**

	Size Classes (ha)						
	0 - 20	21 - 50	51 - 100	101 - 500	501-1,000	1,000-10,000	+10,000
Rotorua	37	8	2	12	7	4	

# Appendix 1.7 Atiamuri-Tokoroa Management Area



The Atiamuri-Tokoroa Management Area comprises approximately 176,360 ha of which 114,141 ha is the Atiamuri Ecological District and 62,219 ha is the Tokoroa Ecological District. The dominant feature of this area is the native forest on the Mamaku Plateau and the exotic plantations to the west of that plateau. There is one proposed and two gazetted ecological areas. The land administered by the Department is 5.34% of a total protected area of 5.56%, within the management area.

## 1.7.1 Geography

This management area is bounded by State Highway 1 on the west and south, and includes the western side of the Mamaku Plateau. It is bounded on the east by the Paeroa Range.

The northern boundary is just north of State Highway 5.

The whole management area has been strongly influenced by volcanism. The landscape is very young, less than 40,000 years in most cases. It is a diverse area, ranging from a plateau to flat to rolling hills, and includes areas of active volcanic activity.

There are mild summers and cool winters with frequent ground frosts and fogs. Yearly rainfall ranges from 1200-2000 mm. Altitude ranges from 300 m above sea level (a.s.l.) in the rolling country towards the Waikato River, to 970 m (a.s.l.) on the Paeroa Range and 800 m (a.s.l.) on the Mamaku Plateau.

## 1.7.2 Geology

There are three major geological features.

1. The most significant geological feature is the ignimbrite Mamaku Plateau, formed 140,000 years ago after an eruption of the area now containing Lake Rotorua. The plateau is flat to hummocky with an altitude ranging from 300 m up to about 600 m above sea level (a.s.l.). The western margins are deeply incised by long gorges.

The lower country towards the Waikato River is flat to rolling, broken by entrenched streams draining into the Waihou and Waitoa Rivers in

the north-west, and the Waikato River in the south.

2. The Atiamuri Ecological District includes most of the upper Waikato River Catchment. This is traversed by the strongly faulted Rotorua-Taupo Graben and includes groups of rhyolite domes. These form the Maroa Volcanic Centre. There are hot springs at Waikite Valley, Orakeikorako, and the Ohaaki geothermal power station at Broadlands. Part of Orakeikorako Thermal Area was flooded when Lake Ohakuri was formed.
3. The Paeroa Range is a tilted Pliocene ignimbrite block (reaching 970 m) with dissected Pleistocene lacustrine beds, forming rolling to rugged hill country. There is an area of geothermal activity on the flanks of the range (McEwen, 1987).

### **1.7.3 Vegetation**

Most of the area was originally covered with tall forest, a small amount of which was destroyed by Maori burning. By the time of European settlement there was mainly shrubland and fernland around Tokoroa with some indigenous forest remnants. On the Mamaku Plateau there is podocarp-hardwood forest, predominantly rimu/tawa-kamahi-tawari, with an increasing density of podocarps towards the south. Hard beech was common in gorges on the plateau fringe. Black beech is rare.

On the south-eastern side, the remaining indigenous forest is confined mainly to rhyolite domes and the Paeroa Range, with small scattered pockets elsewhere. There is a transition north to south, from rimu/tawa-kamahi-tawari to dense mixed podocarp forest with sub-montane hardwood forest on high ground. On the lower areas, where there was formerly fernland and scrubland, much is now farmland and plantation forests.

There are local areas of geothermal vegetation. The most extensive and least unmodified sites are at Te Kopia, on the flanks of the Paeroa Range.

### **1.7.4 Fauna**

The Mamaku Plateau is a nationally important site for indigenous fauna.

At least fifty-seven species of bird have been recorded in the Mamaku Plateau (Rasch, 1989). The plateau is notable for a large population of North Island kokako. Other significant birds are whio (blue duck), kiwi, kaka, and fernbird.

The vulnerable "Volcanic Plateau" short-tailed bat and the long-tailed bat also inhabit the forests of the plateau.

Wetlands are found around the artificial power generation lakes on the Waikato River.

Wetland birds of note observed on these lakes include New Zealand dabchick, grey teal, shoveler, bittern, pied stilt, white-faced heron, scaup, and the spotless crane. Many of the lake margins are highly modified (Owen, 1991b).

Reptiles include some gecko species and the vulnerable striped skink (Whittaker, 1983).

#### **1.7.5 Cultural Characteristics**

Tokoroa, (pop. 16,636) and Putaruru (pop. 4,300) border the western edge of the management area. The population of both towns use the Mamaku Plateau for recreation. The forests are very popular places for hunting pigs and deer especially in the exotic pine forests around Tokoroa. Clubs, individuals, and school groups use the forests for recreation and educational facilities.

Native forest attracts visitors from other areas of New Zealand, but the major users are local people. The hot springs at Waikite Valley and the Orakeikorako Thermal Area are tourist attractions.

Apart from Tokoroa and Putaruru, most of the population of the management area are rural families from small settlements such as Upper Atiamuri, Mamaku Village, and Pinedale.

#### **1.7.6 Historic Resources**

There has been no systematic survey of historic resources. It is likely that a number of sites have already disappeared due to the development of plantation forests and damming of the Whirinaki arm of the Waikato River for hydro-electric power generation.

The few historic places that have been recorded are predominantly pa or burial sites. One moa hunter camp site near Tokoroa was investigated in the early 1970's (Law, 1973). It is probable that unrecorded historic places are present in the area, particularly along waterway margins.

#### **1.7.7 Land Use**

The Tokoroa area is mainly rolling land. The yellow-brown soils are derived from rhyolite (acidic) pumice erupted from local volcanoes. The predominant parent material is Taupo pumice, thrown out in a series of eruptions, the most recent being about 1,800 years ago. A consequence of this is that the soils are immature, weakly-weathered, and of very low natural fertility.

There is sheep fanning and dairying on the surrounding farmland. The predominant primary industry of the district is forestry. This is based on timber milling and the pulp and paper mill at Kinleith (near Tokoroa).

#### **1.7.8 Protected Areas**

There is relatively little indigenous vegetation remaining in this management area and some of the remaining natural areas are not formally protected. There is a fragmented network of protected areas, within a large number of mainly small, forested reserves (*see Table 1.7.1.*). The reserve system administered by the Department totals approximately 10,000 ha This is less than 6% of the total land area. This land is contained in 53 reserves, 40 of which are less than 100 ha in size.

The large blocks of land administered by the department include Mamaku Forest (3,306ha) and Te Kopia Scenic Reserve (1,881 ha). The two existing ecological areas and the proposed ecological area are all located on the Mamaku Plateau.

They are:

- Matahana Ecological Area (1,725 ha) was proposed to protect moderately dense rimu and matai forest (proposed but not yet gazetted);
- Mokaihaha Ecological Area (1,445 ha) was gazetted to preserve and protect the remaining unmodified tract of rimu-tawa forest;
- Pukerimu Stream Ecological Area (113 ha) was gazetted to preserve and protect moderate to dense mixed podocarp stands including tanekaha, totara, with rimu, kahikatea, and matai.

**Table 1.7.1 SIZE CLASSES OF PROTECTED LANE) ADMINISTERED BY THE DEPARTMENT IN THE ATIAMURI-TOKOROA**

Ecological District	Size Classes (ha)						
	0-20	21-50	51-100	101-500	501-1000	1,000- 10,000.	+10,000
Atiamuri	28	9	1	7	1	1 <sup>1</sup>	
Tokoroa	5		3	2 <sup>2</sup>	1	1 <sup>3</sup>	
Total	33	9	4	9	2	2	

<sup>1</sup> Matahana Ecological Area.

<sup>2</sup> Pukerimu Stream Ecological Area.

<sup>3</sup> Mokaihaha Ecological Area.

**Table 1.7.2 PROTECTED LANDS IN THE ATIAMURI-TOKOROA MANAGEMENT AREA**

Atiamuri	114,141	4,305.20 (37 sites)	3.77%	220.16 (10 sites)	0.19%	156.44 (14 sites)	0.11%	4,681.80 (61 sites)	4.10%
Tokoroa	62,219	5,106.33 (11 sites)	8.20%	0 (1 site)	0%	10.97 (3 sites)	0.02%	5,117.30 (15 sites)	8.22%
Total	176,360	9,411.53 (48 sites)	5.34%	220.16 (11 sites)	0.12%	167.41 (17 sites)	0.09%	9,813.35 (76 sites)	5.56%

# Appendix 1.8 Eastern Volcanic Management Area



The Eastern Volcanic Management Area has an area of approximately 370,000 ha. The management area includes all Whirinaki, nearly all the Kaingaroa, and parts of the Kaimanawa and Ikawhenua Ecological Districts. There are also small parts of the Waikaremoana, Tiniroto, Maungaharuru, Taupo, and Waimana Ecological Districts.

This management area is dominated by large native podocarp forests and *Pinus radiata* plantations of the Whirinaki Basin and Kaingaroa plains, respectively. There are six ecological areas (totalling 8,231.3 ha) and one

forest sanctuary (163.5 ha) in this management area.

The land administered by the Department is 20.85% of the management area which has a total protected area of 21.20%.

## 1.8.1 Geography

The management area stretches from the small settlements of Rangitaiki and Tarawera on the Napier-Taupo highway in the south to Mt Edgecumbe in the north. The Ikawhenua Range is the eastern boundary. The western side runs from Kawerau, to just east of Mt Tarawera and Mt Tauhara in the south..

The Eastern Volcanic Area has three distinct land forms: the Kaingaroa plains, the extensive basin system of Whirinaki, and the broken hill country of Ikawhenua and Kaimanawa Ranges.

The Kaingaroa Plains and Whirinaki Basin have been strongly influenced by volcanism. The Kaingaroa Plains are a plateau built up by ash and tephra falls from the Waimahia, Taupo, and Kaharoa eruptions. It is a diverse area, ranging from rolling country to expanses of rugged mountain ranges.

The highest rainfall is in the Kaimanawa Ranges, (up to 4,000 mm per annum) which drain into the Rangitaiki River. Generally, rainfall is around 2,000 mm per annum. Summers are mild to warm and winters are cold with severe frosts. Snowfalls are common in the higher ranges.

Altitude rises from 300 m a.s.l. north of Matahina to 1,300 m in the Ikawhenua Ranges, and to 1,700 m in the Kaimanawa Ranges.

### 1.8.2 Geology

There are three landforms that reflect the underlying geology:

1. The largely un-dissected flat to rolling Kaingaroa rhyolite plateau is the most extensive feature. It is bordered on the east by the Ikawhenua Range, a steep dissected fault scarp arising abruptly above the general level of the ignimbrite sheet of the Whirinaki Ecological District. The valley and gully bottoms of the Whirinaki are filled with thick layers of Taupo pumice tephra. Pumice is absent on the ridges and Ikawhenua Ranges which are predominantly steep land dissected Mesozoic greywacke and argillite.
2. The Whirinaki Basin is located between the Kaingaroa Plains and the Urewera mountains. The flat-to-rolling land on the edge of the plains is blanketed with unique forest types then runs into the more dissected country of the older ignimbrites and the rugged high country of the Urewera (Morton et al., 1984).
3. The oldest rocks of this area are to the east in the Urewera country, part of the principal North Island mountain chain. As recently as the mid-Pleistocene era (just one million years ago) greywacke and argillite became uplifted and folded to form the mountains. Still geologically immature and unstable, the Urewera has been dissected by streams into gorges and valleys. They are also shaped by faults running north-north-east.

### 1.8.3 Vegetation

The Kaingaroa plains were formerly lowland scrub with tussock land, tall scrub, and fernland. There were rare, relict pockets of podocarp dominated forest and a chain of wetlands. Today, this is largely exotic forest, with some farms mainly on the Galatea plains. A few small remnants of *Dracophyllum*/tussock scrub and wetlands exist in two alluvial basins (McEwen, 1987).

The forests of the Whirinaki, Ikawhenua, Waikaremoana, Tiniroto, and Maungaharuru Ecological Districts have a highly complex structure. They are a remnant of the once extensive, dense lowland forests remaining in New Zealand (Morton, et al 1984).

### 1.8.4 Fauna

The destruction of native vegetation initially for farming then exotic tree plantations on the Kaingaroa Plateau has resulted in localized wildlife habitat.

In the Rangitaiki River Catchment, there are kiwi, whio (blue duck), kākā, robin, and fernbird. Spotless crane are present in the Galatea area. The speckled skink is known to exist in the Rerewhakaaitu-Murupara area.

The vulnerable lesser short-tailed bat has been found south of Murupara, near Te Whaiti and Minginui. In the Whirinaki Conservation Park, bird populations include major concentrations of kaka, kakariki (yellow-crowned parakeet), kiwi, whio (blue duck), and the New Zealand falcon

(McEwen, 1987). Kokako have been found in low numbers in the Matahina area, and kereru were once common.

### **1.8.5 Cultural Characteristics of the Area**

This management area has one town Murupara (pop. 2,314 [1991 census]) and two small settlements, Minginui and Te Whaiti.

The rivers and streams have native fish species and introduced trout. High numbers of introduced game bird species are present in Kaingaroa Forest (particularly pheasant and Californian quail). Wild animals such as deer and pigs are common, and attract hunters from all over the North Island.

The Whirinaki Conservation Park has important historic resources and cultural values. It has significant scenery and wildlife. Hunting, tramping, camping, and fishing are all popular activities in the forests.

Taupo is one of the world renowned tourist centres of New Zealand and lies to the west of this management area. It attracts large numbers of international tourists, who often visit the nearby native forests.

### **1.8.6 Historic Resources**

Many sites have already been lost due to development of plantation forests. Historic resources may also be covered by mud and ash from the Mt Tarawera Eruption in 1886.

The Kaingaroa Rock Art Site is an important site on the Kaingaroa Plain. Archival and historic investigations of nearby Fort Galatea (Spring-Rice, 1983) provided ample evidence that Ngati Manawa extensively utilised the Kaingaroa and Galatea Plains.

Historic resource inventories, were undertaken in the Whirinaki Conservation Park between 1978 and 1985 (Millynn and Nevin, 1978; Nevin and Nevin, 1979, 1980a). They revealed a range of sites that demonstrated that Maori occupied this area during the prehistoric and historic periods. Many of the pa and large kainga were occupied during the New Zealand Wars in the mid 1860's (Nevin and Nevin, 1980b).

### **1.8.7 Land Use**

The Eastern Volcanic Management Area is mostly exotic and native forest. The Whirinaki Conservation Park has a major role in soil and water protection. Dairy farming is the predominant land use on the Galatea Plains.

The 148,000 ha Kaingaroa State Forest is the largest exotic forest in New Zealand. This supplies the Forestry Corporation of New Zealand Limited saw mill at Waipa as well as a number of private sawmills. Small-scale planting began on the plateau in 1901; in 1923 more extensive planting began. Over 60,000 ha had been planted by 1936. The major species grown are radiata pine, douglas fir, Corsican pine, and ponderosa pine (Wise's New Zealand Guide, 1987).

In the Whirinaki Conservation Park there are many tracks and huts are available for visitors and hunters to use. Tramping, fishing, and hunting

of possums, deer, and pigs are all popular recreational activities in the forest (NZ Forest Service, 1980).

### 1.8.8 Protected Areas

Protected areas include some large reserves. These comprise a fraction of the original landscape. Most of the other reserves are small and scattered. The Department manages two geothermal areas, Rainbow Mountain and Waiotapu.

The reserve system, administered by the Department of Conservation totals 78,439 ha (20.85 % of the total land area). This land is contained in approximately 65 reserves, 47 of which are less than 100 ha in size (see *Table 1.8.1.*).

Within Whirinaki Conservation Park there are five ecological areas and one forest sanctuary.

They are:

- Otupaka (1,88ff ha), a frost flat at the headwaters of the Wheao River. It Contains a wide variety of podocarp forest associations.
- Oriuwaka (1,650 ha), a cross-section of modified and un-modified low altitude forest and shrublands. It includes podocarp forest, virgin podocarp-hardwood forest, and secondary hardwoods.
- Tuwatawata (2,345 ha), has a full sequence of forests, ranging from dense podocarp forest at the lower levels, through to podocarp-hardwood forests and podocarp-beech forests, to pure beech forests situated along the Huiarau Range.
- Tauranga Basin (100 ha), is a “special purpose” reserve to protect the totara-matai-kahikatea dominant forests on the Whirinaki Valley floor. There are significant areas of tawa and red beech.
- Te Kohu (2,180 ha), is a regionally unique sequence of podocarp and beech forest types and their ecotone which are part of the podocarp dominated Whirinaki ecosystems.
- Whirinaki Forest Sanctuary (163 ha), is a dense mixed-podocarp alluvial terrace forest. It is typical of the former terrace forests of the Whirinaki Ecological District.

The other ecological area is situated in the .Kaingaroa Ecological District.

- Oruatawehi (75 ha), is a “special purpose” reserve, being the only living evidence of the hypothesis that forest covered the northern Kaingaroa Plateau after the 130 AD Taupo Eruption.

**Table 1.8.1 SIZE CLASSES (HA) OF PROTECTED LAND ADMINISTERED BY THE DEPARTMENT IN THE EASTERN VOLCANIC MANAGEMENT AREA.**

Ecological District	0-20	21-50	51-100	101-500	501-1000	1000-10,000	+10,000
Kaingaroa	23	6	4	8		2	
Whirinaki	9			2			1*
Kaimanawa	3		2	1*		1	1
Ikawhenua							1*
Tiniroto							
Maungaharuru						-	
Waimana							
Waikaremoana				1*			
Taupo							
Total	35	6	6	12*	1	3	3*

<sup>1</sup> These are single parcels of land administered by the Department of Conservation. The Whirinaki Conservation Park extends into several other ecological districts.

**Table 1.8.2 SUMMARY OF PROTECTED LANDS IN THE EASTERN VOLCANIC ECOLOGICAL DISTRICT**

Ecological District	Total Area (ha)	Lands Administered by the Department (ha)	Area %	Interest sites	Area %	Other Vested (ha)	Area%	Total Area (ha)	Total Area %
Kaingaroa	236,173	6,110.48 (30 sites)	2.95%	977.51 (14 sites)	0.41%	175.17 (20 sites)	0.07%	7,263.16 (64 sites)	3.08%
Whirinaki	47,640	31,293.48 (9 sites)*	65.69%	0# (3 sites)	0%	0.7334 (1 site)	0.0015%	31,294.21 (13 sites)*	65.69%
Kaimanawa	49,498	15,617.66 (3 sites)*	31.74%	143.64# (5 sites)	0.29%			15,761.30 (8 sites)*	31.84%
Ikawhenua	33,565	23,792 (1 site)*	70.88%					23,792 (1 site)*	70.88%
Waikaremoana	1,052	292(1 site)*	27.76%					292(1 site)*	27.76%
Taupo	841				-				
Tiniroto	447								
Maungaharuru	476								
Waimana	198								
Total	369,890	77,105.62	28.85%	1121.15	0.30%	175.90	0.05%	78,402.67	21.20%

\* Includes part of the Whirinaki Conservation Park extends into these ecological districts which has been counted as an additional site. It is counted as one area of managed land totalling approximately 54,921 ha. The majority is in the Whirinaki Ecological District. ;There are approximately 30,449 ha in Whirinaki, 23,792 ha in Ikawhenua, 378 ha in Kaimanawa, and 292 ha in Waikaremoana.

# These include proposed easements which an area has not been established yet.

# Appendix 2 ICOMOS New Zealand Charter for the Conservation of Places of Cultural Heritage Value

## PREAMBLE

New Zealand retains a unique assemblage of places of cultural heritage value relating to its indigenous and its more recent peoples. These areas, landscapes and features, buildings, structures and gardens, archaeological and traditional sites, and sacred places and monuments are treasures of distinctive value.

New Zealand shares a general responsibility with the rest of humanity to safeguard its cultural heritage for present and future generations. More specifically, New Zealand peoples have particular ways of perceiving conserving and relating to their cultural heritage.

Following the spirit of the International Charter for the Conservation and Restoration of Monuments and Sites (the Venice Charter 1966), this charter sets out principles to guide the conservation of places of cultural heritage value in New Zealand. It is intended as a frame of reference for all those who, as owners, territorial authorities, tradespeople or professionals, are involved in the different aspects of such work. It aims to provide guidelines for community Leaders, organisations and individuals concerned with conservation issues. It is a statement of professional practice for members of ICOMOS New Zealand.

Each section of the charter should be read in the light of all the others. Definitions of terms used are provided in section 22.

Accordingly this charter has been adopted by the New Zealand National Committee of the International Council on Monuments and Sites at its meeting on 7 March 1993.

## **1 The Purpose of Conservation**

The purpose of conservation is to care for places of cultural heritage value, their structures, materials and cultural meaning. In general, such places:

- i. have lasting values and can be appreciated in their own right;
- ii. teach us about the past and the culture of those who came before us;
- iii. provide the context for community identity whereby people relate to the land and to those who have gone before; provide variety and

contrast in the modern world and a measure against which we can compare the achievements of today; and

- iv. provide visible evidence of the continuity between past, present and future.

## **2 Indigenous Cultural Heritage**

The indigenous heritage of Maori and Moriori relates to family, hapu and tribal groups and associations. It is inseparable from identity and well-being and has particular cultural meanings.

The Treaty of Waitangi is the founding document of our nation and is the basis for indigenous guardianship. It recognises the indigenous people as exercising responsibility for their treasures, monuments and sacred places. This interest extends beyond current legal ownership wherever such heritage exists. Particular knowledge of heritage values is entrusted to chosen guardians. The conservation of places of indigenous cultural heritage value therefore is conditional on decisions made in the indigenous community, and should proceed only in this context. Indigenous conservation precepts are fluid and take account of the continuity of life and the needs of the present as well as the responsibilities of guardianship and association with those who have gone before. In particular, protocols of access, authority and ritual are handled at a local level. General principles of ethics and social respect affirm that such protocols should be observed.

## **3 Conservation Practice**

Appropriate conservation professionals should be involved in all aspects of conservation work. Indigenous methodologies should be applied as appropriate and may vary from place to place. Conservation results should be in keeping with their cultural content. All necessary consents and permits should be obtained.

Conservation projects should include the following:

- i. definition of the cultural heritage value of the place, which requires prior researching of any documentary and oral history, a detailed examination of the place, and the recording of its physical condition;
- ii. community consultation; continuing throughout a project as appropriate;
- iii. preparation of a plan which meets the conservation principles of this charter;
- iv. the implementation of any planned work; and
- v. the documentation of any research, recording and conservation work, as it proceeds.

## GENERAL PRINCIPLES

### **4 Conservation Method Conservation should:**

- i. make use of all relevant conservation values, knowledge, disciplines, arts and crafts;
- ii. show the greatest respect for, and involve the least possible loss of, material of cultural heritage value;
- iii. involve the least degree of intervention consistent with long term care and the principles of this Charter;
- iv. take into account the needs, abilities and resources of the particular communities; and
- v. be fully documented and recorded.

### **5 Respect for Existing Evidence**

The evidence of time and the contributions of all periods should be respected in conservation. The material of a particular period may be obscured or removed if assessment shows that this would not diminish the cultural heritage value of the place. In these circumstances such material should be documented before it is obscured or removed.

### **6 Setting**

The historical setting of a place should be conserved with the place itself. If the historical setting no longer exists, construction of a setting based on physical and documentary evidence should be the aim. The extent of the appropriate setting may be affected by constraints other than heritage value.

### **7 Risk Mitigation**

All places of cultural heritage value should be assessed as to their potential risk from any natural process or event. Where a significant risk is determined, appropriate action to minimise the risk should be undertaken. Where appropriate, a risk mitigation plan should be prepared.

### **8 Relocation**

The site of an historic structure is usually an integral part of its cultural heritage value. Relocation, however, can be a legitimate part of the conservation process where assessment shows that:

- i. the site is not of associated value (an exceptional circumstance); or
- ii. relocation is the only means of saving the structure; or
- iii. relocation provides continuity of cultural heritage value.

A new site should provide a setting compatible with cultural heritage value.

## **9 Invasive Investigation**

Invasive investigation of a place can provide knowledge that is not likely to be gained from any other source. Archaeological or structural investigation can be justified where such evidence is about to be lost, or where knowledge may be significantly extended, or where it is necessary to establish the existence of material of cultural heritage value, or where it is necessary for conservation work. The examination should be carried out according to accepted scientific standards. Such investigation should leave the maximum amount of material undisturbed for study by future generations.

## **10 Contents**

Where the contents of a place contribute to its cultural heritage value, they should be regarded as an integral part of the place and be conserved with it.

## **11 Works of Art and Special Fabric**

Carving, painting, weaving, stained glass and other arts associated with a place should be considered integral with a place. Where it is necessary to carry out maintenance and repair of any such material, specialist conservation advice appropriate to the material should be sought.

## **12 Records**

Records of the research and conservation of places of cultural heritage value should be placed in an appropriate archive and made available to all affected people. Some knowledge of places of indigenous heritage value is not a matter of public record, but is entrusted to guardians within the indigenous community.

# CONSERVATION PROCESSES

## **13 Degrees of intervention**

Conservation may involve, in increasing extent of intervention: non-intervention, maintenance, stabilisation, repair, restoration, reconstruction or adaptation. Where appropriate, conservation processes may be applied to parts or components of a structure or site.

Re-creation, meaning the conjectural reconstruction of a place, and replication, meaning to make a copy of an existing place, are outside the scope of this Charter.

## **14 Non-intervention**

In some circumstances, assessment may show that any intervention is undesirable. In particular, undisturbed constancy of spiritual association may be more important than the physical aspects of some places of indigenous heritage value.

## **15 Maintenance**

A place of cultural heritage value should be maintained regularly and according to a plan, except in circumstances where it is appropriate for places to remain without intervention.

## **16 Stabilisation**

Places of cultural heritage value should be protected from processes of decay, except where decay is appropriate to their value. Although deterioration cannot be totally prevented, it should be slowed by providing stabilisation or support.

## **17 Repair**

Repair of material or of a site should be with original or similar materials. Repair of a technically higher standard than the original workmanship or materials may be justified where the life expectancy of the site or material is increased, the new material is compatible with the old and the cultural heritage value is not diminished. New material should be identifiable

## **18 Restoration**

Restoration should be based on respect for existing material and on the logical interpretation of all available evidence, so that the place is consistent with its earlier form and meaning. It should only be carried out if the cultural heritage value of the place is recovered or revealed by the process.

The restoration process typically involves reassembly and reinstatement and may involve the removal of accretions.

## **19 Reconstruction**

Reconstruction is distinguished from restoration by the introduction of additional materials where loss has occurred. Reconstruction may be appropriate if it is essential to the function or understanding of a place, if sufficient physical and documentary evidence exists to minimise conjecture, and if surviving heritage values are preserved. Reconstruction should not normally constitute the majority of a place. Generalised representations of typical features or structures should be avoided.

## **20 Adaptation**

The conservation of a place of cultural heritage value is usually facilitated by it serving a socially, culturally or economically useful purpose. In some cases, alterations and additions may be acceptable where they are essential to continued use, or where they are culturally desirable, or where the conservation -of the place cannot otherwise be achieved. Any change, however, should be the minimum necessary and should not detract from the cultural heritage value of the place. Any additions and alterations should be compatible with original fabric but should be sufficiently distinct that they can be read as new work. .

## 21 Interpretation

Interpretation of a place may be appropriate if enhancement of public understanding is required. Relevant protocol should be complied with. Any interpretation should not compromise the values, appearance, structure or materials of a place, or intrude upon the experience of the place.

## 22 Definitions

For the purposes of this Charter:

**adaptation** means modifying a place to suit it to a compatible use, involving the least possible loss of cultural heritage value.

**conservation** means the processes of caring for a place so as to safeguard its cultural heritage value.

**cultural heritage value** means possessing historical, archaeological, architectural, technological, aesthetic, scientific, spiritual, social, traditional or other special cultural significance, associated with human activity.

**maintenance** means the protective care of a place.

**material** means physical matter which is the product of human activity or has been modified by human activity:

**place** means any land, including land covered by water, and the airspace forming the spatial context to such land, including any landscape, traditional site or sacred place, and anything fixed to the land including any archaeological site, garden, building or structure, and any body of water, whether fresh or seawater, that forms part of the historical and cultural heritage of New Zealand.

**preservation** means maintaining a place with as little change as possible.

**reassembly** (anastylosis) means putting existing but dismembered parts back together.

**repair** means making good decayed or damaged material.

**restoration** means returning a place as nearly as possible to a known earlier state by reassembly, reinstatement and/or the removal of extraneous additions.

**stabilisation** means the arrest of the processes of decay.

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# Appendix 3 - Mechanisms to Protect Lands with Significant Natural and Historic Resources

Many areas with significant natural and historic resources within the Conservancy do not have formal protection. Protection of these areas can be achieved in many ways ranging from responsible private ownership to purchase for conservation purposes.

This appendix provides a summary of mechanisms for protection and management of areas of conservation significance.

Mechanisms are presented under five categories: voluntary “protect and retain” options; conservation awareness; economic mechanisms; regulation; and land purchase.

## 1 Voluntary Protection and Retain Options

These mechanisms refer to legal options available to private land owners should they decide to protect natural features or open space on their property of their own free will.

### 1.1 QUEEN ELIZABETH THE SECOND NATIONAL TRUST OPEN SPACE COVENANTS

Under the Queen Elizabeth the Second National Trust Act 1977 it is possible for land owners to enter a binding legal agreement with the Trust to protect all or part of their property. The agreement is usually in the form of a covenant which is registered on the property title. Restrictions on land use usually only cover the particular feature that requires protection and are negotiated between the Trust and land owners. Public access may or may not be provided for. Such access is dependant upon whether or not public use of the area is compatible with the resources being protected and on the outcome of negotiations. Covenants can be for a specified period of time or in perpetuity, depending on the circumstances. The Trust often pays for the surveying, legal, and registration costs and can also contribute to the cost of fencing. Once again this depends on the resources to be protected. Besides covenanting, the National

Trust can also employ purchase, coordinating the purchase with other agencies, leasing and gifts.

## 1.2 COVENANTS, RESERVES ACT 1977, S.76, 77 AND S.77 (A).

**a) s.76** The objective is to protect land with natural, scientific, scenic, historic or other interest. Land can be gazetted as protected private land with the agreement of the land owner. This status is recorded on the title and binds subsequent land owners. Rates relief may be available under certain circumstances for land with this status. Conservation covenants can also be made to protect the natural environment, landscape, wildlife, freshwater, and marine life. The agreement between the parties is registered on the title. If appropriate and with the agreement of the land owner, public access to protected private land and areas subject to conservation covenants, may be provided for.

**b) s.77 (1)** Conservation covenants can also be made to protect the natural environment, landscape, wildlife, freshwater, and marine life. The agreement between the parties is registered on the title. If appropriate and with the agreement of the land owner, public access to protected private land and areas subject to conservation covenants, may be provided for.

**c) s.77 (A)** Nga Whenua Rahui kawenata are covenants over Maori land to protect not only the “natural environment, landscape amenity, wildlife or fresh water life or marine life habitat, or historical value of the land” but the “spiritual and cultural values which Maori associate with the land” is also taken into consideration.

## 1.3 COVENANTS, CONSERVATION ACT 1987

Under the Conservation Act 1987 agreements can be made between the Department of Conservation and a land owner over the future use of their property. These covenants do not have to be binding on the title. If appropriate and with the agreement of the land owner, public access to the land may be provided for. The Department of Conservation may pay for the surveying, legal, or fencing costs. It can also make grants in lieu of rates.

Additionally, the Minister of Conservation has the power to enter into management agreements under the Reserves Act (s.38) and the Conservation Act (s.29).

With regard to any Maori land or Crown land held under a Crown lease by Maori, the Minister of Conservation may, if satisfied the land should be managed so as to preserve and protect the natural, historic, spiritual, and cultural values of the land, agree with the owner or lessee for a Nga Whenua Rahui Kawenata to provide for the management of the land. Such an agreement may be in perpetuity, or in perpetuity but subject to review of intervals not less than 25 years, or for any specific term as agreed. Every Nga Whenua Rahui Kawenata runs with and binds the land in question.

#### 1.4 THE TURE WHENUA MAORI (MAORI LAND) ACT 1993, S.340

Any Maori freehold or general land can be set aside as a Maori reservation to protect sites of cultural value.

#### 1.5 SOIL CONSERVATION AND RIVERS CONTROL ACT 1941

Section 30 (a) Land Improvement Agreements are a formal agreement between Environment Bay of Plenty and the landowner which provides for any works that may be carried out under the agreement, which usually run for 99 years. The sites does not need a survey, but is registered as an encumbrance on the title, usually for soil and water conservation purposes with no grazing.

## 2 Conservation Awareness and Advocacy

The provision of information about the significance of natural areas, in both a broad educational sense and with respect to informing individual land owners who have natural features on their, property, can be an effective tool to encourage conservation and sustainable land management on private land. Such information provision can occur at a number of levels.

For example, broad coverage can be achieved by advertisement campaigns and education leaflets.

Public meetings with particular interest groups such as Federated Farmers can be used to educate and disseminate information and ideas about the general landscape importance in an area, and listen to community concerns and ideas on the protection of land in private ownership. Individual and direct liaison with land owners is the best method of dealing with the conservation of natural and historic resources, generally through an appropriately designed negotiation process.

Often the dissemination of information can assist with the district council strategies for conservation. Provision of information can occur as a response to land owners' queries when the general subject is raised at a local level.

Alternatively, the provision of information can be used as a reward system for voluntary conservation actions by private land owners. Distribution of a regular newsletter (prepared by the Department) and distributed by district councils, can provide information on a range of issues, problems, and ideas on the management of native vegetation on private land. Such a newsletter could be sent to those people who have covenanted land

through district scheme provisions or who have voluntarily protected vegetation in some other fashion. It may even be possible for such a newsletter to be partly self-funding by the advertisement of products related to the management and conservation of native vegetation e.g. native plant nurseries, contract possum hunters, fencing contractors.

For some land owners the formal recognition of a community service by the voluntary protection of their land is sufficient encouragement for them to protect natural or historic features. Such recognition could be in the form of plaques, ceremonies, and awards.

This technique has been used extensively in North America (Cutting, 1986).

## 3 Economic Mechanisms -Incentives and Controls

### 3.1 INDIGENOUS FOREST POLICY

The Forests Amendment Act 1993 came into force on 1 July 1993. The Act contains provisions for the following:

- a. export controls banning the export of all indigenous timber products except for sawn rimu and beech sourced from . sustainable management, and finished and manufactured products regardless of source;
- b. a requirement that all sawmills (fixed and portable) milling indigenous timber (including salvaged timber) be registered with the Ministry of Forestry before 1 October 1993;
- c. only registered sawmills will be able to mill indigenous timber, and this timber has to have been harvested under an approved sustainable forest management plan or permit, or is harvested under one of the exemptions provided in the Act (s.67D);
- d. a system of sustainable management plans, to be approved by the Secretary of Forestry in consultation with the Director-General of Conservation;
- e. a system of sustainable forest management permits to be approved by the Secretary of Forestry;
- f. a four year transition period, starting 3 July 1992, during which registered sawmills can mill an "allowable cut" of indigenous logs from forest not covered by an approved sustainable management plan (i.e., sourced from clear felling) as well as any logs that are covered

by such a plan. The allowable cut is a volume equivalent to that milled in the period 3 July 1990 to 3 July 1992; and

- g. representative areas may be set aside and excluded from all future logging plans to protect specific flora and fauna or other conservation values identified.

The Act does not apply to:

- a. the Crown's indigenous production forests on the West Coast;
- b. those forests on land reserved under the South Island Landless Natives Act 1906;
- c. forests administered by the Department of Conservation; or
- d. planted indigenous forests.

### 3.2 TRADEABLE DEVELOPMENT RIGHTS

Development rights are effectively tradeable where normal conditions on land uses can be waived by local authorities in lieu of a more desirable outcome. Subdivision controls which provide incentives can be loosely considered as tradeable development rights. Although they operate in regulatory environment they are discussed in this section as they act as an economic incentive.

### 3.3 SUBDIVISION CONTROLS

Subdivision can be used to reward land owners who are prepared to covenant natural features on their property. Subject to covenanting areas of native vegetation on their property land owners can then subdivide rural residential, or lifestyle lots (also known as bush lots).

### 3.4 TAX INCENTIVES

This is a common technique used in North America where taxation legislation permits its use; it is not permitted in New Zealand at present. The donation of land and conservation easements by individuals can be encouraged by the possibility of tax rebates or exemptions on gifts to publicly supported charities, a category under which most conservation organisations fall.

### 3.5 RATES RELIEF AND REBATE

The Ratings Powers Amendment Act 1992 includes a provision which allows for the remission or postponement of rates by local authorities where land with natural, historic, or cultural features has been voluntarily

preserved or enhanced by the occupier. The following specific protected areas are covered by the amendment:

- i. open space covenants under the Queen Elizabeth II National Trust Act;
- ii. heritage covenants under the Historic Places Act 1993;
- iii. conservation covenants under both the Reserves and Conservation Acts;
- iv. protected private land under the Reserves Act;
- v. management agreements for conservation purposes under both the Reserves and Conservation Acts; and
- vi. Maori reservations for natural, historic, or cultural purposes under the Maori Affairs Act,

This is not an exclusive list. Any areas voluntarily protected or enhanced which have natural historic or cultural features (not necessarily formally or legally protected) are also covered where the local authority adopts a policy under this amendment.

The amendment provides that the policy may be adopted under a special consultative procedure. The policy must state the criteria and conditions subject to which the local authority will remit or postpone rates. The local authority, when determining its rates relief policy, must have regard to the following:

- a. the desirability of preserving particular natural or historic or cultural features within the district;
- b. whether, and to what extent, the preservation of particular natural or historic or cultural features might be prejudicially affected if rates relief is not granted;
- c. whether, and to what extent, preservation of such features is likely to be encouraged by the granting of rates relief;
- d. the extent to which the preservation of different types of natural or historic or cultural features should be recognised by different criteria and conditions for rates relief, and whether different levels of rates relief should apply;
- e. the extent to which rates relief should be available where the preservation of such features does not restrict economic Utilisation of the land; and
- f. such other matters the local authority considers relevant.

### 3.6 FENCING SUBSIDIES

Fencing subsidies and assistance with legal and survey costs can be given to encourage land owners in the protection of their land. Legal, fencing, and survey costs normally fall on the property owners who protect areas as a result of regulatory controls. Although this is appropriate with 'the

covenants resulting from bush lot subdivision, encouraging voluntary covenanting with no resulting financial rewards to land owners may be assisted with some contribution to fencing and survey costs. The possibility of achieving conservation objectives by contributions to fencing should not be overlooked, for example, in water supply catchments in farmland areas where the retention and enhancement of riparian strips by fencing could maintain or improve water quality. In such situations it may prove unnecessary to purchase land when subsidised fencing will suffice.

### 3.7 WEED AND PEST CONTROL

Some form of assistance could be offered to ratepayers or land owners to protect natural features on their property. The possibility of a public agency having the ability to respond to requests for practical assistance and advice, free of charge, may also assist and encourage land owners to conserve natural habitats effectively.

### 3.8 PLANT NURSERIES

Providing replanting material of local provenance, for enhancing the regeneration of existing stands of vegetation or restoring areas of the landscape, can be an effective mechanism for encouraging community support and fostering involvement in sustainable land management practice in an area.

### 3.9 LAND TRUSTS

The establishment of land trusts similar to those in the United States may be used to effect conservation goals. In this instance, land trusts often made up of local members of a community, who manage areas or sites of heritage value. In the United States, land trusts are defined as “non profit organisations that work within a local\_ community, state or regional area for the direct protection of lands having open space, recreation or ecological importance” (Foti and Harvey, 1989). The trusts exist to achieve public sector goals through private initiatives. They are active in land acquisition and often pass land into the public sector. Many of these trusts own and manage land themselves and normally membership of the trusts is open to the public.

### 3.10 MARKET MECHANISMS FOR POLLUTION CONTROL

This type of economic mechanism is of less relevance to the protection of heritage values on private land. However, the broader area of water and air quality is integral to the continuing functioning of ecosystems, so

mechanisms which can be used to encourage a high standard of discharge deserve brief mention. Market mechanisms of pollution control can be used as incentives for inventing and introducing improved effluent control technologies. They involve incentive pollution charges (such as Pigouvian tax), distributive pollution charges, granted tradeable pollution consents, and sold tradeable pollution consents (Turner, 1990).

## 4 Regulation

### 4.1 TOWN AND COUNTRY PLANNING ACT 1977

Although the Town and Country Planning Act no longer exists the planning mechanisms which have been used under this Act are discussed for two reasons. Firstly, they are transitional provisions which will remain in place until the preparation of new district plans under the Resource Management Act 1991. Secondly, many of these planning techniques are likely to be used under new district plans.

#### 4.1.1 District Plan Controls

District plans have provided the most effective and detailed controls on land use necessary to achieve conservation on private land. A number of planning techniques have been used. The following is a discussion on the commonly used techniques in the Bay of Plenty region.

##### a. Special Zoning and Land Use Controls Normally Associated with Zoning

Zoning is a technique used for conservation in Bay of Plenty. A variety of conservation or special rural zones have been used such as Estuarine Protection Zones (Whakatane District), protection lots (Western Bay of Plenty District). Zones have been used to conserve natural resources on both public and private land within the districts. They are normally accompanied by a limited range of appropriate permitted, controlled, and discretionary uses.

Land-use controls accompanying such zones take the form of conservation of landscape ordinances which restrict the “as of right” clearance of vegetation, movement of soil, and diversion of waterways. Permission to damage vegetation or remove soil beyond that specified in the ordinance requires a non-notified application to council. These ordinances are also commonly associated with other zones such as residential and rural zones. They are used for areas of forest, freshwater and saline wetlands, and mangrove forests.

##### b. Schedules

Another technique for identifying and controlling the change to

natural features on private land is the preparation of a schedule of features in the district plan. These schedules identify controls on any modification which could change or destroy these features. This technique has been used for historic trees and archaeological sites, but in at least two districts (Western Bay of Plenty and Rotorua) it has also been used for natural areas. A schedule listing sites and identifying their importance is part of the district plan, with potential for accompanying ordinances controlling damage to such features.

**c. Registers**

A register of places or features of historic or natural importance is another technique. Registers are held at a council office as an information resource. Although the registered items have no accompanying land use controls in the district scheme, they are seen as a way of identifying and educating land owners about the importance of natural and historic resources on their property.

**d. Designation**

Land which is used or proposed to be used for public works may be designated in the district plan. The effect of designating land is to give notice of the designated purpose and generally limit the use of the land to that purpose.

Special zones have often been provided for the public works required on designated land. Designation has usually been the first step in the acquisition process. Changes to the Public Works Act 1981 over the last 10 years have tended to encourage the acquisition of land by agreement rather than by compulsory acquisition. Thus, designation processes in more recent times have implied the ability of the requiring agency to purchase land.

As a conservation planning technique, designations have been used to acquire land for reserves. Under the Resource Management Act 1991 the designation of a site in a district plan will have a limited span life of five years unless substantial progress has been made to purchase the land.

## 4.2 RESOURCE MANAGEMENT ACT 1991

Both the focus and the philosophy of the Resource Management Act 1991 are different from the legislation which this Act has replaced, particularly the Town and Country Planning Act 1977,

The Resource Management Act 1991 encourages local authorities to use a wider range of mechanisms to control the effects of activities. It is quite likely that in the new generation of district plans under this Act, the evolution of comprehensive conservation strategies which use all or a good part of the range of mechanisms discussed previously will appear. The Act also provides for the opportunity to use a wider range of tools to achieve resource management functions. For example, in the provisions for obtaining financial contributions from development there is now an

implicit opportunity to create strategies for reserve contributions by local authorities.

The Act confers wide power on councils (*see sin s.220, s.230-234*), and in relation to s.67 and s.75 impose development impact or financial contribution levies, with little expressed limitations (Sargisson, 1991). District plans are likely to be able to impose requirements for public services such as reserves, preservation of trees and buildings of historic interests, wildlife habitats, and walkways. Such contributions can be in the form of cash, land, work, or services. However, the plan must be specific about the amount of money required and the purpose of the contribution. This implies some form of reserve or open space strategy in place alongside or within the district plans.

Under the Resource Management Act 1991 the emphasis is on the need for sustainable management of natural and physical resources, particularly in the way they are used to facilitate development. For example, matters of national importance (s.6) are provided which should influence the nature and content of regional and district plans.

This new legislation also changes the way that decision making for resource allocation occurs, with emphasis now being on the effects of activities on the environment rather than on controlling land use per se.

For instance, s.30, which outlines the functions of regional councils, requires “the preparation of objectives and policies in relation to any actual or potential effects of the use, development, or protection of land which are of regional significance”. Under s.31, territorial authorities are required to give effect to “the establishment, implementation and review of objectives, policies, and methods to achieve integrated management of the effects of the use, development or protection of land and associated natural and physical resources of the district”.

These changes to planning law mean that district plans are more likely to focus on the effects of a wide range of activities and will control those which have adverse affects on the environment, rather than limit a range of land uses to one area or zone. Thus, the common use of zoning as a planning technique is expected to change for many areas, except perhaps areas which clearly have very limited tolerance to environmental change or adverse effects from many different activities.

Other mechanisms which have been created by the Resource Management Act to facilitate conservation include heritage orders (s.187-189). A heritage order is a provision made in a district plan to give effect to a requirement made by a heritage protection authority. A heritage protection agency can be any Minister of the Crown, local authorities, iwi authorities, NZ Historic Place Trust, or any person who is approved as a heritage protection authority.

Under these powers a heritage protection agency can protect:

- any place of special interest, character,
- intrinsic or amenity value, or visual appeal, or of special significance to the tangata whenua for spiritual, cultural, or historical reasons; and

- where a place may be of special interest by having special cultural, architectural, historical, scientific, ecological, or other interests.

Also provided under the Resource Management Act 1991 is the ability to provide for the protection of waterways using water conservation orders (Part IX). The purpose of a water conservation order is to recognise and sustain outstanding amenity or intrinsic values which are afforded by waters in their natural state, etc.

A water conservation order may provide for the preservation and protection of characteristics which contribute to a waterway's habitat quality, wild and scenic characteristics, scientific and ecological values, recreational, historical, spiritual or cultural purposes and tikanga Maori. Territorial local authorities also have the ability under the Resource Management Act 1991 to require, using a rule in a plan, esplanade reserve provisions to be greater or less than 20 m.

Under s.314 of the Resource Management Act 1991 an enforcement order issued by the Planning Tribunal can require a person to cease an activity which will or does contravene any regulation, district or regional rule, requirement for a designation, heritage order, or resource consent. An enforcement order can also be issued if an activity is likely to be noxious, dangerous, offensive or objectionable, or is likely to have an adverse affect on the environment.

## 5 Acquisition - Purchase, Reserve Contributions, Leasing and Gifts and Bequests

There are a number of protected area mechanisms by which land can be purchased and classified. The most common legislative means are found in the Reserves Act 1977 and the Conservation Act 1987 (*see Appendix 5*).

A very real problem today is the ability of public agencies to fund land purchase. Although various levels of government have money allocated for reserve purchase this is invariably inadequate with respect to the number of worthy sites, buildings, and features that should be protected in order to preserve representative examples of New Zealand's heritage. Often, private individuals who approach public agencies find this inability to fund land purchase frustrating

However, there are other sources of funding to which applications for assistance can be made. Many of these are trust funds set up specifically for conservation purposes, others are more general sources of funding to which organisations can apply. Some of the more specific conservation trust funds are listed below.

## 5.1 SUBSIDISED FUNDING SOURCES FOR PURCHASE, ENHANCEMENT OR INCREASED UNDERSTANDING OF THE ENVIRONMENT

### 5.1.1 Public Trust Funds

#### **Forest Heritage Fund**

Characteristics: A contestable fund from the Crown with an objective to “enable, facilitate and support activities directed at the protection and restoration of indigenous forests through helping to permanently protect representative, unique and threatened areas of indigenous forest and associated vegetation, by purchase of interest or, while leaving the land in private ownership, through covenanting, leasing, accords and management agreements”.

Applications are received four times each year. Closing dates for applications are in February, April, July, and October.

The protective actions for which the fund can be employed include the following:

- land purchase, securing voluntary agreements or covenants to protect indigenous forests through the Queen Elizabeth II National Trust or directly with the Crown through the Department of Conservation;
- reserves under s.340 of the Te Ture Whenua Maori (Maori Land) Act 1993 or the acquisition of reserves under other relevant statutes;
- a system of accords and exchanges where agreements can be reached and land exchanged in order to achieve both the Pacific Development and Conservation Trust

Set up in 1988 and administered by the Department of Internal Affairs, this fund provides grants for environmental conservation, and related projects in New Zealand and the Pacific. The funding is provided from the Rainbow Warrior compensation money. Contact is Box 10-345 Wellington.

#### **Nga Whenua Rahui Fund**

This fund was set up by Government in 1990 -- and amended in 1993, as a new method of protecting indigenous vegetation in Maori tenure, through Crown leases, cash payments associated with covenants, and s.340 Maori reservations (Te Ture Whenua Maori (Maori Land) Act 1993), all to recognise the special values placed by Maori on the land.

An advisory committee to the Minister of Conservation was set up early in 1991 to promote protection of indigenous vegetation (mainly forests) on Maori owned land. This committee meets' bi-monthly to consider proposals from various iwi, and recommends to the Minister proposals which in their opinion should be funded. A list of criteria is set out in the application form. The most common form of funding is fencing to exclude the grazing of the forests and wetlands. This enables the vital understorey to regenerate and the forest to come fully alive again. In special cases of exceptional ecological importance and/or timber value,

a one-off lump sum could be paid to owners as a “consideration” in lieu of a covenant.

Although from a pakeha point of view it is important to have areas of vegetation of high ecological value, the Nga Whenua Rahui Committee takes into account the cultural and spiritual values to iwi of ngahere areas submitted for funding.

Legal protection is usually in a covenant form which is worded carefully to ensure tangata whenua retain tino rangatiratanga. Although the intentions at the start of the formal agreement should be a perpetuity agreement, a clause within the covenant allows a review of the conditions and continuance at generational intervals (usually stated at 25 years). Full owner rights for access and timber felling for cultural/medicinal use are also included.

The Committee assists tangata whenua in applying for rate remissions.

### **NZ Historic Place Trust Conservation Fund**

For the preservation of New Zealand’s historic heritage by helping owners of historic buildings and sites with their restoration projects and provides assistance for restoring traditional Maori buildings on marae. Contact NZ Historic Places Trust, Box 2629, Wellington. There are no closing dates for application.

#### **5.1.2 Private Conservation Trusts**

- (Adapted from ECO Newsletter, Jan-Mar 1991. pp 9-11)

#### **J S Watson Conservation Trust**

Objective: “For the conservation of the flora • and fauna and natural features of NZ and the advancement of knowledge of these matters by way of research, literary contribution, essay, articles, or other effort and generally the education of the-public to give them an understanding and love of the earth.” Contact Royal Forest & Bird Protection Society, Box 631, Wellington.

#### **Ron D & E A Greenwood Environmental Trust**

Objective: “For the preservation, conservation and protection of the natural resources of New Zealand, for example, wildlife, bird life, marine life, geology, atmosphere, water, flora and fauna and the natural environment generally, including the promotion of a wider understanding and care of such resources in the interest of all who live or visit New Zealand.” No closing date. Contact for the Trust is do Box 359, Wellington.

#### **Isaac Wildlife Trust**

Objective: “For the promotion and encouragement of the preservation of wildlife, flora, fauna, water, soils and other natural resources and more particularly, to breed and rear all kinds of animals, birds, fish and to provide areas where they can live in a protected state. Also for education and research, for conservation programmes and for encouraging public interests in the conservation of wildlife.” Contact Arthur Young,

Chartered Accountant, Box 2091, Christchurch.

### **The Stout Trust**

This Trust has several aims, including the preservation of natural or historic sites or amenities for 'public enjoyment. The Trust encourages innovative ideas and contributes to a few major enterprises rather than more numerous, smaller ventures. Applications should be made to the Stout Trust, do The Trust Manager, The New Zealand Guardian Trust Company Limited, Private Bag, Wellington.

### **The Landcare Foundation**

The Landcare Foundation is a charitable trust set up to achieve reform through sustainable land management and community development. The goals of the Foundation are to benefit communities throughout New Zealand by successfully implementing projects which enhance and protect the country's natural resources and environment.

The major objectives of the Foundation as stated in the Trust Deed include the advancement and promotion of:

- sustainable land management;
- appropriate forms of public outdoor recreation;
- preservation of places and sites of historic interest or natural beauty;
- all forms of tree planting and care that may be beneficial to the community or the environment; and
- advance and promote education in all forms.

The Foundation has an immediate goal of raising capital of \$5 million in the first five years. It will be seeking cash contributions, gifts of investments or other assets in perpetuity, assignments of income or assets for a limited period, bequests of cash or property interests, deferred gifts, and corporate contributions.

### **New Zealand Game Bird Habitat Trust Board (s.44B Wildlife Act 1953)**

This trust purchases, protects and manages habitats primarily for gamebirds (usually wetlands) and other wildlife with funding derived from the sale of gamebird stamps (attached to gamebird licences).

#### **5.1.3 Grants**

Grant funding is more general in nature than the trust funds outlined,above. The largest source of grant funding is with the Lottery Grants. Board which provides funding to help and support community initiatives. The Board has been set up by Parliament to distribute the profits from state lotteries for charitable purposes. Of the nine categories to which applicants can apply for funding, three are relevant for projects involving environment and conservation initiatives. These specific funds are Lottery

Heritage, Lottery Science Research, and Lottery General.

### **Lottery Heritage**

The Lottery Heritage Fund is designed to help local communities to promote, enhance and protect the cultural, environmental, and historical heritage of New Zealand. This fund is managed by the Department of Internal Affairs. The criteria for applications to this fund must demonstrate local community initiative and involvement in the project. Projects can be national or local in nature. Funding will not be provided for salaries, building construction or renovation, or for research projects where applications for funding should be made to other Lottery Board categories. Only non-profit making

### **Lottery Science Research**

This category is designed to help fund scientific research which does not receive funding from other sources. Grants are made for research projects within New Zealand, equipment, publication of major studies, technical assistance in special cases, and some travel costs. The committee encourages applications for research on the preservation and management of flora and fauna, archaeological studies, or projects of benefit to local communities. • Applications normally close on 30 June each year. The total funding available for this category for the 1989/90 year was \$1,000,000.

### **Lottery General**

The Lottery General Fund is for community, historical, and cultural projects which are considered worthy of support but which fall outside the specialist categories mentioned above. The Board will consider applications for special one-off projects which relate to a special event or situation or a unique project of national, regional, or, local significance. The committee which assesses these applications meets in late February, mid May, and mid October.

All applications for funding from the Lottery Grants Board should be made to The Secretary, Lottery Grants Board, Department of Internal Affairs, P O Box 805, Wellington.

### **Environmental Grants**

Administered by the Ministry for the Environment generally through regional community environmental centres, with \$47,000 available per annum. Applications generally close in July each year. Projects which qualify for assistance may include research studies, surveys, conservation projects (including replanting), or the creation of educational resource material. Grants are not given to government organisations.

### **Local Authority Grants**

Local authorities can budget for assisting protection (e.g. fencing) of Farm Environment Plans and significant sites with resource consents in their yearly planning process (including Schedule Sites see Appendix 3,

section 4.1.1 (b)).

#### **5.1.4 Reserve Contribution**

Resource Management Act 1991, s.220

This is the formal mechanism that is used by local authorities when they require reserve contributions on subdivision. It can result in the preservation of trees and buildings of historic interest, archaeological sites, and wildlife habitat. This section has been used in the creation of encumbrances under district scheme ordinances for bush lot subdivision.

Prior to the Resource Management Act 1991 the Local Government Act 1974 (s.291) contained the mechanisms used to require • reserve contributions upon subdivision.

#### **5.1.5 Leasing**

The Department of Conservation may seek to lease land with significant natural and historic resources for protection purposes.

#### **5.1.7 Gifts/Bequests**

The outright gifting of land by private landowners to the crown or to local authorities should not be overlooked. Gifts of land in some regions have contributed significantly to the current Protected Natural Areas Programme network (Cutting & Cocklin, 1992).

# Appendix 4 - Treaty of Waitangi

Ko Wikitoria, te Kuini o Ingarani, i tana mahara atawai ki nga Rangatira me nga Hapu o No Tirani i tana hiahia hoki kia tohungia ki a ratou o ratou rangatirantanga, me to ratou wenua, a kia mau tonu hoki te Rongo ki a ratou me te Atanoho hoki kua wakaaro is he mea tika kia tukua mai tetahi Rangatira hei kai wakariti ki nga Tangata maori o Nu Tirani- kia wakaetia e nga Rangatira maori te Tawanatanga o te Kuini ki nga wāhikatoa o te Wenua nei me nga Motu-na te mea hoki he tokomaha ke nga tangata o tona Iwi Kua noho ki tenei wenua, a e haere mai nei.

Na ko te Kuini e hiahia ana kia wakaritea to Kawanatanga kia kaua ai nga kino e puta mai ki te tangata Maori ki te Pakeha e noho ture kore ana.

Na, kua pai te Kuini kia tukua a hau a Wiretnu Hopihona he Kapitana i te Roiara Nawi hei Kawana mo nga wāhi katoa a Nu Tirani e tukua aiane, amua ki te Kuini e mea atu ana is ki nga Rangatira o to wakaminenga o nga hapu o Nu Tirani me era Rangatira atu enei ture ka korerotia nei.

## **Ko te Tuatahi**

Ko nga Rangatira o te Wakaminenga me nga Rangatire katoa hoki ki hai i uru ki taua wakaminenga ka tuku rawa atu ki te Kuini o Ingarani ake tonu atu-te Kawanatanga katoa o o ratou wenn a.

## **Ko to Tuarua**

Ko te Kuini o Ingarani ka wakarite ka wakaae ki nga Rangatira ki nga hapu-ki tangata katoa o Nu Tirani to tino rangatiratanga o o ratou wenua o ratou kainga me o ratou taonga katoa. Otiia ko nga Rangatira o te Wakaminenga me nga Rangatira katoa atu ka tuku ki to Kuini te hokonga o era wāhi wenua e pai al to tangata nono te Wenua-ki to ritenga o te utu e wakaritea ai e ratou ko te kai hoko e meatia nei e te Kuini hei kai hoko mom

## **Ko te Tuatoru**

Hei wakaritenga mai hoki tenei mo to wakaetanga ki te Kawanatanga o to Kuini-Ka tiakina e te Kuini o Ingarani nga katoa rite tali' ki ana mea ki nga tangata o Ingarani.

(Signed) WILLIAM HOBSON

Consul and Lieutenant-Governor.

Na ko matou ko nga Rangatira o te Wakaminenga o nga hapu o Nu Tirani ka kite nei i te ritenga o enei kupu, ka tangohia ka wakaetia katoatia e matou, koia ka tohungia ai o matou ingoa o matou tohu.

Ka meatia tenei ki Waitangi i te ono o nga ra o Pipueri i te tau kotahi mano, e want rau e wa te kau o to tatou Ariki.

Ko nga Rangatira a te wakaminenga.

HER MAJESTY VICTORIA Queen of the United Kingdom of Great Britain and Ireland regarding with Her Royal Favour the Native Chiefs and Tribes of New Zealand and anxious to protect their just Rights and Property and to secure to them the enjoyment of Peace and Good Order has deemed it necessary in consequence of the great number of Her Majesty's Subjects who have already settled in New Zealand and the rapid extension of Emigration both from Europe and Australia which is still in progress to constitute and appoint a functionary properly authorised to treat with the Aborigines of New Zealand for the recognition of Her Majesty's Sovereign authority over the whole or any part of those islands- Her Majesty therefore being desirous to establish a settled form of Civil Government with a view to avert the evil consequences which must result from the absence of the necessary Laws and Institutions alike to the native population and to Her subjects has been graciously pleased to empower and to authorise me William Hobson a Captain in Her Majesty's Royal Navy Consul and Lieutenant Governor of such parts of New Zealand as may be or hereafter shall be ceded to her Majesty to invite the confederated and independent Chiefs of New Zealand to Concur in the following • Articles and conditions.

#### **ARTICLE THE FIRST**

The Chiefs of the Confederation of the United Tribes of New Zealand and the separate and independent Chiefs who have not become members of the Confederation cede to Her Majesty the Queen of England absolutely and without reservation all the rights and powers of Sovereignty which the said Confederation or Individual Chiefs respectively exercise or possess or may be supposed to exercise or to possess over their respective Territories as the sole Sovereigns thereof.

#### **ARTICLE THE SECOND**

Her Majesty the Queen of England confirms and guarantees to the Chiefs and Tribes of New Zealand and to the respective families and individuals thereof the full exclusive and undisturbed possession of their Lands and Estates Forests Fisheries and other properties which they may collectively or individually possess so long as it is their wish and desire to retain the same in their possession; but the chiefs of the United Tribes and the Individual Chiefs yield to Her Majesty the exclusive right of Preemption over such lands as the proprietors thereof may be disposed to alienate at such prices as may be agreed upon between the respective Proprietors and persons appointed by Her Majesty to treat with them in that behalf.

#### **ARTICLE THE THIRD**

In consideration thereof Her Majesty the Queen of England extends to the Natives of New Zealand Her royal protection and imparts to them all the Rights and Privileges of British Subjects.

W. HOBSON Lieutenant Governor

Now therefore We the Chiefs of the Confederation of the United Tribes of New Zealand being assembled in Congress at Victoria in Waitangi

and We the Separate and Independent Chiefs of New Zealand claiming authority over the Tribes and Territories which are specified after our respective names, having been made fully to understand the Provisions of the foregoing Treaty, accept and enter into the same in the full spirit and meaning thereof: in witness of which we have attached our signatures or marks at the places and the dates respectively specified.

Done at Waitangi this Sixth day of February in the year of Our Lord One thousand eight hundred and forty.

[Here follow signatures, dates, etc.]

# Appendix 5 - Legislative Requirements

The Department administers the Conservation Act 1987 and the Acts named in the first schedule of the Conservation Act 1987.

## 5.2 CONSERVATION MANAGEMENT STRATEGIES

The legislative requirements, framework, and process of preparation of the Bay of Plenty Conservancy Conservation Management Strategy (CMS) is described below.

Conservation management strategies are a new way of planning within the Department of Conservation. Previous planning approaches were focused on preparing management plans for single species or areas of land administered by the Department. These plans were often unrelated to one another, and did not provide an overall sense of direction for the Department's activities.

The purpose of a CMS is to “ implement general policies and establish objectives for the integrated management of natural and historic resources, including any species, managed by the Department under the Wildlife Act 1953, the Marine Reserves Act 1977, the Wild Animal Control Act 1977, the Marine Mammals Protection Act 1978, the National Parks Act 1980, the New Zealand Walkways Act 1990, or this Act [the Conservation Act 1987], or any of them, and for recreation, tourism, and other conservation purposes.” (s 17D(1) Conservation Act 1987)

A CMS must be developed and released in association with the local conservation board, in this case the Bay of Plenty Conservation Board. This requirement recognises the role of conservation boards in setting management objectives.

## 5.3 THE LEGISLATIVE FRAMEWORK

### **The Conservation Act 1987**

The Conservation Act 1987 established and set out the functions of the Department of Conservation. The Department is required to administer the Act, and Acts named in the First Schedule. Specific functions of the Department under s.6 of that Act are listed in that Act as follows:

- a. To manage for conservation purposes, all land, and all other natural and historic resources, for the time being held under \_ this Act, and all other land and natural historic resources whose owner agrees with the Minister that they should be managed by the Department:

- ab. To preserve so far as is practicable all indigenous freshwater fisheries, and protect recreational freshwater fisheries and freshwater fish habitats;
- b. To advocate the conservation of natural and historic resources generally;
- c. To promote the benefits to present and future generations of-
  - i. The conservation of natural and historic resources generally and the natural and historic resources of New Zealand in particular; and
- d. To prepare, provide and disseminate, promote, and publicise educational and promotional material relating to conservation;
- e. To the extent that the use of any natural and historic resource for recreation or tourism is not inconsistent with its conservation, to foster the use of natural and historic resources for recreation, and to allow their use for tourism:
- f. To advise the Minister on matters relating to any of those functions or to conservation generally;
- g. Every other function conferred on it by any other enactment.

Section 4 of the Conservation Act 1987 requires the Department to give effect to the principles of the Treaty of Waitangi. This provision recognises the special position of tangata whenua as Treaty partners and places obligations on the Department and the Conservation Board.

Recognising this role, the views of appropriate tangata whenua were sought in consultation with iwi representatives on the Conservation - Board. In management of the Conservancy there will be ongoing consultation with iwi.

### **Preparation of the CMS**

The Conservation Act 1987 was amended in 1990 and, amongst other matters, provided for statements of general policy, for the preparation of conservation management strategies and conservation management plans. All land, natural and historic resources administered by the Department must be administered in accordance with these documents.

A Conservation Management Strategy must identify and describe all protected areas managed by the Department within the strategy boundaries approved by the Director General of Conservation.

Strategies are prepared by the Department and approved by the Conservation Authority after they have been considered by the relevant Conservation Board. The strategy must be prepared for approval by the New Zealand Conservation Authority by June 1995.

5.4 ACTS IN THE FIRST SCHEDULE (WITH REGULATIONS) OF THE CONSERVATION ACT 1987 AND ACTS THE DEPARTMENT ADMINISTERS

**The Marine Mammals Protection Act 1978**

The Department administers this Act, which provides for the protection, conservation, and management of marine 'mammals in the area covered by the waters of the New Zealand fisheries.

**The Marine Reserves Act 1971**

The Department administers this Act, which provides for the establishment and management of areas of sea and foreshore as marine reserves for scientific study purposes.

**The Native Plants Protection Act 1934**

The Department administers this Act, which provides protection for native plants, on Crown Land, public reserves, and private land, \_

**The New Zealand Walkways Act 1990**

The Department administers this Act, which establishes and maintains public walking tracks over public and private lands in New Zealand.

**The Queen Elizabeth II National Trust Act 1977**

This Act establishes this trust which encourages and promotes the provision, protection, and enhancement of open space,

**The Reserves Act 1977**

The Department is responsible for administering the Reserves Act (1977), the purpose of which is to:

- a. Provide, for the preservation and management for the benefit and enjoyment of the public, areas of New Zealand possessing:
  - i. recreational use or potential, whether active or passive; or
  - ii. wildlife; or
  - iii. indigenous flora or fauna; or
  - iv. environmental and landscape amenity or interest; or
  - v. natural, scenic, historic, cultural, archaeological, biological, geological, scientific, educational, community, or other special features or value;
- b. Ensure as far as possible, the survival of all indigenous species of flora and fauna, both rare and commonplace, in their natural communities and habitats, and the preservation of representative samples of all classes of natural ecosystems and landscape which in the aggregate

- originally gave New Zealand its own recognisable character; and
- c. Ensure, as far as possible, the preservation of access for the public to and along the sea coast, its bays and inlets and offshore islands, lake shores, and riverbanks, and fostering and promoting the preservation of the natural character of the coastal environment and of the margins of lakes and rivers and the protection of them from unnecessary subdivision and development. (s. 3 Reserves Act .1977).

### **The Wild Animal Control Act 1977 (and Noxious Animals in Captivity Regulations, 1969)**

1. This Act shall apply to all land, having regard to the provisions of any Act applying to the land, and shall be for the purposes of controlling wild animals generally, and of eradicating wild animals locally where necessary and practicable, as dictated by proper land use.
2. This Act shall be administered, having regard to the general purposes specified in subsection (1) of this section so as to:
  - a. ensure concerted action against the damaging effects of wild animals on vegetation, soils, waters, and wildlife; and
  - b. achieve co-ordination of hunting measures; and
  - c. provide for the regulation of recreational hunting, commercial hunting, wild animal recovery, and the training and employment of staff (s.4 Wild Animal Control Act 1977).

### **The Wildlife Act 1953 and Wildlife Regulations 1955**

This Act and its regulations provide for protection or management of most indigenous terrestrial mammals, most native (indigenous) birds, reptiles, amphibians, and some terrestrial invertebrates. 5.5 Other Acts and regulations administered by the Department

### **The Freshwater Fisheries Regulations 1983**

The Department administers these regulations made under the Conservation Act 1987. The Department's role is to manage and conserve freshwater fisheries and fishery resources in New Zealand and maintain free passage for freshwater fish.

### **The Trade in Endangered Species Act 1989 and Regulations**

The Department administers this Act which regulates the trade in endangered species or any product from those species.

This Act states that its object "is to enable New Zealand to fulfil its obligations under the Convention"..."and to promote the management, conservation and protection of endangered, threatened and exploited species to further enhance the survival of those species".

The Convention on International Trade in Endangered Species of Wild Fauna and Flora (hereafter called CITES), of which New Zealand is a party, regulates the trade (i.e. the import, export, and re-export) of

living or dead specimens of animal and plant species and their parts and their derivatives which are listed in the appendices to the Convention. The appendices list species which are threatened with extinction by international trade.

The Tauranga Area Office, in an important regional centre for the implementation of CITES, as a secondary import and export trade port of New Zealand.

### **The Whitebait Regulations 1991**

The Department administers and enforces these regulations. The regulations specify the season length, type and number of nets, hours of fishing, and allow, by permit, the taking of whitebait for hui or tangi outside the season.

## **5.6 OTHER ACTS THAT THE DEPARTMENT HAS SIGNIFICANT RESPONSIBILITIES UNDER OR INVOLVEMENT IN:**

### **Biosecurity Act 1993**

This Act is administered by the Ministry of Agriculture and locally by regional councils. The transitional provisions bind the Department until 1996, after which pest management strategies will set any "obligations" (or earlier if a noxious plant is covered by an approved pest management strategy). The Minister of Conservation is able to propose national pest management strategies, and the Department can request regional councils to prepare regional pest management strategies. The Minister can also undertake small scale management of unwanted organisms. This Act does not affect or derogate from provisions in Acts administered by the Department, including the Wildlife Act 1953, Wild Animal Control Act 1977, amongst others.

### **The Crown Minerals Act 1991**

The Ministry of Commerce administers this Act. Access for mining purposes to land administered by the Department or land vested in other bodies under the Reserves Act 1977, is controlled under this Act.

### **Fisheries (Amateur Fishing) Regulations 1986/221**

The Ministry of Agriculture and Fisheries administer these regulations under the Fisheries Act 1983. The regulations set minimum net mesh size for fish species, including eels.

### **The Forest and Rural Fires Act 1977 and Regulations**

The Minister of Conservation is a Rural Fire Authority and his powers and responsibilities are covered by this Act. The Minister must prepare fire plans, issue fire permits, control fires and liaise with various fire

authorities. The Minister also manages a one kilometre fire safety margin surrounding every area of Crown Land.

### **Maori Purposes Act 1931**

This Act provides for the administration of Maori lands gifted to the Crown for preservation, and managed as Scenic Reserves\_ under the Reserves Act 1977, There are two reserve boards in the Conservancy established under this Act: Lake Okataina Reserve Board and Lake Rotoiti Reserve Board.

### **The Noxious Plants Act 1978**

This Act is administered by the Ministry of Agriculture and Fisheries and locally by the regional councils. The Department is bound by this Act to control noxious plants on lands that it manages (*see Biosecurity Act 1993*).

### **The Resource Management Act 1991**

The Department uses processes under the Resource Management Act 1991 to advocate for the conservation of natural and historic resources. The mandate for this activity comes from s.6 Of the Conservation Act 1987. For example, the Department uses provisions of the Act to endeavour to provide some protection for wildlife and fisheries habitat on land not administered by the Department.

The key processes that the Department will participate in are preparation of policy statements and plans, resource consent applications, and heritage orders.

There is a formal hierarchy of planning documents. Each one is not to be inconsistent with the ones above it. They are:

- national policy statements (including New Zealand Coastal Policy);
- regional policy statements;
- regional plans;
- district plans.

When preparing regional policy statements, regional or district plans, councils shall have regard to any:

management plans and strategies prepared under other Acts (8.61 (2)(a)(i), 8.66 (2)(c)(i), s.74 (2) and s.104 (2) Resource Management Act 1991).

This CMS is one of these strategies.

As a separate matter, the Minister of Conservation is responsible for preparing the New Zealand Coastal Policy (NZCP) for the “coastal environment” (Resource Management -Act 1991, s.28). Regional policy statements, regional plans, and district plans are not to be inconsistent with NZCP or any other national -policy statement. Applications for specified coastal activities with major impacts are dealt with as Restricted Coastal Activities and require the consent of the Minister of

Conservation. The Department. services the Minister in the performance of these functions and has the responsibility to monitor the effect and implementation of national coastal policy 'statements and coastal permits issued by the Minister.

Day-to-day responsibility for coastal administration and management in the Coastal Marine Area (below the mean high water springtide line) is the responsibility of regional councils. Each regional council is to propose a regional coastal plan or plans by 1 July \_\_1994. Regional coastal plans must eventually be approved by the Minister of Conservation.

### **The Treaty of Waitangi Act 1975**

This Act provides for

“the observance and confirmation of the principles of the Treaty of Waitangi by the use of a tribunal to make recommendations on claims relating to the practical application of the Treaty and to determine whether certain matters are inconsistent with the principles of the Treaty” (Title of the Act). Most of the land administered by the Department is subject to claims under this Act.

### **The Forests Amendment Act 1993**

This Act, which amended the Forests Act 1949, is administered by the Ministry of Forestry. The Department is consulted over every personal use application, draft sustainable forest management plans and permits.

### **Health and Safety in Employment Act 1992**

The Department of Conservation is required to comply with this Act, which is administered by the Department of Labour. The Act requires employers, employees and contractors to manage their work to eliminate, isolate or minimise hazards to workers and other persons in places of work. The Department has adopted induction, training, hazard identification safety audit and accident recording systems to comply with the Act.

Other safety management programmes undertaken by the Department include:

- Search and Rescue (New Zealand Police have the statutory responsibility);
- Building Act 1991 (engineers have to certify any building on land administered by the Department); and
- avoiding negligence by good work practice (Tort of negligence).

### **Historic Places Act 1993**

The Department is required to comply with this Act, which is administered by the Historic Places Trust. The Act binds the Department in any work undertaken on archaeological sites on lands administered by the Department.

# Appendix 6 - Convention on Biological Diversity (United Nations Environment Programme, 1992)

The convention contains a number of important requirements relating to the Department's work:

- a. Identify and monitor ecosystems and species and activities that could significantly affect the conservation of biological diversity.
- b. Establish a system of protected areas.
- c. Develop guidelines for the selection, establishment, and management of protected areas, or areas where special measures need to be taken to conserve biological diversity.
- d. Regulate or manage protected and non-protected areas to ensure the conservation of biological diversity.
- e. Promote the protection of ecosystems and the maintenance of viable populations of Species in their natural habitats.
- f. Rehabilitate and restore degraded ecosystems and promote the recovery of threatened species.
- g. Control, eradicate, and prevent the introduction of those alien species that threaten protected ecosystems, habitats, or species. ,
- h. Respect the knowledge and practices of tangata whenua relevant to conservation and sustainable use of biological diversity.
- i. Develop or maintain legislation and other regulatory provisions for protection of threatened species and populations.
- j. Adopt appropriate off-site conservation measures for the recovery and rehabilitation of threatened species and for their reintroduction into natural habitats. Off-site conservation practices are to complement on-site conservation actions (*see (b)-(i) above*).

# Appendix 7 - Glossary

**Activity.** Includes a trade, business, or occupation

*(Part IIIB Conservation Act 1987).*

**Advocacy.** The collective term for work done, by the Department of Conservation, conservation boards, and the New Zealand Conservation Authority to promote conservation to the public and outside agencies. Advocacy includes involvement in land use planning processes and using a range of methods to inform and educate the public and visitors on conservation issues.

**Aircraft.** Means any machine that can derive support in the atmosphere from the reactions of the air otherwise than by the reactions of the air against the surface of the earth.  
*(Civil Aviation Act 1990)*

**Archaeological site.** Any place-in New Zealand, including shipwrecks, associated with human activity before 1900 and which through investigation by archaeological methods, provide scientific, cultural, or historical evidence relating to the history of New Zealand.  
*(Historic Places Act 1993)*

**Animal.** Any member of the Animal Kingdom other than human beings.  
*(Conservation Act 1987)*

**Animal pests.** Animals in the 5th and 6th Schedules of Wildlife Act 1953, and domestic animals and wild animals as defined in the Wild Animal Control Act 1977.  
*(Wildlife Act 1953 and Wild Animal Control Act 1977)*

**Aquatic life.** Any species of plant or animal life (except birds) that must, at any time of life history of the species, inhabit freshwater; and includes any part of any such plant or animal.  
*(Conservation Act 1987)*

**Atua.** God, demon, supernatural being, ghost.

**Biological diversity (biodiversity).** Is the variability among living organisms from all sources including, inter alia, terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are a part; this includes diversity within species, between species, and of ecosystems.  
*(United Nations Convention on Biological Diversity 1992)*

It can also be described as the whole environment encompassed in the manifestation of the complete and complex-nature of Papa-tua-nuku (a Maori name for the Earth).

**Biological prospecting (Bioprospecting).** Is the collection and development of indigenous flora, fauna and micro-organisms for commercial use.

**Business plan.** The Business Plan is prepared under s.41(2)(d) of the

Public Finance Act 1989 and covers a 12 month period from July to June. It serves as a financial contract between the Department and the Minister.

**By-catch.** Birds or marine mammals that are caught during fishing.

**Charter of Partnership.** See 5.6 Relationship with Tangata Whenua.

**Coastal marine area.** The area of foreshore and sea bed between the outer limit of the territorial sea and the mean high water springtide line. At river mouths the landward boundary is the lesser of; one kilometre upstream or five times the width of the river mouth. (*Resource Management Act 1991*)

**Concession.** A concession means a lease, licence, permit or easement granted under Part IIIB of the Conservation Act to enable the carrying on of a trade, occupation, or business on land administered by the Department.

**Concessionaire.** Is a person who is a lessee, licensee or permit holder or grantee of an easement. (*Part IIIB Conservation Act 1987*)

**Conservancy.** The Department of Conservation has 14 regional offices in different parts of the country. Each office and/or the region it is responsible for is called a Conservancy.

Conservation. In respect of conservation areas means the preservation and protection of natural and historic resources for the purpose of maintaining their intrinsic values, providing for their appreciation and recreational enjoyment by the public, and safeguarding the options of future generations. (*Conservation Act 1987*)

**Conservation Area.** Is all land, foreshore, and interest in land held under the-Conservation Act 1987. See Land administered by the Department. (*Conservation Act 1987*)

**Conservation Boards.** There are 17 conservation boards, each having up to 12 members appointed from public nominations. The-Minister of Conservation is required to consult with the Conservation Authority and have regard to the features of the land administered by the Department in the board's area, the interests of nature conservation, natural earth or marine sciences, recreation, tourism, and the local community including the tangata whenua of the area. The Minister of Maori Affairs is consulted for any appointment representing the interests of the tangata whenua (*Conservation Act 1987 s.6P*).

Their functions include overseeing the preparation of the conservation management strategies and national park management plans for their area, approval of conservation management plans (e.g. for conservation parks), advising the New Zealand Conservation Authority or Director-General of the Department on regional conservation matters and advising on new walkways in the region. (*Conservation Act 1987 s.64*)

**Conservation Management Plan (CMP).** A plan for the management of natural and historic resources, and the management of recreation,

tourism and other conservation purposes. It implements the CMS and establishes detailed objectives for integrated management within any area of areas specified in a CMS. (*Conservation Act 1987 s.17E*)

**Conservation Management Strategy (CMS).** A strategy which implements general policies and establishes objectives for the integrated management of natural and historic resources, and for recreation, tourism and other conservation purposes. The strategy is reviewed every 10 years. (*Conservation Act 1987 s.17D*)

**Consultation.** A genuine invitation to give and receive advice and genuine consideration of that advice. To achieve consultation, sufficient information must be supplied and sufficient time allowed by the consulting party to the consulted to enable it to tender helpful advice. It involves ongoing dialogue. (*Adapted from McGechan decision in Air New Zealand v. Wellington International Airport (CP403/91, 6 January 1992)*)

**Corporate plan.** An annual plan prepared under the Public Finance Act (1989) which the Department is required to prepare. The mission statement expressed in the Department's 1992-1993 corporate plan is: "to conserve the natural and historic heritage of New Zealand for the benefit of present and future generations."

**Department.** The Department of Conservation.

**District Plan.** This is prepared and changed by the local authority according to the requirements of the Resource Management Act 1991, for the purpose of sustainable management of natural and physical resources. District plans indicate what uses are permitted for land within the district.

**Easement.** Is a grant of an interest in land which gives the grantee the right to some use or benefit from the land such as a right of way. An easement may be granted for up to 30 years or in exceptional circumstances 60 years. Where an easement is for a public work the term can be for the duration of the public work. (*Part IIIB Conservation Act 1987*)

**Ecology.** The study of organisms in relation to one another and to their surroundings. (*NZ Pocket Oxford Dictionary*)

**Ecological district.** One of the major levels used for the ecological classification of land. New Zealand has been divided into 268 ecological districts according to geological, topographical, climatic, and biological features and processes; which inter-relate to produce characteristic landscapes and ranges of biological communities. (*The New Zealand Protected Natural Areas Programme, DSIR*)

**Ecological region.** A single, very distinctive ecological district or more commonly, a group of adjacent ecological districts which have diverse but closely related ecological components and relationships. (*The New Zealand Protected Natural Areas Programme, DSIR*)

**Ecosystem.** "A functional system which includes the organisms of a natural community together with their environment".

*(Dictionary of Scientific and Technical Terms McGraw-Hill)*

**Ecotone.** A zone of intergradation between ecological communities.

*(Dictionary of Scientific and Technical Terms McGraw-Hill)*

**Ecotourism.** Includes the following principles of being:

- environmentally neutral or environmentally positive;
- having an educational content;
- a contributor, economically, socially and culturally to the local economy;
- based on limited or scarce resources, which suggests some form of limitation on visitor numbers; and
- sustainable or even enhance the resource.

*(T. Staniford, New Zealand Conservation Authority, pers. comm.)*

**Effect.** Includes-

- a. Any positive or adverse effect; and
- b. Any temporary or permanent effect: and
- c. Any past, present, or future effect: and
- d. Any cumulative effect which arises over time or in combination with other effects regardless of the scale; intensity, duration, or frequency of the effect, and also includes-
- e. Any potential effect of high probability: and
- f. Any potential effect of low probability which has a high potential impact. *(Resource Management Act 1991)*

**Endangered.** A plant or animal in danger of extinction and whose survival is unlikely if the causal factors continue. *(Red Data Book of New Zealand 1981)*

**Endemic.** Species of plants and animals which are unique to an area or animals which may migrate but breed only in the area. *(Red Data Book of New Zealand 1981)*

**Esplanade reserve.** A local purpose reserve, usually 20 metres wide, vested in the territorial authority or in the Crown. Its purpose is to protect natural and historic resources, enabling public access to or along the sea, river or lake, and recreational use. Usually created as a result of subdivision of private land. Refer marginal strips. *(Resource Management Act 1991, Reserves Act 1977)*

**Fishery.** One or more stocks or part of stocks or one or more species of freshwater fish or aquatic life that can be treated as a unit for the purposes of conservation or management. *(Conservation Act 1987)*

**Foreshore.** Those parts of the bed, shore, or banks of an area of tidal water, which are covered and uncovered by the flow and ebb of the tide at mean spring tides. *(Conservation Act 1987),*

**Freshwater:**

- a. All waters of rivers, streams, lakes, ponds, lagoons, wetlands, impoundments, canals, channels, watercourses, or other bodies of water whether naturally occurring or artificially made;
- b. All waters of estuaries or coastal lagoons;
- c. All other fresh or estuarine waters where freshwater fish native (indigenous) to or introduced into New Zealand are found;
- d. All waters in the mouth of every river or stream, and the mouth of every river and stream shall be deemed to include every outlet thereof and the seashore between those outlets and the waters of the sea or lying within a distance of 500 metres from any place where at low tide the waters of a river or stream meet the waters of the sea.  
*(Conservation Act 1987)*

**Freshwater fish.** Includes all species of fin fish. (Classes Agnathia and Osteichthyes), and all shellfish (Classes Mollusca and Crustacea), that must, at any time in the life history of the species, inhabit fresh water; and includes 'any part thereof and such finfish and shellfish that' seasonally migrate into or out of freshwater.  
*(Conservation Act 1987)*

**Fire danger.** A general term to express both fixed and variable factors of the fire environment that determine the ease of ignition, rate of spread, difficulty of control, and fire impact.  
*(Glossary of Forest Fire Management Terms, issued by the Canadian Committee on Forest Fire Management, National Research Council of Canada, Ottawa 1987)*

**Fire hazard.** A general term to describe the potential fire behaviour, without regard to the state of weather influenced fuel moisture content, and/or resistance to fireguard construction for a given fuel type.  
*(Glossary of Forest Fire Management Terms, issued by the Canadian Committee on Forest Fire Management, National Research Council of Canada, Ottawa 1987)*

Forest; Coastal zone. A strip extending approximately 1 km inland from the coast in which the vegetation is often exposed to salt-laden winds. Characterised by a range of different plants depending on site, e.g. sand dune species, salt marsh, pohutukawa, taupata, and karo.  
*(Shaw, W.B. 1988)*

Forest; Lowland zone. Extends from the coastal zone inland to the upper limit of tawa. This upper limit varies in different parts of the Conservancy. It includes a semi-coastal zone characterised by the presence of kohekohe and puriri.  
*(Shaw, W.B. 1988)*

Forest; Montane zone. Characterised by the dominance of beech species (mainly red beech and silver beech) and includes rimu/beech forest. Extending to near the tree line (generally silver beech but locally including mountain beech). The upper limit defined as being where myrtaceous and composite shrubs

become abundant amongst or under short stature forest.  
(*Shaw, W.B. 1988*)

**Forest; Sub-alpine zone.** Extending from the montane zone to the upper limit of large shrub species such as leatherwood. (Shaw, W.B. 1988)

**Functional planning.** The strategic assessment for a single function of the Department over a wide geographic area.  
(*Management Planning Guidelines, DOC*)

**General policy.** A guide for decisions based on general approaches. General policy is used to mean a statement, directive, or guide adopted by the Minister of Conservation or the New Zealand Conservation Authority, following a statutory process under the Conservation Act 1987 and all Acts named in the First Schedule. Conservation management strategies are required to implement statements of general policy.  
(*Conservation Act 1987 and Management Planning Guidelines, DOC*)

**Habitat.** The environment of a particular individual or species.  
(*Dictionary of Scientific and Technical Terms McGraw-Hill*)

**Hapu.** Sub-tribe. (*Waitangi Tribunal Report (Wai 27) 1991*)

**Hapu.** Sub-tribe of a larger or main tribe.

**Historic area.** An area of land that: (a) contains an inter-related group of historic places; and (b) forms part of the historical and cultural heritage of New Zealand; and (c) lies within the territorial limits of New Zealand.  
(*Historic Places Act 1993*)

**Heritage order.** Means a provision made in a district plan to give effect to a requirement made by a heritage protection authority.  
(*Resource Management Act 1991*)

**Historic place.** Means any land (including an archaeological site); or any building or structure; or any combination of land and a building or structure; that forms part of the historical and cultural heritage of New Zealand and lies within the territorial limits of New Zealand. It includes anything fixed to this land.  
(*Historic Places Act 1993*)

**Historic resources.** A historic place within the meaning of the Historic Places Act 1993; and includes any interest in a historic resource.  
(*Conservation Act 1987*)

**Implementation (provisions).** Specific statements on how objectives are to be achieved which may include criteria for assessment.  
(*Management Planning Guidelines, Department of Conservation*)

**Inanga (*Galaxias maculatus*).** Common freshwater whitebait found in lowland New Zealand, there are also some lake dwelling species.

**Indeterminate (species).** A plant or animal known to be extinct, endangered, vulnerable, or rare, but where there is not enough information to say which of the four categories is appropriate.  
(*Red Data Book of New Zealand 1981*)

**Indigenous (of species of flora or fauna),** Means a species that occurs naturally- in New Zealand or arrived in New Zealand without human assistance. (*Forests Amendment Act 1993*)

**Interest sites.** Are private lands with an overlying protective status. These include easements (s.7 Conservation Act 1987), protected private land (s.76 Reserves Act 1977), and wildlife refuges (s.14 Wildlife Act 1955).

**Interpretation.** Interpretation is an educational-art which promotes understanding of, and support for, New Zealand's natural and cultural heritage. Signs, brochures, visitor programmes, for example, are used in interpretation to provide information and advocate conservation to the public.

**Intrinsic values (in relation to ecosystems).** Means those attributes of ecosystems and their constituent parts which have merit in their own right, including:

1. their biological and genetic diversity; and
2. the essential characteristics that determine an ecosystem's integrity, form, functioning, and resilience. (*Resource Management Act 1991*)

**Iwi.** The nation or people (Maori); *Williams H W., A Dictionary of the Maori Language*)

**Kaimoana.** Food from the sea, freshwater lakes or estuaries e.g., koura, pipi, fish, mussels, etc..

**Kainga.** Village.

**Kaitiaki.** Guardian, protector; caretaker.

**Kaitiakitanga.** Refers to the exercise of guardianship and to an ethic of stewardship. It also infers a relationship between people and the environment. Tangata whenua who have mana over the resource will be able to determine the characteristics of kaitiakitanga and how it should be given expression.

Kaitiakitanga includes an obligation on people to use resources in ways which respect and preserve resources in the environment, both physically and as sources of spiritual power.

**Kaitahi.** Shellfish, salt or freshwater bivalve mollusc.

**Kaumatua.** Elders, senior respected members of the Maori community.

**Kaupapa.** An abstract word with many meanings. Within the Department it is generally used to mean vision, philosophy, cause, idea, or theme.

**Kawanatanga.** The act of governmentship.

**Kereru.** Native wood pigeon, highly prized for its feathers and a's a food.

**koaro (*Galaxias brevipinnis*).** A large whitebait widely distributed, usually in turbulent upland forest streams particularly present in mountain streams e.g., near Lake Rotoaira.

**Kokopu.** There are three species of kokopu;

- Banded kokopu (*Galaxias fasciatus*), a small amber-coloured whitebait which is widely distributed in forest streams and swamps.
- Giant kokopu (*Galaxias argenteus*), brown with golden markings, is the larger species more widely distributed, but uncommon, averaging 20-30 cm and can reach up to 60 cm in length.
- Shortjawed kokopu (*Galaxias postvectis*), are widely distributed but localized and seldom seen.

**Koha.** Donation, gift, parting message, money donated to bereaved family at Tangi of loved one by others. Money donated to marae for use of facilities for hui, etc..

**Land administered by the Department.** All land held, managed, or administered under the Conservation Act and other Acts administered by the Department. It includes conservation areas, specially protected areas, marginal strips, stewardship areas, and land administered under the Acts listed in the First Schedule of the Conservation Act 1987. (*Conservation Act 1987*)

**Landform.** All broad and minor features of the land such as plains, mountains, hills, valleys, and slopes. (*Dictionary of Geological Terms*)

**Landscape.** The visual expression of the interaction between cultural and natural processes. This definition means that the landscape is more than the scenery or a view.

**Lease.** Is a grant of an exclusive interest in land that gives exclusive possession of the land and makes provision for any activity on the land that the lessee is permitted to carry out. (*Part 111B Conservation Act 1987*)

**Licence.** Is either a profit a prende, (the right to take produce from land and/or a grazing right), or other grant that gives a non-exclusive interest in land, or a grant that makes provision for any activity on the land that the licensee is permitted to carry out. A lease or licence may be granted for periods up to 30 years including renewals. In exceptional circumstances they can be granted for 60 years. (*Part NB Conservation Act 1987*)

**Limits of. Acceptable Change.** Defines the desired- ecological and social conditions for an area, with quantifiable indicators to monitor change of these conditions, and appropriate management actions to minimise undesirable change (*Draft Outdoor Recreation Review, Corbett and Devlin, 1995*).

**Local authorities.** Include district councils and regional councils, established under the. Local Government Act 1974. These are locally elected bodies responsible, amongst other-things, for land use planning under the Resource Management Act 1991.

**Mahinga kai.** Harvesting food or food collection.

**Mana.** Influence, authority to speak in public and on marae (related to

seniority and status).

**Mann whenua.** The customary rights and authority of land (Waitangi Tribunal Report (Wai 27) 1991), and customary authority exercised by an iwi or hapu in an identified area. (Resource Management Act 1991)

**Management area.** One of seven areas that the Bay of Plenty Conservancy has been divided into. They are loosely based on ecological districts that have been amalgamated for management and planning convenience.

**Management issues.** The opportunities and/ or problems relating to conflicts of what, where, how, why, who, and when, for a particular topic.

**Management planning.** Is the process of setting and confirming objectives for the management of natural and historic resources, and recreation, tourism and other conservation purposes, and specifying the actions and resources necessary to achieve those objectives. (Management Planning Guidelines, DOC)

**Marginal strip.** Is land reserved from disposition by the Crown under the Land Act 1948 and the Conservation Act 1987 along the foreshore, waterways greater than 3 metres wide (when not used by the Electricity Corporation of New Zealand for generating electricity), and lakes. This term also refers to land acquired in exchange for marginal strips. Marginal strips are 20 metres wide-unless a reduction of width has been approved by the Minister (*See Land administered by the Department*). (*Conservation Act 1987*)

**Mauri.** The life force or essence.

**Mean high water (mhw).** The mean height above a datum point for all high tides.

**Mean high water spring (mhws).** The mean height above a datum point for all spring tides.

**Mean low water (mlw).** The mean height below a datum point for all low tides.

**Mean low water spring (mlws).** The mean height below a datum point for all spring tides.

**Moana.** Lake, sea, water body.

**Monitoring (conservation).** Monitoring the changes in ecosystems that are occurring in absence of any management action. (*Conservation Science Newsletter, No. 4 1993*)

**Native.** Indigenous to New Zealand, and used to describe plants and animals.

**Natural character.** The natural aspect of landscape character, which comprise both natural and cultural processes. (S. Smale, pers. comm.)

**Natural resources.** Includes plants and animals and their habitats, landscape and landforms, geological features, and systems

of interacting living organisms, and their environment. It also includes any interest in a natural resource. It does not include elements of systems which threaten natural resources. (Conservation Act 1987)

**Nature conservation.** The preservation and protection of the natural resources of New Zealand having regard to their intrinsic values and having special regard to indigenous flora and fauna, natural ecosystems, and landscape. (*Conservation Act 1987*)

**New Zealand Conservation Authority.** A national body of 12 appointed members established under s.6A of the Conservation Act 1987. Among other functions, it has statutory responsibility to:

- approve conservation management strategies and national park management plans;
- approve national park policy;
- advise the Minister of Conservation on statements of general policy;
- investigate and advise the Minister of Conservation or Director General on conservation matters of national importance;
- review and report on the Department's-management and budgeting. (*s. 6B Conservation Act 1987*)

**Nga whenua rahui.** Covenant for the protection of indigenous forests on Maori land.

**Objective(s).** Statements of intended results.

These can be broad or narrow in scope and should be accompanied by implementation provisions.

**Pa,** Fortified village.

**Partnership.** See 5.6 Relationship with Tangata Whenua.

**Permit.** Is a grant of rights to undertake an activity that does not require an interest in land. A permit may be granted for up to 5 years without any right of renewal. (Part IIIB Conservation Act 1987)

**Pipi. (*Paphies australis*).** A common bivalve species (similar in size to the tuatua) but prefers the more protected sand and mudflats of harbours and estuaries.

**Plant.** Any member of the Plant Kingdom. (*Conservation Act 1987*)

**Plant pest.** Plant species identified in the Noxious Plants Act 1978, regional policy statements, regional plans, district plans and in any conservancy plant pest strategy or similar document.

**Preservation** (of resources - in relation to the Conservation Act 1987). The maintenance, so far as is practicable, of their intrinsic value. (Conservation Act 1987)

**Protected land.** Land reserved, covenanted, or otherwise protected under the Resource Management Act 1991, Conservation Act 1987; National Parks Act 1980, Reserves Act 1977, Queen Elizabeth II National Trust Act 1977, Local Government Act 1974, Water and Soil Conservation Act 1967, and the Wildlife Act 1953. It includes land administered by the Department and local authorities.

**Protected Natural Areas (PNA)**

**Programme.** A programme which aims to establish a network of reserves and other protected natural areas which are representative of the full range of New Zealand's natural diversity. Ecological districts are surveyed and areas identified which best represent the diversity of their natural features. These are termed Recommended Areas for Protection or RAPs.

**Protection** (of resources - in relation to the Conservation Act 1987). The maintenance, as far as is practicable, in their current state. It also includes restoration to some former state and augmentation, enhancement, or expansion. (Conservation Act 1987)

Rahui. A mark to warn people against trespassing or gathering food or materials from certain sites.

Ramsar (convention) is the 'Convention on Wetlands of International Importance, especially waterfowl habitat', of which New Zealand is a signatory (13 August 1976). New Zealand is compiling an inventory of wetlands of international importance in Oceania using Ramsar criteria.

Rangatiratanga. In context of the Treaty of Waitangi devotes an institutional authority to control the exercise of a range of user rights in resources, including conditions of access, use, and conservation management. Rangatiratanga incorporates the right to make, alter, and enforce decisions pertaining to how a resource is to be managed, and by whom.

Rare. A species with small world populations that are not at present endangered or vulnerable, but are at risk. (Red Data Book of New Zealand 1981)

**Recommended Area for Protection (RAP).** A place identified as a priority for protection because it contains the best example(s) of its type or class of natural ecosystem and/or landscape in an Ecological District. (N.Z. Protected Natural Areas Programme, N.Z. Biological Resources Centre Publication No. 6).

**Recreation Opportunity Spectrum (ROS).** A system for classifying outdoor recreation experiences by identifying opportunities along a continuum from urban to wilderness. It has eight main categories and provides both an inventory of opportunities and a planning process.

**Regional councils.** Locally-elected councils having primary responsibility for management of water, soil, geothermal resources, and pollution control. They are also responsible for regional aspects of hazard mitigation, soil conservation, and hazardous substances.

**Regional plans.** The purpose of these is to assist regional councils to carry out their functions. They are designed to address specific resource management issues for which regional councils are responsible. Regional councils must decide what regional plans they will prepare. Plans may cover matters such as water management, soil conservation, natural hazard mitigation, and air pollution (*see regional policy statement*). (Resource Management Act 1991)

**Regional policy statements.** Are policies prepared by regional councils in accordance with the Resource Management Act 1991 for managing resources. They provide the overall framework for achieving sustainable management in the region and are binding on regional and district plans. (Resource Management Act 1991, Regional Policy Statements and Plans, Ministry for Environment.)

**Representativeness.** This term is used in the context of the Reserves Act 1977 s.3(b).

“preservation of representative samples of all classes of natural ecosystems and landscape which in the aggregate originally gave New Zealand its own recognisable character”. (Reserves Act 1977)

**Research (Applied).** Research activities to acquire new knowledge which is directed primarily towards a specific and predetermined objective or application, and including possible uses for the findings of fundamental research. (Glossary of Terms for Scientific and Technological Activities in New Zealand, Ministry of Research, Science and Technology, June 1991.)

**Research (Fundamental).** Experimental or theoretical activities undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. Some times referred to as pure or basic research. (Glossary of Terms for Scientific and Technological Activities in New Zealand, Ministry of Research, Science and Technology, June 1991)

**Riparian “zone”.** Areas of land alongside water bodies, whether reserved, or in private ownership.

**Rohe.** The boundary where one tribe adjoins another tribe or where they describe their own bounds (Williams H.W., A Dictionary of the Maori Language). These can be physical or spiritual features in the landscape.

**Specially Protected Areas.** Are conservation parks, wilderness areas, ecological areas, sanctuary areas, and watercourse areas as detailed in Part IV of the Conservation Act 1987 (*see land administered by the Department*). (Conservation Act, 1987)

**Species recovery plan.** A plan of action intended to halt the decline of a threatened species and increase its population.

**Stake holders** are “any group or individual who is affected by or who can affect the future of the organisation” (Bryson J.M., 1990).

**Stewardship area.** A conservation area that is not a marginal strip, watercourse, conservation park, ecological area, sanctuary area or wilderness area, or land in which an interest is held under the Conservation Act 1987, for one or more of these purposes (*see land administered by the Department*). (Conservation Act 1987)

**Strategies.** “Outline the organisation’s response to fundamental policy choices” (Bryson J.M., 1990).

**Strategic planning** is the identification and resolution of management issues. It is a political decision making process (consensus on objectives and policies to resolve key issues) with emphasis on issues. The planning process attempts to formulate ways to resolve these issues (Bryson J.M. 1990). A strategy creates a direction for an organisation in terms of its many objectives and guides deployment of resources towards those objectives. The strategic planning process for weighing and balancing priorities can be described as having five characteristics:

1. It deals with fundamental questions and provides answers, i.e., what business is the Department in now and what does it foresee it being in 10 years time? Who are our customers?. It must identify external forces and constraints.
2. It provides a framework for more detailed planning and day-to-day managerial decisions. A manager can ask which course of action will be -consistent with our strategy?
3. It usually involves a longer time frame than other types of planning.
4. Provides a sense of coherence, congruence, internal consistency, and momentum as the decision making “rules” are given.
5. Top management must be committed and involved because they have an overview of the Department and can generate commitment to the rest of the staff.

**Subtidal.** The area below mean low water spring tide.

**Sustainable management.** The management , of the use, development, and protection of natural and physical resources in a way or at a rate which enables people and communities to provide for their social, economic, and cultural well-being, and for their health and safety, while

- a. sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations;
- b. safe-guarding the life-supporting capacity of air, water, soil, and ecosystems; and
- c. avoiding, remedying, or initiating any adverse effects of activities on the environment.

(Resource Management Act 1991)

- Taha Maori.** Pertaining to things Maori, Maori culture.
- Taiapure.** Setting aside estuarine or shoreline coastal fishing areas which have customarily been of special significance to iwi or hapu as a food source (kaimoana).
- Takiwa.** Area, time, space, place, period in history.
- Taniwha.** A fabulous monster supposed to reside in deep water.
- Tangata whenua.** People of the land, tribes belonging to a particular area of land, natives.
- Taonga.** Maori treasure, artifact, relic, spiritual aspect, article of significance to be treasured, regarded as precious, of historical significance; both tangible and intangible things “highly prized”,
- Threatened (species).** a term used loosely to include rare, vulnerable, endangered and indeterminate species.
- Tikanga Maori.** Customs and culture of the Maori people.
- Titi.** Various species of petrel and shearwater taken and used as a food source. Commonly collectively called “mutton birds”.
- Tohunga.** Expert, specialist, priest.
- Tuatua (*Paphies subtriangulata*).** A common bivalve on open coastal shores buried in the mid-tide sand.
- Urupa.** Maori burial ground.
- Vehicle.** Any wheeled or tracked device, or hovercraft, or ski equipped device capable of carrying a person or persons, whether or not it is powered by an internal combustion engine. (Wild Animal Control Act 1977)
- Vessel.** Any ship, boat or hovercraft, or any other description of vessel used or designed to be used in navigation. (Harbours Act 1950)
- Vulnerable.** A plant or animal believed likely to move into the endangered category in the near future if the causal factors continue. (Red Data Book of New Zealand 1981)
- Wāhi tapu.** A sacred place to Maori in the traditional, spiritual, religious, or mythological sense. (Waitangi Tribunal Report (Wai 27) 1991)
- Wāhi tapu area.** Means an area of land that contains one or more Wāhi tapu.
- Wairua.** Spirit.
- Waka.** Canoe, or in the context of Wāka rohe the boundary of the people of a canoe (Williams H.W., A Dictionary of the Maori Language).
- Walkway.** An area of land that has been declared a walkway or an area of land over which a walkway has been established under the New Zealand Walkways Act. (New Zealand Walkways Act 1990)

**Water Conservation Order.** Imposes restrictions or prohibitions on the exercise of regional councils' powers relating to:

- a. The quantity, quality, rate of flow, or level of the water body; and
- b. The maximum and minimum levels or flow or range of levels or flows, or the rate of change of levels or flows to be sought or permitted for the water body; and
- c. The maximum allocation for abstraction or maximum contaminant loading consistent with the purposes of the order; and
- d. The ranges of temperature and pressure in a body of water. (s. 200, Resource Management Act 1991). Water Conservation Orders are made by the Minister for the Environment on the recommendation of a special tribunal and/or the Planning Tribunal.

(Resource Management Act 1991)

**Wetland.** Permanent or intermittently wet areas, shallow water, and land-water margins. Wetlands may be fresh, brackish or saline, and are characterised in their natural state by plants or animals that are adapted to living in wet conditions. (NZ Wetlands Management Policy)

**Waka rohe.** Tribal canoe boundaries.

**Whakatauki.** Proverb.

**Whanau.** Family.

**Wild animal.** Deer, chamois, thar, wallaby and opossum; goats and pigs that are living in a wild state. Except for deer kept in captivity for farming, does not include animals kept in captivity or rats, mice, rabbits, stoats, ferrets, or weasels. Refer to the Act for the legal definition. (Wild Animal Control Act 1977)

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