

FOREWORD

This is the Conservation Management Strategy (CMS) for the Northland Conservancy of the Department of Conservation. The CMS is a statutory document and has been prepared in accordance with Part IIIA of the Conservation Act 1987. Its purpose is to establish the objectives for the integrated management of the natural and historic resources, including any species, managed by the Department, under the Wildlife Act 1953, the Marine Reserves Act 1971, the 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 any of them, and for recreation, tourism and other conservation purposes. The CMS also identifies and describes all protected areas managed by the Department within the boundaries of the strategy.

The conduct of some activities administered by the Department is governed by the conservation management strategy. Those preparing regional and district plans must have regard to any relevant conservation management strategy. It must be noted, however, that a conservation management strategy does not over-ride the provisions of the legislation or any general policy.

The preparation of this conservation management strategy began in mid-1990 when an introductory flyer was sent out to iwi and selected interest groups. Between September of that year and July 1991, at hui and informal meetings, the Department explained the scope and intent of a conservation management strategy.

There followed an intense period of hui and consultation with iwi over the next four years, including the provision of a pre-draft.

In February 1995 the draft conservation management strategy was publicly notified and submissions invited. Submissions closed in June 1995. Between March and December, many more meetings were held with interested persons to discuss various aspects of the draft and the process being followed. Some amendments to the CMS were made by the Department as a result of written and oral submissions and the draft was then presented to the Northland Conservation Board for its consideration.

During 1996 the Board reviewed the submissions that had been made on the draft and requested some additional changes to those already judged appropriate by the Department.

The draft was handed to the New Zealand Conservation Authority in August 1996.

The Authority has given the CMS extensive and detailed consideration during which it has consulted with the Board, the Department and the Minister of Conservation, and sought legal advice on a number of points.

The approval of a statutory document binding on the Crown is a responsibility that the Authority takes most seriously and it needed to be sure in its own mind that the undertakings in the document were realistic, consistent with current government policy and not of a nature that could give rise to misunderstandings, and particularly new grievances by iwi against the Crown.

The Northland Conservation Strategy was approved by the New Zealand Conservation Authority on 15 April 1999.



Sir Duncan McMullin
Chairperson, New Zealand Conservation Authority.

Hei Tuku Korero

These are the closing lines
from the hautu the ancestor Nukutawhiti
sang to keep his rowers in unison
crossing into the harbour
on his waka Ngatokimatawhaorua
during the violent storm he encountered
on his arrival outside of Hokianga

Tou manawa e Kura ki toku manawa,
Ka irihia, ka irihia ki wai o Nuku,
Ka irihia, ka irihia ki wai o Rangi,
Ka whiti au, ki te whei ao,
Ki te ao marama.
Tupu kerekere tupu wanawana.
Ka haere mai te toki a Haumie..e..e.
Hui e..e.
Taiki e..e.

They confirm the ancestor's inseparableness
with his deity Kura by merging of breath
sanctified with heavenly and earthly waters,
transcending darkness to light,
instilling reverence and awe,
brought together by the sacred
ancient adze of Haumie, thus
confirmed and empowered.

Karakia no Hokianga

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PRELUDE

Fractals of Literature

*dusks shadows glide effortlessly over
a ductile and sequinned chromium blue sea*

*oystergulls shagdotterels and takapucatchers
paraphrase Tarangas plutonic island arc tooth*

*cicada trill photomagnetic hieroglyphic ciphers
in flaming electric green Maungalion puriri*

*fluvial adzed beach curve drum rolls
archaic Ngati Manaia tuatua charcoal myths*

*fulgent sand glazed mother of pearl mirage
praises a crystal wet luminescent moonrise*

*efflorescent ferric crimson blood lignins
read Pohutumetero excelsakawasideros epics*

*surfacing sei whales scatter celluloid wings
of kakariki fish flying aloft refracting waves*

*settings for a fractal analysis of literary iterations
thematic illusory sequences slicing reference frames*

Piet Nieuwland

1. Introduction

1.1 THE PURPOSE OF THE CONSERVATION MANAGEMENT STRATEGY (CMS)

The formulation of a conservation management strategy is a way of achieving complete planning coverage of land and water administered by the Department of Conservation in a coherent and integrated manner. The process provides a major opportunity for the expression of tangata whenua, interest group and public views on how natural and historic resources should be managed.

This strategy has been developed by the Department in consultation with tangata whenua, the public and the Northland Conservation Board, with final approval given by the NZ Conservation Authority after having regard to any recommendations by the Minister of Conservation.

The purpose of a conservation management strategy is stated in Section 17D of the Conservation Act 1987:

"... 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

Marine Reserves Act 1971

Reserves Act 1977

Wild Animal Control Act 1977

Marine Mammals Protection Act 1978

National Parks Act 1980

NZ Walkways Act 1990

Conservation Act 1987

and for recreation, tourism and other conservation purposes."

The Conservation Act also states under Section 4 that:

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

More detail on the scope and purpose of this legislation is contained in Appendix Five.

Northland Conservancy

The intention of a conservation management strategy is to provide, over a ten year period, for the integrated management across the whole Conservancy of all the lands and marine areas where the Department has a management responsibility. This refers both to management of land administered by the Department, and advocacy for the protection of

species, habitats and historic resources on lands owned by other agencies and individuals.

The Northland Conservancy is located in the North Island north of a line from the Kaipara Harbour mouth in the west across to the Mangawhai Harbour in the east (Map One). It includes several groups of offshore islands, the Hen and Chickens, Poor Knights and Three Kings. In the Conservancy the Department manages 150,000 hectares administered as 500 separate land units and one marine reserve (Maps One and Two and Volume Two).

The Department currently has around 110 permanent employees in the Conservancy and another 100 people are employed on a temporary or seasonal basis during the year. The Conservancy office is located in Whangarei city where administration, finance and regional specialists are based. Other staff are based in area offices where the focus of activity is on-the-ground management of areas administered by the Department. Area offices are located in Whangarei, Kerikeri and Kaitia. Field centres operate from Te Pahi, Russell, and Waipoua, and field bases from Puketi, Trounson, and Mimiwhangata.

The strategic planning process

The strategic planning process used in the preparation of conservation management strategies aims to develop management objectives based on the analysis of short, medium and long-term conservation issues. As a process which gathers together a wide range of ideas, perceptions, options and solutions to problems, it must answer four basic questions:

- Where are we ?
- Where are we going ?
- How do we get there ?
- How do we know if we are on track ?

In answering these questions this document seeks to:

- provide policy direction, objectives and a framework to guide decision makers;
- determine and express what the Department expects to achieve in conservation management over the next decade;
- determine priorities and provide direction for annual business planning to ensure the resources of the Department are used effectively and efficiently;
- ensure that the Department is accountable for the management of lands, water and species within its care and for the promotion of conservation elsewhere;
- interpret legislative requirements, the corporate mission and goals, general policy and the approach of existing management plans; and
- assist and encourage participation and input from the tangata whenua, conservation and interest groups, other statutory bodies and the general public.

1.2 LINKS WITH OTHER PLANNING

Through the annual budget round the Government allocates funds to the Department to carry out conservation work. The Department and Minister reach an agreement on how those funds are to be allocated to the various conservation outputs. On the basis of the priorities agreed with the Minister, each of the 13 Conservancies prepares a business plan which sets out how the Conservancy will spend the money allocated to it and the conservation outcomes to be achieved during the year. The conservation management strategy provides a long term framework of objectives and policies for the Conservancy. The annual business plan is then prepared in accordance with these objectives and priorities.

Under the Resource Management Act 1991 the Northland Regional Council is responsible for the preparation of a regional policy statement and regional plans to provide for the sustainable management of Northland's coastal, soil, air and water resources and ecosystems. To date the Northland Regional Council has prepared a proposed Regional Policy Statement, a proposed Regional Coastal Plan, a proposed Regional Water and Soil Plan, a proposed Regional Air Quality Plan, a draft Regional Pest Management Strategy and a draft Regional Oil Spill Contingency Plan. District councils must also prepare district plans. The Kaipara District Council has prepared a proposed Kaipara District Plan; the Whangarei District Council has prepared a draft Whangarei District Plan; and the Far North District Council has prepared a proposed Far North District Plan. These policies and plans must have regard to the Northland Conservation Management Strategy and conservation management plans when approved.

Many issues and topics, particularly where they relate to private land, overlap the responsibilities of these councils. There is a need to ensure, as far as possible, a consistent approach to resource management. Apart from the Minister of Conservation's role in approving the National Coastal Policy and Regional Coastal Plan, the Department's role under the Resource Management Act is one of advocacy for the protection of natural and historic resources. This strategy contains, where appropriate, statements which indicate the Department's views on resource management issues and how they should be dealt with.

1.3 HOW THIS CONSERVATION MANAGEMENT STRATEGY WAS PREPARED

The Northland Conservation Management Strategy has been prepared by the Department of Conservation in consultation with the iwi of Taitokerau, interest groups, the general public and the Northland Conservation Board.

In 1991 a series of four pan-tribal hui were held throughout Northland to broadly identify the issues of concern to iwi and explore some of the long term objectives that iwi considered the Department should be pursuing. As a result of these hui and the impending passage of the Resource Management Act, a Resource Management Committee under the umbrella of Te Kotahitanga O Te Taitokerau was established during 1992. The purpose of this committee is to facilitate and co-ordinate a regional iwi input into planning processes under the Resource Management Act 1991 and the Conservation Act 1987. Individual iwi retain the right to speak on matters of particular concern to them and the Committee does not speak on their behalf.

In 1993, eight hui were held with iwi who comprised Te Kotahitanga. Hui were held with Ngapuhi, Te Rawhiti, Ngati Wai, Whaingaroa, Ngati Kahu, Te Rarawa, Te Aupouri and Runanga O Ngati Kuri and Ngai Takoto (RONAN). (Refer to Map Three.) These were facilitated by the Resource Management Committee of Te Kotahitanga and attended by Departmental staff. The results of these hui and additional information were collated by the Resource Management Committee and forwarded to the Department as an iwi input into the draft CMS. Those iwi who chose not to participate in this process, Ngati Rehia, Te Roroa and Ngati Whatua, were consulted separately by the Department and written submissions were received from them. Throughout this period from 1991 to 1993, preliminary discussion drafts were shaped and circulated for discussion amongst iwi, Conservation Board members and Departmental staff.

A brochure and follow-up letter calling for public submissions and issues to be covered in the CMS were sent out to 170 organisations in the Conservancy and elsewhere between September 1993 and March 1994. Over 40 public submissions were received, both in written form and in oral form at meetings with interest groups, by May 1994.

After receipt of iwi and public submissions the draft CMS was prepared. The Northland Conservation Board was kept informed of progress throughout this process.

The draft CMS was available for public comment from February to June 1995. Public meetings, and meetings with interest groups on request, were held in Kaitaia, Kerikeri, Dargaville, Whangarei and Auckland to assist in the preparation of public submissions.

After the period for submissions closed, formal hearings were held at Kaitaia, Kerikeri, Whangarei and Auckland, attended by Departmental staff and members of the Northland Conservation Board. The draft CMS was revised as a result of submissions received and forwarded to the Northland Conservation Board in December 1995, together with an accompanying document, 'Summary of Submissions on the Draft Northland Conservation Management Strategy. Final approval for the CMS is given by the New Zealand Conservation Authority after having regard to any recommendations by the Minister of Conservation.

1.4 HOW TO USE THIS DOCUMENT

The Northland Conservation Management Strategy consists of two volumes.

Volume One

This contains the objectives and policies for the integrated management of land administered by and activities of the Department. It includes:

Introduction

- An explanation of the CMS and its preparation.

Vision and Context

- The Conservancy vision for conservation and a description of key considerations that guide management.
- An overview of the characteristics of the Conservancy, including descriptions of its habitats, species, historical resources and recreation values, with maps of its natural, historic and visitor values.

Priority Areas for Integrated Management

- A rationale for the identification of ten priority areas for integrated conservation management in the Conservancy.
- An overview of the values of each of the ten priority areas, followed by a description of the management issues and priority actions relevant to each area.

Protection Management

- Objectives and implementation provisions for all activities related to the physical protection of natural and historic resources, including legal protection, control of threats, protected species and research.

Use Management

- Objectives and implementation provisions for all activities related to the granting of third party rights to use or occupy lands and waters administered by the Department.

Visitors and Recreation

- Objectives and implementation statements for all activities regarding the management of visitors and recreation including facilities, tracks, accommodation, access and concessions.

Public Awareness and Planning

- Objectives and implementation statements directed to: raising public awareness of conservation, encouraging community involvement, liaison with other organisations, planning responsibilities under the Resource Management Act, management planning and involvement in Treaty issues.

Monitoring, Implementation and Review

- An explanation of how the CMS will be implemented and reviewed, and how the achievement of objectives will be monitored.

Appendices

Volume Two

This contains maps which, at a scale of 1:250,000, identify all areas managed by the Department within the boundaries of this strategy. This volume also contains succinct descriptions of the physical, vegetation, animal, historic and visitor use features of each land unit managed by the Department. Features of significance to tangata whenua are also identified in some iwi rohe.

1.5 DEPARTMENTAL RESPONSIBILITIES

The Conservation Act was passed in 1987 "to promote the conservation of New Zealand's natural and historic resources and for that purpose to establish a Department of Conservation". The Department is required to administer the Act, and Acts named in its First Schedule. These Acts and their primary purposes are summarised in Appendix Five of this CMS. Specific functions of the Department under section 6 of the Conservation 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
 - (ii) The conservation of the natural and historic resources of New Zealand's sub-antarctic islands and, consistently with all relevant international agreements, of Ross Dependency and Antarctica generally; and
 - (iii) International co-operation on matters relating to conservation;
- (d) To prepare, provide, 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 requires the Department to give effect to the principles of the Treaty of Waitangi in interpreting and administering the Act. A text of the Treaty of Waitangi/Te Tiriti o Waitangi is contained in Appendix Five.

The Treaty of Waitangi/Te Tiriti o Waitangi is the founding document of the relationship between the Crown and iwi. The Department of Conservation is not the Crown, but it is an agency of the Crown.

In terms of the Treaty of Waitangi/Te Tiriti o Waitangi, the Conservation Act and all other Acts administered by the Department have been prepared in terms of authority derived from Articles One and Three of the Treaty. These refer to 'kawanatanga' or the Government's right to govern and the equality of all New Zealanders under the law. Historically however, the right to govern in New Zealand was created by various pieces of legislation passed by the English Parliament, including the Constitution Act 1852, which led to the establishment of a government in the Dominion of New Zealand. This legislation was not reliant or cognisant of the Treaty of Waitangi/Te Tiriti o Waitangi. It served to transfer the Crown's responsibility for government of the country to the elected New Zealand parliament through the Crown's representative, the Governor General.

Almost without exception, all legislation passed by the government of New Zealand has not specifically recognised the Treaty of Waitangi/Te Tiriti o Waitangi or the Articles it contains. It is only recently, with the passing of the Waitangi Tribunal Act in 1975, the Conservation Act, and the Resource Management Act, that the Treaty of Waitangi/Te Tiriti o Waitangi has been recognised in New Zealand law. This legislation requires those Crown agencies who administer it 'to give effect to' or 'to take into account' the principles of the Treaty of Waitangi/Te Tiriti o Waitangi.

There is no formal set of 'principles', although the Waitangi Tribunal, the Court of Appeal and the Government have identified some baseline propositions. These propositions include recognition that the right of the Crown to make laws was exchanged for the obligation to protect Maori interests; that the Crown has an obligation to legally recognise chieftainship and customary authority over resources; that the Treaty implies a relationship akin to a partnership to be exercised with the utmost good faith; and that the duties are not merely passive, but extend to active protection of Maori interests.

Most areas of land administered by the Department in Northland are subject to one or more claims by tangata whenua before the Waitangi Tribunal. [Refer section 10.0 Resolution of Treaty of Waitangi Claims.] Tangata whenua are concerned the approval of this CMS may prejudice the resolution of these claims. The Department's view is that approval of this CMS cannot compromise or otherwise affect any Treaty settlements.

INSERT MAP ONE LOCALITY MAP OF CONSERVANCY

INSERT MAP TWO NORTHLAND CONSERVANCY

INSERT MAP THREE NGA IWI O TE TAITOKERAU

2. Vision

2.1 VISION

Conservation is defined in the Conservation Act 1987 as '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.'

The overall task of the Conservancy is to conserve the natural and historic resources of Northland for their intrinsic values and the benefit of present and future generations, and to do so in a manner which gives effect to the principles of the Treaty of Waitangi/Te Tiriti o Waitangi and is consistent with statutory requirements.

To carry out this task the CMS must encompass our ideals and visions of how natural and historic resources should be protected and enhanced for the future; visions towards which all policies and objectives must contribute.

This CMS is based on the following vision:

A natural environment which has been restored and protected so the diversity, viability and health of indigenous plant and animal species and populations is secured.

A community which recognises that its long term survival, development, and spiritual well being are dependent on the biodiversity of other life forms and the maintenance of a healthy environment.

A community dedicated to an approach to conservation which recognises and respects the special spiritual, traditional and cultural relationships of the tangata whenua to the land and sea, and their rights under the Treaty of Waitangi/Te Tiriti o Waitangi.

A community that is aware and proud of the unique natural, spiritual and historic treasures of the region, and is actively involved in practical management and advocacy for their protection.

Visitors who enjoy and gain a deeper understanding of the natural and historic treasures of the region during their stay and who support the conservation work of the community and the Department.

A Department that is dedicated, efficient and effective in its management of the conservation resources in its trust, and in its advocacy for conservation generally.

2.2 KEY CONSIDERATIONS

In working towards achievement of this vision, the objectives and implementation statements of this strategy are based on the following key considerations:

Vulnerability

Physical and biological processes are naturally dynamic, interconnected and subject to change at all levels. To ensure the natural healthy functioning of ecosystems, priority must be given to minimising or eliminating threats such as introduced plant and animal pests. It must be recognised that such an ideal may only be possible in limited areas. In all cases, the complex interrelationship of factors means that any management decision must be thoroughly researched. A careful, cautious approach is necessary. Priority must be given to protecting those ecosystems, species or historic values which are most vulnerable.

Significance

Many of the natural and historic values and areas in the region are of international and national significance. They are often the last remaining ecosystems of their type in New Zealand or the world, are representative of the natural character of New Zealand or contain examples of values not protected elsewhere. The responsibility to care for these values is global. Priority must be given to threatened species, communities and ecosystems, and to those areas with the greatest concentration of natural, historic and recreation values. Such values do not only occur on lands administered by the Department; they are also present on lands in other ownership. Advocacy through appropriate processes for the protection of these values must be a priority.

Access

The lands and waters the Department administers are vital havens for species and ecosystems and they also provide opportunities for present and future generations of people to enjoy their natural and historic heritage. This is sometimes a source of conflict and tension, where careful judgements must be made between the 'rights' of people and the needs of nature. Although access to areas is usually open and without limits, in some cases it may be restricted partly or wholly if, in the judgement of the Department, damage or disturbance to natural, historic, spiritual, traditional or cultural values is unacceptable. Securing legal access to areas of land administered by the Department when this involves crossing land held in other tenure is also important.

Treaty of Waitangi/Te Tiriti o Waitangi Principles

In terms of Section 4 of the Conservation Act, the Department is obliged to give effect to the principles of the Treaty of Waitangi/Te Tiriti o Waitangi. The Department must

consider the application of the principles of the Treaty and decide how they are to be weighed in particular situations. Any decision must also always promote the conservation of New Zealand's natural and historic resources, which is the primary purpose of the Act. Five principles have been identified which must be applied:

- act reasonably and in good faith (principle of co-operation and shared obligations);
- make informed decisions;
- avoid action which will prevent redress of claims;
- actively protect iwi interests; and
- governments must be able to govern.

The principle of co-operation reflects the relationship between the Crown and Maori. It includes elements of reasonableness, awareness of the other party's views, willingness to accommodate those views, fairness and good faith. It must be accepted that some iwi aspirations may not be met and the aspirations of the wider community may also not be met.

There is a considerable body of jurisprudence on the question of the relevant principles in any situation, and there are dangers in attempting to summarise the pronouncements of the courts and Waitangi Tribunal in particular cases.

Tangata Whenua

The tangata whenua have a special relationship with the natural environment which stems from their traditional world view and their whakapapa. There are many sites and areas of particular spiritual, cultural and traditional significance to them. The tangata whenua also have a special relationship with the Crown under the Treaty of Waitangi/Te Tiriti o Waitangi. The Department needs to:

- know who the tangata whenua are that hold mana whenua and mana moana;
- recognise the mana whenua and mana moana of the tangata whenua;
- provide opportunities for consultation and participation of tangata whenua;
- provide appropriate processes and mechanisms for tangata whenua involvement.

Options

Choices made today will help shape the heritage of future generations and the options available to them. It is the responsibility of the living to pass on to future generations a heritage which is in better condition than that which was inherited. The Department must adopt a cautious approach and be responsive to iwi and public opinion. In exercising its judgement, decisions must be based on the best available information. The Department will ensure that the information it holds on areas and management techniques is updated regularly and made available to all interested parties.

Opportunities

While the Department's functions are prescribed by legislation, there are opportunities for more active involvement of iwi and interested local communities in conservation management. Only with the active participation of iwi and the involvement of the public (including landowners or occupiers) will the conservation vision be achieved. The Department should also provide leadership and assistance to communities if called upon. Creative solutions to problems are called for, together with flexible, responsive and adaptable management programmes.

Priorities

Given the range of the Department's legal responsibilities and extent of the conservation vision, and the limited resources of the Department, iwi and the community, priority setting is essential. All parties must focus on those areas where worthwhile conservation outcomes can be achieved. It is better to do a few things well than many things poorly. It is easier and more efficient to protect values before they are degraded than to restore them later.

3. Context

3.1 APPROACHES TO CONSERVATION

3.1.1 Tangata Whenua and Conservation

This section sets out to explain the Maori concept of conservation and how iwi want to see their lands and resources managed for the benefit of future generations.

Ko te tikanga o tenei purongo he whakamarama atu i nga whakaaro Maori mo te tiaki i te Aoturoa, ara, o ratou hiahia me pehea te whakahaere o tatou whenua o tatou taonga hei oranga ake mo nga uri whakatupu.

This section explains the philosophical basis for Maori conservation concepts, and their desire that they become the basis for managing our land and our resources for the benefit of future generations.

Whakapapa

*Ko te Whakapapa tenei
Mo nga taonga tuku iho a Io matua kore
Ka moe a Papatuanuku ia Ranginui
Ka puta Ko Tane Mahuta,
Ko Tangaroa
Ko Tawhirimatea
Ko Tumatauenga
Ko Haumie-tiketike
Me Rongomatane
Ko enei nga taonga tuku iho a ratou ma
Ko matou nga kaitiaki
mo enei taonga*

Genealogy recites for us our divine Inheritance,
Through the union of Earth Mother and the Sky Father
Who gave birth to our resources
And entrusted their care into our hands,
The land and the sea,
The forests and birds,
The animals and plants,
All these treasures, bestowed upon us as nurturers...

To sustain people.

Some important Maori beliefs are explained below:

Whakapapa is the founding concept for all Maori tribes, on which all ethics, including conservation values, are based. Whakapapa is a multi-faceted discipline that ties Maori to their environment. It is part of protocol to know who the people are before looking at any of their values. It is through whakapapa that one claims tangata whenua status, kaitiaki status, and rangatiratanga to the natural and physical resources that Maori are charged to conserve. Whakapapa describes the ancestral links of Maori with the land.

The most valued feature to all Maori is the **whenua** (land). The significance of land relates to Papatuanuku (Mother Earth) as the source or the mother of creation, from which we were created and are nurtured. The creation and movements of maunga were portrayed within 'legends' depicting the mountains as living forms.

Features of the land are used to identify one's turangawaewae, or the place on which one stands. To recite one's land boundaries, such as maunga, is to affiliate oneself to a certain area, and gives the right to claim status as tangata whenua and kaitiaki of that area. The relationship of people with the land was regulated through such customs as tapu and rahui so that the mana and strength derived from Papatuanuku remained intact.

Mauri, life essence or ethos, is the vitality, the protective power or quality which is present in all things - the sky, sun, moon, stars, seasons, wind, rain, mist, winter, summer, night, day, trees, stones, animals and all other things. In humans it is commonly known as the physical life force.

The **wairua** or spiritual force of the ancestors was attuned to the spiritual force of all natural features. This led to a deep respect of such things as: wairua ngahere (spirit of the forest), wairua wai (spirit of the water) and wairua ngarara (spirit of the insects). Every individual has a wairua which is a reminder that there is always a surrounding spiritual force.

Karakia is the ritual of acknowledgement of the existence of the spiritual force in all things. It is the means to attune the mind and to link the mind with the natural elements.

He Whakatauki

Whakatauki are proverbs which are derived from the ancestors or from oral traditions. It is the continued repetition by succeeding generations that keep whakatauki alive as they are passed on. While whakatauki must carry a message of succinct wisdom and truth dear to the hearts of the people, they must also reflect profound sensible logic in order to survive. As treasures of the ancestors, nga taonga tuku iho, these sayings are often heard on marae or whaikorero of the iwi from which they come.

The two proverbs which follow encapsulate well recognised traditional values within Maoridom:

" Ka ora karikari aruhe, ka mate tariki kaka "

“Fern root eaters enjoy good health while parrot hunters die.”

This alludes to the fact that fern root was obtainable all year round while kaka (birds) were seasonal because of the traditional lore of only being able to hunt while birds were fat prior to laying.

" Te wao tapu nui a Tane "

“The great forest of Tane.”

Tane was the God of the forest which was sacred because he was its creator and guardian. Before any tree was cut down propitiatory rites were offered to Tane.

There are other whakatauki which are relevant to certain iwi or hapu as follows:

Te Aupouri

" Ko te Atua ki te Rangi, Te Aupouri ki te whenua "

“God in heaven, and Te Aupouri on the earth.”

Ngati Kahu

" Ko te Amorangi ki mua, me te hapai o ki muri "

“God first, and man follows.”

Ngati Whatua

" Ngati Whatua: Whakaiti, Whakaiti, Whakaiti tonu "

“Ngati Whatua: Humility, Humility, Humility above all else.”

Te Roroa

*" Ka titiro a Maunganui ka titiro ki Kaipara,
ka titiro Kaipara ka titiro ki Maunganui "*

“Maunganui looks towards Kaipara and Kaipara looks towards Maunganui.”

Ngapuhi

*" Ka mimiti te puna o Hokianga, ka toto ki Taumarere.
Ka mimiti te puna ki Taumarere, ka toto ki Hokianga."*

“When the spring of Hokianga dries up, that of Taumarere fills up.
When the spring of Taumarere dries up, that of Hokianga fills up.”

This whakatauki refers to the ancestral 'human spring' that flows from Hokianga and Taumarere who, in times of strife, would 'empty' their communities to support each other. It is also a reference to the underground waterways linking Hokianga and Taumarere, the pathway of Taniwha.

Te Rarawa

*" Te toka i Akiha, ehara i te toka whitinga ra
Engari, te toka i Mapuna, ko te ripo kau tau e kite ai. "*

The essence of this whakatauki refers to a person's korero - that the spoken word which is most significant is that which has depth.

The following are statements which reflect common Maori thinking regarding sustainability. The constant repetition of such a grouping of words eventually leads to a whakatauki, should succeeding orators concur with the sentiments expressed.

" Memeha noa nga tikanga, memeha kau nga taonga "

“When the traditional practices fade our traditional resources dwindle.”

" Titiro ki mua, hei tohu mo muri "

“Look to the past as indicators for the future.”

These are timely reminders to all humanity to learn from past experience so that future generations may truly inherit the earth.

3.1.2 Pakeha and Conservation

The early European settlers of New Zealand brought with them a mixture of cultures and a long history of different spiritual and cultural beliefs and practices with regard to the natural world. For thousands of years, the ancient cultures of Britain and Europe were rooted in the natural world and the rhythms of nature; social customs, rituals and worship honoured and acknowledged the cycles of the solar system, the seasons and other natural

processes and life forms, and expressed an awe and reverence for, and often respectful fear of, nature and its powers. The development of the great early civilisations of the Mediterranean introduced more complex systems of gods and beliefs, but still acknowledged the essential interdependence between human beings and their natural environment. The Judeo-Christian tradition of the last 3000 years became one of several religious belief systems in the western world that asserted the superiority of man over nature and had a tremendous influence on western thinking, and gave philosophical backing to a new approach to nature that was about taming, civilising, controlling and exploiting.

The advent of Romanticism in the eighteenth century brought about a revolution in western attitudes to wild nature and a return to older pantheistic sympathies, where “god is in everything and everything is part of God.” An appreciation of natural beauty (“Beauty is truth is good”) and the intrinsic spiritual values of nature gained prominence in western sensitivities. At about the same time, the western industrial revolution, utilitarian politics and burgeoning scientific knowledge were creating a phenomenal wave of development and rapid change. Both “at home” in Europe and Britain, and in the new colonies like America, ordinary people were starting to see natural wildernesses, and their inhabitants, disappear, and while the industrial revolution brought progress it also brought destruction, pollution and squalor.

This complex heritage of values and beliefs arrived in New Zealand with European immigrants in the nineteenth century. A common response of the early pioneers to the wild bush-clad New Zealand landscape was a desire to “break in” the land and introduce exotic animals to make it more like pastoral Europe, but it didn’t take long for this attitude to turn into a growing appreciation of the grandeur and special qualities of the New Zealand wilderness, coupled with the realisation that human settlement (both Maori and Pakeha) was having a devastating effect on New Zealand’s natural landscape and native species. Similar realisations were occurring in other of Europe’s “new colonies”. Inspired by the dedicated campaigning and visionary foresight of a few individuals, the world’s first fully protected national parks and reserves were created in America, Australia, Canada and New Zealand in the latter half of the nineteenth century. Their essential aim was to preserve natural places as the common heritage for all citizens. In New Zealand, protective legislation was initiated as early as the 1870s, and commitments to protect forests and scenery were enacted in the Forests Act 1874, the Land Act 1877, and the Scenery Preservation Act 1903 - the forerunners of current conservation laws. Following a gift of the mountain peaks of Tongariro by Te Heuheu Tukino in 1887, the Tongariro National Park was established, becoming the world’s fourth national park.

The protection of nature and wilderness has gained increasing public support as the earth’s environmental crises become more evident, and popular opinion has joined that of ecologists, scientists and visionaries in voicing the need to safeguard not only special places, resources, and endangered species but also whole ecosystems (to protect the biodiversity of the planet). The International Convention on Biological Diversity 1992 states that:

- (a) Conservation is a common concern for all governments and people, and is necessary for sustaining future human survival and well-being; and
- (b) Conservation means the maintenance of functioning ecosystems as well as saving threatened species.

Today more than 30% of New Zealand's publicly owned land has some protective status, and conservation values are enshrined in legislation like the Reserves Act 1977, the National Parks Act 1980 and the Conservation Act 1987. Some of the essential kaupapa of New Zealand's conservation legislation can be described as follows:

- to preserve and protect natural and historic resources for the purpose of maintaining their intrinsic values, to provide for their appreciation and recreational enjoyment by the public, and to safeguard the options of future generations;
- to preserve and manage for the benefit and enjoyment of the public areas that have recreational, wildlife, native flora or fauna, landscape, scenic, historic or cultural values;
- to ensure as far as possible the survival of all indigenous species of flora and fauna in their natural communities and habitats, and to preserve representative ecosystems and landscapes which give New Zealand its recognisable character; and
- to preserve the natural character of the coastline and lake and river margins, and ensure public access where possible to sea coast, lake shores and river banks.

(Summarised from sections of the Reserves Act 1977 and Conservation Act 1987.)

These protection ethics have been complemented in the 1990s with the concept of "sustainable development" as expressed in New Zealand's Resource Management Act 1991, the purpose of which is to promote the sustainable management of natural and physical resources.

3.1.3 Conservation Achievements in Northland

As early as 1859, the scientist Ferdinand von Hochstetter complained that the northern kauri forests were being 'ransacked and ravaged with fire and sword' and that 'European colonisation threatens (their) existence'. The first lands in Northland to be set aside for conservation were done so for the protection of soil and water values and the production of kauri logs.

Conflicts between logging and forest protection reached a peak at Waipoua in the mid 1940s. A vigorous campaign led by Associate Professor W.R. McGregor and the Royal Forest & Bird Protection Society, supported by eminent botanist Leonard Cockayne, led to the establishment of the Waipoua Forest Sanctuary in 1952.

Other conservation gains in Northland include halting the logging of mature kauri in Puketi Forest in 1980, and the establishment in 1984 of the Northland Forest Park, covering the region's major forest tracts. Other significant areas that have been protected include the Trounson Kauri Park Scenic Reserve in 1923, the Te Pahi Reserves Complex in 1966, and the Bay of Islands Maritime and Historic Park in 1979.

Protection of these and other areas nation-wide would not have been possible without the initiatives taken by, or the active support of, conservation organisations such as Federated Mountain Clubs and the Royal Forest and Bird Protection Society.

People's concerns for the natural environment are growing, and the concept of the intrinsic values of plants and animals is becoming an important part of their relationship with the natural world. Today we see people with a conservation or environmental protection ethic who find a spiritual dimension in nature and from this they gain sustenance and the desire to protect and nurture.

Like Maori, pakeha seek to learn from past experiences so that future generations truly inherit the earth and all its treasures.

3.2 LANDFORM AND CLIMATE

Northland consists of a narrow irregular peninsula no more than 80km wide, and several groups of major offshore islands, bounded by the Tasman Sea and Pacific Ocean. The inland topography is mainly low-lying (0-300 metres asl) but steeply rolling hill country. A series of small ranges and plateaux rise to the highest point, Te Raupua (781 metres asl) in the Waima Range. Modest areas of flat land are restricted to the lower Northern Wairoa River catchment around Dargaville and the sand tombolo of the Aupouri peninsula. Numerous rivers, tidal streams, inlets and harbour systems dissect and break the pattern of hills. The largest and longest river is the Wairoa whose catchment drains almost the entire southern part of the region from Mataraua in the west to Russell in the east and Mareretu in the south.

As a result of the extensive west coast harbours and the indented east coast, no part of Northland is more than 40km from the sea. The strong oceanic influence over the region, combined with the almost subtropical latitude, results in a moderate climate of warm humid summers, relatively mild wet winters, and prevailing south-west winds. In summer, tropical cyclones sometimes give rise to north-easterly winds and heavy falls of rain. Mean annual rainfall ranges from about 1000-1500mm in the lower-lying north-eastern districts to over 2500mm on some of the higher western and central hill country. Because many rivers are short, cloudbursts can cause spectacular and extensive flash flooding. Mean annual temperatures range from 14 to 15.5 degrees Celsius. Winter frosts are few and light and mostly confined to sheltered flat areas. Seasonal dry periods often produce conditions of extreme fire risk, especially in the far north and east. Large variations in rainfall between seasons and years result in droughts of economic and biological significance occurring on average once every three years.

3.3 GEOLOGY AND SOILS

The Northland Conservancy is endowed with a rich variety of geological features and soils which are reflected in the development of its landforms, the evolution of its plants and animals and the patterns of habitats and land use.

Northland is underlain by several sequences of sandstone and volcanic rocks which accumulated off the coast of Gondwanaland 60 to 200 million years ago. The oldest of these (Waipapa terrane) are exposed in a belt along the eastern coast as far north as Stephenson Island and Puketū/Omahuta Forest. The eroded remains of younger sequences occur on the Karikari Peninsula, around Houhora, and also form the Three Kings Islands.

During the period 30 to 50 million years ago, much of Northland sank slowly beneath the ocean. The sediments which accumulated on the sinking landmass are now exposed as coal measures at Kamo, Hikurangi and Kawakawa, and limestone at the Waipu caves and Waiomio.

Collision of the Indian/Australian and Pacific tectonic plates then caused a wedge of rock, up to 3 km thick, to be scraped off the seafloor and emplaced over the entire region. This jumbled mass of rock called the Northland Allocthon, is formed of faulted marine sediments, and very large slabs of marine basalts known as the Tangihua volcanics.

Immediately following this, about 15 million years ago, a chain of volcanoes emerged off the western coast giving rise to the thick basalt flows which now form the Tutamoe plateau and Maunganui Bluff, and outcrops at Tokatoka and Hukatere. On the eastern coast an arc of volcanoes also emerged and these are now exposed at North Cape, the Karikari peninsula, Whangaroa, Whangarei Heads, and the Hen and Chickens Islands. Much of the region was land during this period, but shallow marine basins were present at times in the Hokianga, Parengarenga and north Kaipara areas.

Widespread erosion and local faulting and tilting followed the conclusion of this active period. Erosion of the softer sediments of the Northland Allocthon produced the low rolling hill country characteristic of much of the region and exposed the basement Waipapa terrane along the eastern coast. The largest slabs of the harder Tangihua volcanics remained and now form the isolated massifs of Ahipara, Herekino, Warawara, the Maungataniwha range, Waima, Houtu and Tangihua as well as the Te Paki/Cape Reinga ridges.

After the emergence of the Poor Knights Islands about ten million years ago as the remains of a rhyolitic volcano, basaltic volcanoes and lava fields developed in the Whangarei area, around Ruapekapeka south of Kawakawa and in a large belt from Taheke, Kaikohe and Ngawaha through to Kerikeri and Takou Bay.

In the last few million years extensive coastal dune fields have formed. Sand from the erosion of offshore submarine volcanoes and erosion of volcanic materials in the central North Island has been transported northwards by longshore drift. Large volumes of sand accumulated in the Kaipara, Kawerua, Hokianga and Ahipara areas, and built up to form the Aupouri and Karikari tombolos. Smaller areas of dunefield have also formed in the Bream Bay area during the last few hundred thousand years.

Alternating glacial and warm periods over the last five million years have caused substantial and repeated changes in sea level. Although Northland was not subjected to glaciation, the climate would have been markedly colder and windier during the ice-ages

and the lowered sea levels would have linked many of the offshore islands such as the Hen and Chickens and Cavalli Islands with the mainland.

The soils of Northland are unique because of the diversity and complexity of the underlying rocks and the influence that climate and vegetation have had on soil formation. Several factors have contributed to the high degree of chemical and physical weathering of the rocks of the region:

- the region has a warm, humid climate which is almost subtropical;
- most landforms are of greater age and/or stability than those elsewhere;
- the rejuvenating effect of the Pleistocene glaciations was much less pronounced than elsewhere;
- soil rejuvenation by tephras from volcanic eruptions is limited in extent; and
- kauri is present with its deep layers of acidic litter.

These factors have led to the formation of soils which have clay rich profiles over deeply weathered parent rocks, and in some cases are poorly drained because of the formation of subsurface pans. This contrasts with other parts of New Zealand where soils are coarser, shallower, and often formed from weakly weathered bedrock or drift parent materials.

3.4 HABITATS

3.4.1 Introduction

The Northland region contains a wide diversity of ecosystems and habitat types and an unusually high variety of species. This can be attributed in part to the region's location within the southern hemisphere's oceanic subtropical and warm temperate zones, alternating periods of isolation from the rest of mainland New Zealand, and climatic and sea-level changes. The effects of these factors are particularly apparent in the Te Pahi/North Cape, Houhora and Karikari areas. These highlands were once an island archipelago which had evolved a unique and diverse flora and fauna. As a result of sea-level changes associated with ice ages the islands are now connected to the mainland by the Aupouri Peninsula. They contain assemblages of plant and animal species found nowhere else.

Since first human settlement in Northland about 1,000 years ago, the region's indigenous ecosystems and species have undergone dramatic changes. By the time the second wave of human settlers arrived about 150 years ago, nearly all the large flightless or near flightless birds, the large frogs and giant lizards had already disappeared, while others like the tuatara and large *Cyclodina* lizards were restricted to offshore islands. Many of the offshore islands, coastal areas and some inland sites had suffered losses of their original forest cover due to cultivation and settlement, and had been replaced by fernland, shrublands or dunelands.

In the last 150 years, changes in landscape features, modification and loss of habitat, and further loss of species have become so severe and permanent that natural habitats in Northland today are often little more than islands within a "sea" of exotic landscape and

habitats. Over this period approximately 80% of native forests and shrublands, 95% of freshwater wetlands, 85% of dunelands (including 93% of inland dune hills), 98% of podzol gumlands and significant areas of mangrove forest, mudflats, coastline and offshore islands have been lost or modified by direct or indirect human impacts. The remaining fragmented natural areas are modified to some extent and are now colonised by a large number and diversity of introduced species. The plants and animals most often encountered by people today, such as grasslands, pine forests, cattle and sheep, have been introduced from other countries and are now major components of the landscape.

Much of the remaining common native forest types and dunelands are managed by the Department, but many of the less common forest types, shrublands, freshwater wetlands, salt marshes and hard coastlines are under-represented in lands administered by the Department. Some of the unrepresented ecosystems are now very rare, modified, or are

INSERT MAP FOUR HABITATS

under threat from development and pests, and could be lost forever if not afforded protection in the near future.

There are four broad habitats recognised in Northland, which are listed below and identified on Map Four. Each habitat is divided into a number of types.

1. Forests and shrublands.
2. Freshwater wetlands.
3. Coasts and estuaries.
4. Offshore islands.

3.4.2 Forests and Shrublands

Only about 20% of Northland's original forests remain today and these can be divided into ten basic vegetation types.

(a) Mixed Kauri-Podocarp-Broadleaf Forest

This is the most common forest type in Northland and is frequently found on Northland's rolling to steep hill country areas, often as an advanced stage of regenerating forest. Due to past logging, mature kauri and podocarps may be rare or absent. Forests typical of this type include Puketi-Omahuta and Russell conservation forests.

Kauri, rimu, kahikatea, tanekaha, totara, miro and northern rata often occur as infrequent emergent trees, or can, with the exception of rata, dominate the ridges. Towai, taraire, rewarewa, kohekohe, kanuka and, with less frequency, puriri, karaka, tawa and hinau occur as the prominent canopy species. Mamangi, pigeonwood, mahoe, white maire, nikau palm and silver tree fern are the main sub-canopy species. In the gullies the broadleaf canopy species are dominant.

(b) Mixed Podocarp-Broadleaf Forest

This is the second most common forest type in Northland and is generally found on clay soils, rolling hill country and at higher altitudes. There are two classes of podocarp-broadleaf forest: lowland and upland.

Lowland mixed podocarp-broadleaf forest can be found up to an altitude of about 600 metres asl. It comprises rimu, kahikatea, miro and rata which are emergent over a canopy dominated by towai, with taraire, tawa, kohekohe, hinau, puriri and rewarewa. Kauri is infrequent or absent.

Upland podocarp-broadleaf forests are generally restricted to the high western plateau areas of the Tutamoe Range and other high points over 600 metres asl. These areas receive high rainfall and can be locally swampy. The Tutamoe Range forest type is unique to Northland and contains some cooler climate southern plants such as southern rata, broadleaf and horopito, which are at their northern limit. Most of this type is protected

within lands administered by the Department, but there are some significant peripheral areas which converge into lowland podocarp-broadleaf forest that remain unprotected. This type is dominated by towai, with tawa, swamp maire, pukatea, tawari and makamaka occurring less frequently. Lowland species such as puriri, karaka, kohekohe, taraire and nikau palm are absent or very rare. Podocarps are infrequent and swamp maire can form small, but almost pure, canopy stands. Where this occurs the understorey resembles a tall tropical mangrove forest due to the high number of pneumatophore roots in a boggy substrate.

(c) Volcanic Broadleaf Forest

These forests have been severely depleted in the past and now occur only as small fragmented remnants or as groups of individual trees on the rich volcanic soils and cones of the Whangarei and Kaikohe districts.

Rewarewa and occasionally pukatea are emergents over a dense uniform canopy of taraire, with puriri, karaka, kohekohe and occasional tawa and titoki. Nikau palm can form a dense understorey if stock are not present. Totara, rimu and kahikatea are infrequent or absent. The fern *Asplenium lamprophyllum* is often present where the bouldery silt loams are present.

(d) Kauri Forest

Less than two percent of the original mature kauri forest remains today, and nearly all of this area is protected in Waipoua, Trounson, Warawara, Herekino, and Puketi-Omahuta forests. Immature dense stands occur in Russell Forest and Pukekaroro Scenic Reserve. Outside of these protected areas, kauri occurs as immature trees, rickers or occasionally as scattered mature trees. It is rarely found as a pure forest type, but generally occurs as dense ridgetop stands in association with a mixed podocarp-broadleaf forest type on rolling to steep hill country.

Other species associated with kauri in Northland are toatoa, tanekaha, tawari, *Pittosporum pimeloides*, hard beech, white maire, the tree fern *Dicksonia lanata*, the rata *Metrosideros albiflora*, and the fan fern *Schizaea dichotoma*.

(e) Podocarp Forest

In Northland pure podocarp forests may have been restricted to relatively small areas on alluvial river flats and swamp margins, and on ridges, terraces and spurs in association with kauri and broadleaf forest.

As with the once great kauri forests, Northland's mature podocarp forests have been decimated, and less than one percent of the region's original podocarp forests are surviving. The last remaining area, which also contains some kauri, is situated at Umakura outside land administered by the Department.

There are a number of small regenerating remnants containing dense stands of rimu-totara-tanekaha with occasional miro, kawaka, matai and monoao on hillside ridges and terraces. Very few of these areas are managed by the Department.

Kahikatea forms dense stands, often with matai and kowhai, on alluvial flats, lowland terraces and old drained swampland in Northland. Unfortunately, nearly all of these remnant stands are unfenced and eaten out by stock. Cabbage tree, flax and divaricating shrubs also occur in these remnants.

Totara is characteristic of Northland landscapes. Despite major land clearance, this tree has been very resilient and occurs commonly as individual trees or in small groups in open pasture, along roadways, fencelines and streams. In many sites it successfully regenerates in defiance of browsing animals, and is one of the first canopy species to appear in shrubland succession.

(f) Coastal Forest

Northland's coastline and offshore islands were once covered with considerable areas of coastal forest. Since human arrival, burning, land clearance, subdivision, browsing by stock and invasion by weeds have fragmented and modified nearly all coastal forests in the region. They have all but disappeared as a forest type on the west coast and around the Kaipara Harbour and only exist as small remnants on the steep slopes, cliffs and headlands on the east coast and at North Cape.

Coastal forests are characterised by pohutukawa, puriri, karaka, tawaroa, tawapou, kowhai, cabbage tree, kanuka and kohekohe. *Olearia* spp, *Pseudopanax discolor*, *Pittosporum umbellatum*, taupata, whau, manuka, *Pteris comans*, flax and rengarenga lily occur as understorey species or as pure coastal shrublands. *Nestegis apetala* occurs locally on some headlands. The forests contain a large number of threatened plants, some of which are endemic to Northland such as *Pomaderris paniculosa* subsp. *novae-zelandiae*, and *Pseudopanax gilliesii*.

The mixed coastal-shrubland forest on the serpentine soils of the North Cape area is unique and contains an extraordinary number of endemic plants and a number of endemic invertebrates.

(g) Riverine Flood and Alluvial Forest

Riverine flood and alluvial forest is one of the rarest, most fragmented and under-represented forest types in Northland. Only small areas are protected within lands administered by the Department. The remaining flood forests consist of thin fragmented riparian strips along meandering, sluggish and flood-prone lowland streams. Most are eaten out by stock, are not regenerating, have a high occurrence of decadent and dying trees, and are being lost through clearance, drainage and stream straightening.

Principal species are kahikatea, cabbage tree, kowhai, pukatea, titoki, lowland ribbonwood and kaikomako, with matai, karaka, totara and kanuka occurring on higher and drier mounds. The understorey, if present, is characterised by a dense divaricating shrub thicket where species such as *Melicope simplex*, *Melicytus micranthus*, *Streblus heterophyllus*, *Myrsine divaricata* and small leaved coprosmas are dominant. At least three sites are known to contain populations of the threatened *Pittosporum obcordatum*.

(h) Duneland Forest

The two classes of duneland forest comprise Northland's rarest forest type. On the Aupouri Peninsula are tiny, scattered groves of forest consisting of pohutukawa, kanuka and other species. On the Pouto Peninsula, remnants are larger and contain a greater diversity of species. At Pretty Bush, a unique remnant is dominated by narrow leaved maire. The largest remnant at Tapu Bush contains podocarps and broadleaf species. Other areas are dominated by kanuka. Nationally uncommon species include *Pseudopanax ferox* and *Hebe diosmifolia*.

(i) Shrubland

Native shrublands in Northland are important ecosystems for forest succession and as corridors, buffers and ecotones to mature forest and wetlands. They are equally important as habitat to a large number of threatened native plants and animals such as kiwi, fernbird, tusked weta, Northland green gecko, large land snails, orchids and ferns as well as other shrub species e.g. *Pomaderris polifolia*.

Two main shrubland types occur. The most common is a manuka-kanuka association, which is found on a wide diversity of substrates and soils including dunes, coastal wetlands and podzol gumlands. These shrublands vary from long-established seral kanuka forests, to young proliferations of manuka. mingimingi, hangehange, mapou, *Coprosma rhamnoides*, lancewood and rasp ferns are common.

The second, much less extensive, type is broad-leaved shrubland. This is generally coastal and often dominated by mamangi and other broad leaved *Coprosma* spp., kawakawa, *Olearia* spp., akeake, cabbage tree, *Pittosporum* spp., *Pseudopanax* spp., flax and bracken. The mixed broad-leaved and manuka/kanuka shrublands of the North Cape area, including those on serpentine soils, are internationally important, and may contain more threatened and endemic plants and animals than any other habitat type in New Zealand.

Many of the North Cape shrublands are protected by the Department. However, elsewhere in Northland the shrublands have limited protection and are under continual threat from clearance for exotic afforestation and pasture, firewood and sawdust extraction, fire, and invasion from plant pests such as hakea, wattle and gorse.

(j) Exotic Forest

Exotic forests, although grown for commercial reasons, are important 'temporary' or supplementary habitats for North Island brown kiwi in Northland. Some of the densest numbers of kiwi have been recorded in exotic forests e.g. Waitangi Forest. The degradation of exotic forests as kiwi habitat can be mitigated by careful management regimes. The retention of connected habitats and any existing native vegetation, can act as refuges for kiwi until the next pine crop has established.

3.4.3 Freshwater Wetlands

Wetlands have historically been the most abused habitat type in New Zealand, and in Northland only about five percent of the original lentic (standing) wetlands remain. Some wetland types are now close to being lost forever, and some aquatic plants and animals have already become extinct within the region over the last 80 years e.g. *Sporodanthus traversii*.

Fertiliser runoff and animal wastes, water abstractions, clearance of riparian and catchment vegetation, pine planting and logging, weir and dam construction, grazing and trampling of riparian and littoral vegetation by stock, and invasion of plant pests are all contributing to the degradation of freshwater wetlands.

The freshwater wetlands of Northland can be categorised into ten different types:

(a) Rivers and Streams

Northland's river and streams have relatively short catchments. The majority flow into estuaries and have a considerable intertidal area, and their catchments often originate from native forest. The lower sections of most streams are meandering, where the beds and banks are silt rather than shingle or sand. Water turbidity is high, introduced water weeds are evident and water temperatures are high during summer.

Few systems remain relatively unmodified in their entirety. Examples are the Waipoua and Waipapa (west) rivers which drain to the west coast and Hokianga Harbour respectively, and the Waikare River which drains into the Waikare Inlet, Bay of Islands.

The rivers and streams are important native freshwater fish habitats, as most are free from the predatory trout, are relatively unmodified and often drain into large harbours and estuaries. For these reasons they may contain a wide diversity and high numbers of native diadromous (life cycle requires freshwater and salt water) freshwater fish and crustaceans. These ecosystems are also habitat for a wide diversity and high numbers of water birds and invertebrates including threatened species such as the native freshwater crab (*Halicarcinus lacustris*) and brown teal. Several native fish species are now of only local occurrence or are rare, such as koaro, shortjawed kokopu and giant kokopu.

(b) Dune Lakes

There are three main groups of dune lakes in Northland occurring on consolidated dunes and peatlands of varying age.

The first is found on the Pouto Peninsula and north to the Kaiwi Lakes near Maunganui Bluff. This group comprises deep Pleistocene Age lakes along the southern-central Pouto Peninsula and at Kaiwi, and shallow lakes of Holocene Age in the low-lying areas along the south-western coastal dunelands.

The second group of lakes occurs along the western dunes of the Aupouri Peninsula between Ahipara in the south and Te Pahi in the north.

The third group of small, fairly deep and steep-sided dune lakes is located between Te Kao and Parengarenga Harbour and on the Karikari Peninsula. These lakes are quite acidic compared to those on the west coast and do not have the same diversity and numbers of plants and animals.

Further south only one small dune lake near the Ruakaka Race Course occurs on the east coast.

Lake margins are generally surrounded by manuka, *Baumea* and *Schoenus* sedges, and umbrella fern. The lakes are often highly dynamic with fluctuating water levels, shorelines and shapes that are being changed continually due to shifting sand dunes or, where stabilised, by reductions in water tables. In recent years most lake catchments have been consolidated by the planting of raw dunes in kikuyu, marram, lupins, other introduced grasses for agriculture, and pines.

The dune lakes are habitat to a number of threatened plant, bird, crustacean and fish species, and the abundance of these species continues to decrease due to habitat degradation. The dwarf inanga (*Galaxias gracilis*), a small freshwater fish, is known only from Northland where it is restricted to just seven dune lakes, whilst the "tuatara plant" *Hydatella inconspicua*, New Zealand dabchick, New Zealand scaup, *Myriophyllum robustum*, the marsh fern *Thelypteris confluens* and the freshwater crab (*Halicarcinus lacustris*) are other threatened species dependent on dune lakes. The lakes are a major habitat in New Zealand for most of these species and are unique because nearly all are free of introduced oxygen weeds and exotic fish. The lakes are also important for the presence of unique blue-green algae communities found only in Northland.

Many of the lakes are found outside of lands administered by the Department. Protection and management of the dune lakes is very urgent, requiring contact and liaison with adjoining land owners, fencing off of riparian margins, exclusion of stock, monitoring of species, prevention of introductions of exotic fish and plant pests, and monitoring and negotiation over recreational use of the lakes.

(c) Volcanic Lakes

Northland contains several lakes of volcanic origin. Four of the largest are situated in the Kaikohe-Pakaraka districts while other small lakes occur elsewhere in mid-Northland

between Whangarei and Kaikohe. Lake Owhareiti, near Pakaraka, and Lake Omapere are two of the largest and most significant of the volcanic lakes.

These lakes have tiny catchments that occur in craters or depressions caused by old volcanism. They are of value for birds such as the Australian little grebe, bittern and fernbird. The lakes are also of high cultural and spiritual significance to iwi Maori.

All of these lakes remain unprotected outside of lands administered by the Department, except for one tiny riparian margin located on Lake Omapere. Fencing of the small peripheral swampy areas and most of the riparian margins is urgently required.

(d) Ngawha Thermal Lakes

The Ngawha thermal lakes are unique to Northland. They differ from the more shallow central North Island thermal lakes by having a very deep-seated thermal field. The lakes are cold except for one small area which has been commercially exploited. Surrounded by a podzol gumfield, the Ngawha thermal lakes provide habitat to waterfowl, spotless crane and bittern. Fernbird and the vulnerable sedge *Baumea complanata* (now restricted to Northland) inhabit the periphery of the lakes.

Except for one relatively small area, all of the thermal lakes are protected as a scientific reserve.

(e) Swamps

Most of Northland's eutrophic or fertile swamps have long been drained and today are one of Northland's rarest habitat types. Only about one percent of the original fertile swamps remain. They are often small and fragmented, partly drained and browsed by stock, and are being invaded by aquatic plant pests such as *Glyceria maxima* and alligator weed.

Northland's fertile swamps are characterised by the presence of raupo, flax, *Baumea articulata*, *Carex* spp., kahikatea, cabbage trees, *Coprosma propinqua*, *Coprosma tenuicaulis* and *Lemna minor*. Naturalised plants such as the willow weed, alligator weed and *Glyceria maxima* can be locally abundant. A feature of Northland's swamps is that they are generally free from the introduced willow tree. The best remaining examples of mineralised swamps in Northland occur in the Motatau-Opahi, Dargaville and Kaitaia districts.

Fertile swamps are home to a large number of threatened species such as bittern, brown teal, banded rail, fernbird, the marsh ferns (*Thelypteris confluens* and *Cyclosorus interruptus*), the stout water milfoil (*Myriophyllum robustum*) and native buttercup (*Ranunculus urvilleanus*). Fertile swamps which contain dense swards of flax and raupo can hold large populations of spotless crane.

Very little of this habitat is protected within lands administered by the Department, but there are two small areas owned and protected by the Northland Fish and Game Council at Poroti and near Dargaville. Unless more representative areas of fertile wetlands can be protected and managed then inevitably there will be local extinction of some of these species.

(f) Peat Bogs

Northland once contained large areas of deep peatlands. Today most have been drained and, as with the fertile swamps, only small fragmented areas remain. Good examples of past peat bogs were the large Hikurangi swamp and Awanui plain areas which contained extensive areas of this wetland type. Approximately two percent of the original peat bogs remain today due to drainage and development. This has resulted in local extinction of two species (*Sporodanthus traversii* and *Corybas carsei*), and a suite of other acid-dependent plants and one fish species remain threatened. Some of these species include the black mudfish, the orchids *Thelymitra* "Ahipara", *T. malvina*, *Cryptostylis subulata* (duck-billed orchid) and *Lycopodium serpentinum*.

Peat bogs in Northland tend to be drier than elsewhere in New Zealand and contain manuka, *Epacris paciflora*, *Dracophyllum lessonianum*, dense swards of *Baumea* and *Schoenus* sedges and umbrella fern. In the northern areas of Northland the parasitic vine *Cassytha paniculata* is present. Wire rush, which is generally a major component of more southern bogs, is only occasionally observed in Northland.

Most of the largest remaining bogs in Northland can be found in lands administered by the Department at Kaimaumau, Otakaikarangi and the drained lake bed of the former Lake Tangonge, or are protected with covenants. These areas are however threatened by past drainage and plant pests. It is a priority that remaining peat bogs are protected with some urgency.

(g) Gumlands

These seasonal wetlands are one of the rarest habitat types in Northland. The gumlands are peculiar to Northland, and are restricted to acid podzol soils which are very poorly drained. They do not have the deep peat beds, nor are they as wet as peat bogs. These habitats were originally kauri forest which has since disappeared through natural or man-made changes. In summer they can be quite dry, but are usually wet for most of the year.

Gumlands characteristically contain manuka, mingimingi, *Baumea*, *Schoenus*, *Gahnia*, *Tetralia* and *Lepidosperma* sedges, bracken and umbrella ferns, *Epacris pauciflora*, *Dracophyllum lessonium*, *Pomaderris phyllicifolis*, *P. kumeraho*, the parasite vine *Cassytha paniculata* and *Lycopodium* spp.

This habitat type contains one of the largest assemblages of threatened species, and is a major habitat for the northern acid-loving orchids, most of which do not occur elsewhere in New Zealand. Some of the threatened species are *Thelymitra* "Ahipara", *T. malvina*, *T.*

matthewsii, duckbill orchid (*Cryptostylis subulata*), *Corybas* sp., *Baumea complanata*, *Phylloglossum drummondii*, *Todea barbara*, Northland green gecko, black mudfish, North Island fernbird and North Island brown kiwi.

Gumlands have been converted to agriculture and forestry on a large scale. The most significant areas outside lands administered by the Department are at Kaimaumau, the Far North, Ahipara tablelands, Ngawha Springs, Kerikeri airport and Kaikohe district. Major areas under protection are at Lake Ohia, Kaimaumau, North Cape, Ahipara and Aratoro.

(h) Intermediate Wetlands

This is the most common wetland type in Northland, but only about five percent of the original area remains today. Intermediate wetlands are neither truly fertile nor acid, but are a mixture of both types. They are important as they support a variety of plants and animals which can inhabit both acid and eutrophic conditions, such as bittern, fernbird and marsh fern (*Thelypteris confluens*). These wetlands are generally dominated by *Baumea* and *Schoenus* sedges, with some manuka and local or sporadic occurrences of raupo, flax, and cabbage tree. The outer areas are generally the most fertile, with acid areas more common near the core. These wetlands can be flooded occasionally.

Several areas of this wetland type are managed by the Department, or are protected with conservation covenants, such as Aupouri and Waitangi wetlands. Many remain unprotected throughout the region.

(i) Ephemeral Wetlands

Ephemeral wetlands or temporary pans are seasonally wet shallow depressions which are highly productive and contain abundant nutrients and a high biomass of aquatic metamorphic animals. In Northland they occur on the west coast dunelands, or occasionally on inland damp pastures, possibly where old swamps and bogs may have once occurred. Ephemeral wetlands are seasonally important for a wide range of breeding and feeding water birds, such as waterfowl, shags, New Zealand dabchick, pied stilt, New Zealand dotterel and banded dotterel. When food chains peak in this type of wetland they can contain extraordinarily high numbers of waders and waterfowl.

The ephemeral wetlands are only represented as protected areas on the west coast dunelands, at Scott Point and on the bed of Lake Ohia. None are protected on the more fertile agricultural areas and it is those few remaining sites that contain the very high seasonal numbers of water birds.

The Dargaville, Motatau and Lake Tangonge areas contain the remaining inland fertile ephemeral wetlands. Discussion with landowners is required urgently regarding the protection and/or management of these ecosystems.

(j) Modified/Man-made Wetlands

Due to the demise of natural freshwater ecosystems, the remaining modified and man-made wetlands have assumed greater importance. Some man-made wetlands, such as artificial lakes and dams constructed for irrigation or as water reservoirs, generally provide habitats for just two groups of animals - those waterbirds adapted for life on open water, and those native fish which are able to climb dam walls and seepages, e.g. eels. However, man-made wetlands that have been created for conservation or game bird hunting have proved to be valuable habitats for a host of species - ducks, swan, herons, shags, bittern, rail, crake, plants and freshwater fish. With careful design, these wetlands can have fish paths, fertile shallow margins and include previously drained or modified wetlands.

3.4.4 Coasts and Estuaries

With its long sandy beaches and dunelands, rocky shorelines and headlands, and harbours and estuaries, Northland's 1500km coastline is distinctive.

Northland contains the country's largest area of relatively unmodified dunelands, some of the largest areas of mudflats, and the largest areas and biggest specimens of mangrove forest. A significant geographical feature of Northland is the abundance of and variety of estuarine ecosystems. Estuaries are a focal point in the landscape as most river and stream systems drain into them. They are particularly rich in animal life and are also important for cultural, spiritual, scenic, recreational and economic reasons.

Coastal and estuarine habitats have suffered a long history of neglect, misuse, misunderstanding and exploitation, and many areas lack any form of legal or practical protection. Some areas now require fairly urgent protection and management if they are to be kept as natural areas in the future. Threats to these habitats include reclamation, overfishing, adjoining land uses, marine farming, invasion of plant pests, disturbance by vehicles, horses and livestock pollution, port and marina development, and leachate of fertilisers and animal wastes.

Northland has eight main types of coastal and estuarine habitat:

(a) Mangroves

Northland has large areas of mangrove forest. Many of the original areas of mangrove forest have been drained and modified as a result of land development and reclamation for agricultural, commercial and urban purposes. However, in recent times the actual area of mangrove forest may have increased. This is because estuarine margins are dynamic and in the process of a gradual succession from wetland to dryland. In Northland this process has been greatly accelerated by land development over the last 150 years. Deforestation and land management practices have led to thousands of tonnes of silt entering and being deposited into many estuaries. Estuaries that were once sandy, i.e. parts of Whangarei Harbour and Ruakaka, have now been replaced by mudflats, and the mangrove, a natural northern coloniser of intertidal mudflats, has increased accordingly.

Those mangrove forests which have intact sequences of saltmarsh and shrubland are important habitats for banded rail, brown teal, shags, and a host of other estuarine and passerine birds, crustaceans, invertebrates, fish and even, seasonally, the little-known yellow-bellied and banded sea snakes. In Rangaunu Harbour, which has New Zealand's most extensive mangrove forest, marine turtles occasionally frequent the tidal channels. Mangroves are also important for many fish species such as mullet and snapper, which have traditional, recreational and commercial value.

(b) Saltmarsh

Reclamations, fire and stock intrusion have so seriously depleted Northland's saltmarshes that they are now the rarest estuarine habitat type. Less than 15% of the original saltmarsh ecosystems remain today. The Hokianga, Whangarei, Kaipara and Rangaunu harbours have suffered the greatest losses.

In Northland, saltmarshes are important buffers for mangrove forest and serve as links between terrestrial shrublands and forests, and freshwater and brackish wetlands. Jointed rush, *Baumea juncea*, *Bolboschoenus* sedges, saltmarsh ribbonwood and flax are the main plants. The saltmarshes are habitats for banded rail, bittern, fernbird and marsh crake.

(c) Intertidal Sand-Mudflats

Sand and mudflats in Northland generally lie outside the mangrove and saltmarsh zones within harbours and estuaries. These highly productive ecosystems are feeding grounds for many thousands of arctic and local migratory waders, waterfowl, gulls, terns and shags. Northland attracts 10-15% of the New Zealand wintering population of godwits, 20% of the knots, and about 30% each of turnstones and golden plover, all from the northern hemisphere. Local migrants or residents such as banded dotterel, pied stilt, New Zealand dotterel and variable oystercatcher frequently use Northland tidal flats. Several threatened native species, such as New Zealand dotterel, are dependent on these ecosystems for much, if not all, of their annual food requirements. These areas are also important feeding grounds for a number of fish, particularly flounder and snapper.

(d) Shellbanks

Shellbanks are an integral part of the estuarine ecosystem. They are often essential as roost sites at high tide to accommodate the large numbers of waders, gulls and terns, which feed on the mudflats. They often provide the only breeding habitat for a large number of waders, gulls and terns, as in the Whangarei and Rangaunu Harbours. Several are of particular importance as breeding habitat for fairy tern. They also provide shellfish for traditional, recreational and commercial purposes.

It is important that all significant shellbanks are identified and protected with the appropriate protective designation. Where shell banks are poorly represented or positioned, have been lost, or do not occur at all, consideration should be given to artificially establishing new banks in key wader or tern habitats.

(e) Hard Coasts

Northland's hard coasts are confined to the North Cape area, east coast and the west coast between Maunganui Bluff and Ahipara. These ecosystems are characterised by stony beaches, rocky platforms, cliffs, headlands, and broken fragmented areas with adjoining stacks and islets.

The hard coasts are important feeding and breeding habitats for the threatened reef heron and variable oystercatcher, and are locally important mainland habitats for Suters' skink, little blue penguin and fur seal. They also contain populations of threatened or significant plants such as *Fuchsia procumbens*, *Asplenium northandicum*, *Leptinella rotundata*, *Hebe speciosa*, *Mazus novaezeelandiae*.

(f) Foredunes and Beaches

The foredunes and beaches of Northland include intertidal sandy beaches and adjacent sand cliffs, e.g. Pouto Peninsula, and beaches which have a narrow band of foredune or which back onto small intertidal streams. Some soft coasts in Northland which are relatively isolated still contain much of the original peripheral native coastal vegetation, and *Spinifex*, *Cassinia*, toetoe, sand *Convolvulus*, pingao, *Muehlenbeckia complexa*, arrowgrass and *Isolepis nodosa* dominate. However, many soft coast margins have been developed to the extent where salt-tolerant introduced grasses now dominate, i.e. blue buffalo and kikuyu grasses and pampas, while other margins have been planted in exotic forest.

These areas are the main breeding habitat for the threatened New Zealand dotterel. (Two-thirds of the total New Zealand population of this bird is found within the Conservancy.) They are equally important breeding areas for the variable oystercatcher, banded dotterel and Northland's three breeding tern species, in particular the threatened Caspian tern and endangered fairy tern. The soft coasts are the main habitat for the shore skink (*Leiopisma smithii*), a northern coastal species, which can be found locally in high numbers.

Threatened plants include *Hibiscus diversifolius* (Northland is the only place in New Zealand where this occurs), *Eleocharis neozelandica*, *Atriplex billardierei*, pingao and *Austrofestuca littoralis*.

(g) Sandhills

Probably less than seven percent of Northland's original sandhills remain. The sandhills have high landscape, morphological and archaeological values and are a feature of the Aupouri, Ahipara, Hokianga and Pouto Peninsula. They are habitat for species such as kanuka, toetoe, pingao, New Zealand pipit and banded dotterel.

Most of the original sandhills have been developed for afforestation and agriculture. They are under continued threat from four wheel drive vehicles and trail bikes, invasion of plant pests (pampas, gorse, lupins, marram and exotic herbs and grasses, *Oxylobium*, *Hakea*), and stock. Sandhills, being unstable and dynamic, can be a threat to adjoining natural habitats, dune lakes, pasture and pine forest.

Most remaining sandhills are protected within lands administered by the Department.

(h) Coastal Deflation Zone

The coastal deflation zone is an area of mobile deflated transverse dunes, commonly with swamps and ephemeral lakes, that extend inland from the beach.

These are very important ecosystems and contain whole suites of associated habitats and species. The low 'wet' foredunes of the Pouto Peninsula, North Cape and Aupouri Peninsula can be a mosaic of tidal beaches, dune lakes, ephemeral wetlands, swamp and reed zones, bare dunes, semi-dry non-woody vegetative and dry woody (shrubland) areas. Where these duneland mosaics occur they can contain an unusually high number of threatened flora and fauna. Some of these species include the New Zealand dotterel, banded dotterel, banded rail, bittern, New Zealand dabchick, scaup, fernbird, marsh ferns *Thelypteris confluens*, *Cyclosorus interruptus*, *Pseudopanax ferox*, *Eleocharis neozelandica*, *Euphorbia glauca* (New Zealand sea spurge), pingao, *Atriplex billiardierei* and *Pimelia arenaria*.

While some significant areas are protected within lands administered by the Department, others such as Kokota and Ngunguru sandspits are unprotected.

3.4.5 Offshore Islands

Northland waters contain numerous offshore islands and stacks. Some islands are noteworthy for their species endemism, especially plants and invertebrates, many of which are classified as threatened. Islands may also support relic populations of species which are now extinct on the mainland, such as tuatara and saddleback. Nearly all offshore islands have been modified or influenced by past Maori and European activities.

Some of the most important islands are managed by the Department for their natural and historic values. The more important include:

- The Three Kings Islands. These harbour two of the world's rarest plants (*Pennantia baylisiana* and *Tecomanthe speciosa*) which are each reduced to one surviving plant in the wild. Other rare species include *Myrsine oliveri* (the Three Kings milk tree), rangiora, the large Falla's skink, and the giant land snail *Placostylus bollonsi*, as well as many endemic invertebrates.
- The Poor Knights Islands. This is the only known breeding area in the world for Buller's shearwater, and also contain the largest population of *Placostylus hongii*, two

giant weta and other endemic invertebrates, possibly an endemic skink, northern tuatara, the only known population of the critically endangered spleenwort *Asplenium pauperequitum* and the Poor Knights lily.

- The Hen and Chickens Islands. In the past, these islands had the only known population of North Island saddleback. Also present are northern tuatara, a wide diversity of breeding seabirds including the threatened Pycroft's petrel, and lizards. Rare plants include the endangered NZ watercress *Roiippa divaricata*. More recently, little spotted kiwi and stitchbird have been liberated and raised the importance of these islands.

Important islands not administered by the Department which have no existing formal protection and which contain populations of threatened species include Matapia, Stephenson, outer Cavalli islands and Motukokako. However, in the Bay of Islands, the Moturoa Island Group, which is privately owned is gazetted as a wildlife refuge.

3.4.6 Marine Environment

The waters surrounding Northland comprise three major marine biogeographic regions: the east coast, the west coast and the Three Kings Islands. The east coast is influenced by warm oceanic currents, and marine biotas include a significant number of warm, temperate and subtropical species. In contrast, marine biotas of the west coast are dominated by species with cool water affinities, reflecting the lower sea temperatures in the region. The marine biota of the Three Kings Islands region is of particular significance in that it includes a large number of locally restricted endemic species (eg. algae and molluscs). It is also characterised by the presence of some eastern Australian and/or southwest Pacific Ocean species that are not known elsewhere in New Zealand, the absence of a number of species that are widespread elsewhere around the northern coasts, and the presence of some central-southern species that are not found elsewhere in northern New Zealand.

Subtidal habitats include rocky reefs and sediment substrata. Biotas on shallow coastal reefs are typically dominated by large macroalgae and/or encrusting and turfing algae and echinoids. Deeper reefs have biotas dominated by sponges, corals, bryozoans and ascidians. Types of sediment substrata present range from gravel and sand in wave and current swept areas, to mud in sheltered bays and harbours, and offshore in deeper water. They support a high diversity of epifaunal and infaunal organisms.

Offshore islands and prominent coastal headlands in eastern Northland lie in the path of subtropical watermasses of the East Auckland Current, and are characterised by the presence of algae, corals, molluscs, urchins, and fish that are rare or absent elsewhere around Northland. The Three Kings Islands occur in an area where upwelling cold water periodically occurs, and the subtidal biota in the area contains a high number of locally endemic species of algae, corals, molluscs, urchins and fish.

3.5 HISTORIC AND CULTURAL HERITAGE

3.5.1 Introduction

The majority of historic places contain physical remains of the past. In Northland they represent every stage of New Zealand history from early Polynesian settlement, through the development of Maori agriculture and warfare, to European colonisation and the subsequent growth of industries that transformed the landscape and formed a basis for our present economy. These sites contain archaeological evidence and in some cases they retain standing structures. Many sites that can be defined as archaeological also hold spiritual significance for the tangata whenua, but there are other places of traditional importance where no visible evidence of human activity exists, for example canoe landing places and landmarks that define the boundaries of a rohe. There is then an overlap, but not a precise parallel, between the two concepts: of an archaeological site, and of indigenous cultural value.

3.5.2 Maori Occupation

Oral histories, records of 18th century explorers and archaeological evidence provide proof that Taitokerau was one of the most densely populated regions of New Zealand before European colonisation.

Current research and oral traditions indicate that New Zealand was discovered about 900-1,000 years ago by voyagers from Eastern Polynesia. They were the descendants of seafaring people who had already settled throughout most of the Pacific, bringing with them a range of cultivated plants and a few domesticated animals.

Northland, with its mild climate, numerous offshore islands and abundant seafood, was New Zealand's nearest equivalent to their tropical homeland. Their appreciation of its advantages is supported by evidence from early coastal sites at the tip of Aupouri Peninsula, in estuaries and bays of the east coast and even on exposed west coast dunes. These early settlements and campsites are characterised by midden containing bone and stone tools similar to those of Eastern Polynesia, and a broad range of seafood and bird remains including species that are now rare or extinct. Although widespread around the coast these sites are sparsely distributed in contrast to the densely concentrated evidence of later occupation.

The initial period of settlement was followed by rapid adaptation to the Northland environment, which involved changes in agricultural practices and the invention of storage pits for food and new techniques for the exploitation of natural resources. While similarities with the language and customs of Eastern Polynesia were retained and were noted by early European explorers, changes and developments resulted in the creation of a distinctive Maori culture.

Physical evidence of Maori occupation is visible throughout the region and, in areas like the Taiamai Plains and the Oruru Valley, dramatically sculptured hill pa still dominate the landscape. These are the most spectacular historic features, but the remains of unfortified

kainga, gardens, midden and stone workfloors also contain information about the environment, economy and material culture of the past. This archaeological evidence is not a substitute for oral history. It is complementary to it, providing information on everyday activities too commonplace for inclusion in whakapapa or waiata.

Northland is essentially a maritime region and the density of early coastal settlement is emphasised wherever there have been intensive archaeological surveys. In these areas the recorded sites alone provide a detailed outline of the sea coast (see Map Five). The widest variety of site types, indicating long term occupation, tend to be concentrated around sheltered harbours and inland regions with fertile soils. The exposed west coast beaches contain a similar density of sites but these are mainly midden and hangi associated with seafood collection and processing. Midden deposits show that seafood, including fish, shellfish and marine mammals, formed a substantial part of the diet, supplemented by bird and plant resources from the bush and fern-covered hinterland. Cultivated plants were equally important. Early records note that the full range of plants introduced from tropical Polynesia were cultivated in Northland at the time of European contact. Indeed Northland was almost certainly the nursery where Maori agricultural techniques were developed. Today, wild taro is widespread, there are several reports of 'wild' gourd plants, and kumara can be over-wintered in the ground as far south as Whangarei.

Evidence of intensive agriculture, in the form of stone features, is particularly well preserved on the recent volcanic fields of the Taiamai Plains and in older volcanic areas like the Waipoua Valley. Extensive swamp gardens for taro cultivation have been identified in several parts of the Far North; the high density of sites around alluvial valleys indicate that these were also important agricultural areas, and channelled slope gardens are a distinctive feature of the heavier but fertile soils near the Kaipara and Whangarei Harbours. In addition to land naturally suited to Maori agriculture, many less fertile coastal areas contain evidence of modified soils where shell, sand and beach pebbles have been added to the heavy clay. In the Bay of Islands, this practice dates back to at least the 13th century.

INSERT MAP FIVE HISTORIC RESOURCES

Other important resources which were readily available and widely exploited include flax, pingao and kuta reed for weaving, large forest trees like totara and kauri for canoes and building construction, and a variety of fine-grained rock for tool manufacture. Local stone sources provided greywacke, gabbro, basalt, obsidian and chert, and additional valued materials like metasomatised argillite and nephrite (greenstone pounamu) were acquired from as far away as the South Island.

The profusion of pa, the extensive evidence of agriculture and the huge coastal middens are proof that the natural resources of Northland were esteemed and fought over for centuries. During this time there were changes to the environment and to the culture of those who modified it. But an increased rate of change was to follow the arrival of Europeans.

3.5.3 Early European Settlement

Northland was the first area to be widely affected by European contact and it was here that the earliest mission stations and European industries were established.

European voyagers seeking a fabulous southern continent 'rediscovered' New Zealand in the 17th and 18th centuries. The first, Abel Tasman, merely sighted the northern coast in 1643 and left a brief description of Manawatawhi, one of the Three Kings Islands. In the following century several explorers visited Northland for longer periods and the journals and drawings from their expeditions, especially those of Cook and du Fresne, provide what are perhaps culturally biased but nevertheless invaluable accounts of Maori settlement and customs before they were affected by European contact.

But this was not a great southern continent, there was no apparent wealth of gold, little obvious industrial potential apart from flax and timber, and the inhabitants were decidedly warlike. Consequently there was no immediate influx of prospectors and settlers. However, in the early 19th century the Bay of Islands, situated close to the southern whaling grounds, became the major whaling port of the Pacific where ships were re-fitted and were provisioned through trade with local Maori, some of whom sailed as crewmen on the whaling ships.

Missionaries also arrived in the first few decades of the century. Initially the Anglican Church Mission Society set up mission stations in the Bay of Islands, then the Wesleyans moved into the Hokianga and Whangaroa Harbours and finally French Catholic missions were established in the Hokianga, the Bay of Islands and later at Whangaroa. They were slow to make converts but there was no parental objection to Maori children attending and being fed at the mission schools, and when their printing presses began to produce books there was an insatiable Maori demand for literature. Inevitably, if gradually, the indigenous ethos was eroded and replaced by Christian doctrine.

Material change was faster and even more devastating. There were some advantages in the introduction of European crops, domesticated animals and metal tools but these were outweighed by introduced diseases and firearms. Influenza, measles and venereal disease

took their toll while Ngapuhi warriors descended on their traditional enemies with the formidable advantage of muskets - the Maori population was decimated.

As Maori numbers decreased, European settlement expanded. The original riffraff of runaway sailors and ex-convicts, who occupied Kororareka in the Bay of Islands, were joined by tradesmen, merchants and land speculators, and by the late 1830s Kororareka had become a thriving township. For a brief period, at least a quarter of the Europeans in New Zealand lived around the Bay. A British Resident was installed and an American Consul appointed but they had little power to enforce law and order. Eventually, though without great enthusiasm, the British Government determined to 'treat' with Maori people for recognition of the Queen's authority "over the whole or any part of those islands which they may be willing to place under Her Majesty's dominion". In February 1840 the Treaty of Waitangi was signed by some 50 chiefs on the lawn of the British Residency, now known as the Treaty House.

Following the signing of the Treaty, Maori discontent grew as custom's duties reduced trade at the Bay. In 1844, Hone Heke cut down the flagstaff at Kororareka as a symbolic rejection of British sovereignty. The fighting that followed this gesture culminated in a series of battles between British troops and Ngapuhi factions, led by Heke and Kawiti, and further attacks by Heke on the flagstaff at Kororareka. Finally after the British had suffered several defeats, Kawiti withdrew to his pa Ruapekapeka. He made ingenious adaptations to traditional methods of musket warfare, but was finally overcome by British forces. The pa battle site remains as an outstanding example of Maori military ingenuity. Soon after the fighting ceased, the Government was transferred from Okiato (old Russell) to Auckland.

Timber extraction, ship-building, mining [refer also to Section 6.9 Prospecting, Exploration and Mining] and gum-digging provided a living for Maori, European and new immigrants from Europe, Nova Scotia and Dalmatia who added to the rich cultural diversity of the region. These industries radically changed the landscape and created the foundation of Northland's present economy.

3.6 PEOPLE AND ECONOMY

The population of the Northland region is over 142,000 with half living in the major city of Whangarei and the smaller townships of Dargaville, Kaitaia, Kaikohe, Kerikeri and Paihia. The population is concentrated along the eastern coast where tourism and residential settlement, particularly by retired people, are driving the growth of many areas.

The region has a relatively young population but the proportion of older people is increasing due to a fall in the fertility rate and an influx of elderly retired people. There are substantial losses of teenage and young working people who take up education and employment opportunities outside of the region. By national standards, Northlanders have a lower standard of living, with high unemployment rates, high welfare dependency, lower incomes and lower housing standards.

Around a quarter of the region's residents are Maori, with the highest numbers living in the Far North and Hokianga. The Department works with numerous iwi authorities in the Conservancy including Ngati Kuri, Te Aupouri, Ngai Takoto, Ngati Kahu, Te Rarawa, Whaingaroa, Ngapuhi, Ngati Wai, Ngati Whatua and Te Roroa (See Map Three). These iwi are organised into a large number of trust boards and runanga, and pan-tribal forums such as Te Kotahitanga O Te Taitokerau, Taitokerau District Maori Council and Maori Women's Welfare League.

Northland's economic structure reflects its rural industry base, with farming (particularly dairying) providing a large proportion of the region's income. Dairy processing is carried out in three factories at Kauri, Maungaturoto and Dargaville. Beef and sheep farming are also well established, with increasing diversification into deer, goat and other forms of farming.

The exotic forest estate, which is ten percent of the national resource, is relatively young at an average age of ten years. Ownership is held mainly by three companies, Carter-Holt-Harvey, Jukken-Nisho and ITT Rayonier. Significant areas are managed as farm-forestry operations. The largest forest, Aupouri, is one of the oldest and is expected to produce substantial wood flows by the turn of the century. Wood processing occurs at several sawmills throughout the region and at a fibreboard plant in Kaitaia. A new laminated veneer lumber mill is planned for Marsden Point. Port Whangarei exports a wide variety of bulk cargo and the Northland Port Corporation is seeking resource consents for a new deepwater port to accommodate the predicted growth in export and import cargoes, particularly forest products.

A small horticulture industry is based on kiwifruit and citrus crops in the Bay of Islands, kumara and squash around Dargaville and market gardening in Whangarei and Ruawai. Avocados, tamarillos and persimmons are also grown in significant quantities.

Northland's marine farming industry is concentrated in the Bay of Islands, Houhora, Whangaroa and Kaipara harbours. Around 80 farms covering 260 ha produce significant quantities of oysters and mussels. Most of the region's harbours have some potential for marine farming.

Other industries include a small inshore fishing industry working mainly from the east coast, and a small manufacturing sector. A nationally important petroleum refinery is located at Marsden Point and there is a geothermal plant running at Ngawha. Domestic tourism makes up 70% of the tourism industry, which is largely summer based and centred on the Bay of Islands. The region is under-explored for metallic minerals although mercury and silver have been mined in the past. There is potential for gold production but current mining is based on limestone, silica sand and ceramic clays.

A total of 136 primary schools, seven intermediate, seven area and 19 secondary schools are located in the Conservancy. The campus of Northland Polytechnic in Whangarei is supported by service centres in most of the major towns. At least eight outdoor education centres are used by school and community groups.

3.7 RECREATION AND VISITOR SERVICES

3.7.1 Introduction

With a few exceptions, land administered by the Department is open to the public and many areas are popular for outdoor recreation. This statutory right of open public access is however constrained by the need to protect natural and historic resources. The Department provides a range of visitor services and facilities including campgrounds, tracks, picnic areas, toilets, huts and lodges, visitor centres and information services. Some of Northland's major tourism drawcards - Cape Reinga, Waipoua Forest and the Bay of Islands Maritime and Historic Park - are administered by the Department. Existing sites and areas of visitor attractions are illustrated on Table One and Map Six.

3.7.2 Market Demands

Only a few hour's drive from Auckland, New Zealand's largest city and the country's international gateway, Northland provides a playground for increasing numbers of visitors. Nearly one million visitors, mostly New Zealanders, come to Northland each year.

In the year ending March 1991, of the 4.5 million visitor nights (800,000 visitors), 80% were domestic visitors (including local residents), and 20% international visitors. Northland is now the third most popular region for New Zealanders to visit. (Prior to 1990 it was the seventh most popular.)

Growth in the regional domestic market is static and unlikely to grow over the next 10 years. However, because of the size of the overall domestic market, especially that from Auckland, any slight growth will lead to significant pressures on conservation areas. The population of the Auckland Region (1,140,000) is increasing at a rate in excess of 2.5% per annum (1997 figures).

For the year 1992/93, Northland received 176,000 overseas visitors which represented over one million visitor nights. In 1995/96 this had increased to 202,500 overseas visitors. The Bay of Islands Maritime and Historic Park headquarters was visited by an estimated 113,815 international visitors during October 1992 to September 1993, making this the fourth most popular park for international visitors after Fiordland, Mt Cook and Westland national parks.

The number of international visitors is increasing. For example, in 1993 Fullers Northland clients comprised 73% international and 27% domestic. Similarly, the Waitangi National Trust estimates 70% of its visitors to the Waitangi Reserve are international.

Complete reversal of these figures occurs at some conservation sites. For example, conservation campsites in Northland attract an average of 91% New Zealanders and nine percent international visitors over the December to February period. In the 1990-91 Cape Reinga survey, it was found that 72% New Zealand visitors and 28% international visitors went to Cape Reinga over the survey period (28 December 1990 - 8 February 1991). Over the full calendar year it is roughly estimated that the percentage of domestic to international visitors is closer to 50-50.

An increasing percentage of international visitors to conservation sites will have the largest impact on the Department due to the rapid growth projections in this market. The New Zealand Tourism Board's 1992 growth strategy has the target of trebling international visitor numbers by the year 2000. The potential for growth in the international market is significantly greater than the domestic market.

Growth markets for Northland are Australia, North America, the United Kingdom and Europe. Northland receives a higher percentage of European visitors than the national average. Fifty-six percent of this market is young (18-34 years). Potential growth markets are Asian and Japanese visitors.

There has been a large increase in the free independent traveller (FIT) market and in frequent short-break holidays. Of particular relevance for the Department is a growing trend towards nature and adventure-orientated tourism, and a strong interest in the natural environment. Educational tourism where visitors are learning by experience, participation or volunteering in activities is also increasing in demand.

3.7.3 Visitor Activity Trends

Research by the Hillary Commission and Heylen Research in 1992 showed that:

- New Zealanders are choosing recreation close to home and are participating in low cost activities which often do not require facilities or long time periods. Walking, running and cycling are fast becoming popular as is mountain biking, which has particular relevance for the Department.
- About 85% of New Zealanders are involved in walking as a physical activity at least once a month. Those over 60 years tend to more passive pursuits such as walking, picnicking, camping, exploring historic sites, some forms of hunting and looking for plants and birds.
- Maori and Polynesian people do more diving, freshwater fishing, swimming, shellfish gathering and remote camping, showing a link between recreational activities and traditional and cultural interests.

New Zealand Tourism Board research indicates that:

- International tourists are seeking more active involvement with local people, their culture and heritage, and are wanting to learn about different lifestyles. They are generally environmentally sensitive and likely to seek out areas with a high degree of natural values and interest.
- Short walks (less than half a day) in the bush and scenic boat cruises are the most popular activities undertaken by overseas visitors in New Zealand.
- The most popular types of attractions for overseas visitors are (in order of priority) museums, art galleries, geothermal sites, historic sites and Maori culture.

- International visitors are increasingly preferring unstructured holidays in New Zealand. The Free Independent Travellers (FITs) do not book their travel itineraries in advance. They generally travel by campervan, their own car, or hitchhike, and stay at campgrounds or hostels. FITs are the fastest growing market in New Zealand.

Based on the Department's survey of visitor centres in Northland and staff observation during 1993, visitors to Northland are seeking:

- quality experiences;
- information on the recreation activities available;
- on-site information on the natural environment (interpretation), particularly cultural and historic;
- short loop walks of one to three hours;
- places for mountain biking, horse riding or walking dogs;
- overnight tramping experiences;
- improved access to the coast at specific locations; and
- guided walks and tours.

3.7.4 Visitor Attractions

The following characteristics of Northland are significant when considering the management of lands administered by the Department for their recreation and tourism opportunities.

Northland is a region surrounded by natural unpopulated stretches of diverse coastline.

Enhanced by the region's warm climate, Northland offers some of the best underwater marine life, sailing, boating, sea kayaking and ocean fishing experiences in New Zealand. Commercial operators provide numerous opportunities for visitors wishing to explore the coast, beaches and offshore islands, predominantly in the Bay of Islands and from Tutukaka, Whangaroa and Houhora.

The Bay of Islands Maritime and Historic Park contains the majority of Northland's offshore islands which are open for visitors. Most of the remaining islands in Northland are privately owned or have public access restrictions. The Department is manager of the Poor Knights Islands Marine Reserve, a significant visitor attraction in the region. However landing on the Poor Knights Islands Nature Reserve is prohibited. Mimiwhangata Coastal Park, also managed by the Department, has many opportunities for visitor enjoyment.

The ancient kauri forests are symbolic of Northland.

Northland holds the largest remaining tracts of New Zealand's magnificent ancient kauri forests. The Matakohe Kauri Museum provides for those visitors interested in the history of Northland's native kauri forests. Facilities like this museum are important complements to those forests in the region that have survived 150 years of attack by fire, the axe and

saw. The remnants are now mostly protected, managed by the Department and open for visitors to appreciate and enjoy.

The Department manages 11 major tracts of forest and shrublands. Waipoua is acknowledged as the jewel of Northland forests. The remaining 500 reserves and conservation areas that the Department manages are smaller and scattered. There are good and accessible recreational opportunities in forest environments, plus many opportunities for remote, isolated back country recreation. These include numerous short walks and an extensive network of tracks and New Zealand walkways in many of the forests (as well as along spectacular stretches of coastline).

Northland is a culturally interesting region, being the cradle of both Maori and European settlement in New Zealand.

Northland was intensively settled by Maori. Everywhere visitors travel they can see the legacy of centuries of Maori occupation. Northland is nationally significant to New Zealand Maori - being the departing point for spirits at Te Rerenga Wairua (Cape Reinga). The same area - where the two oceans meet - saw the beginning of New Zealand's European history when explorers first sighted New Zealand. Whalers, traders, missionaries and settlers all left their mark on the Northland landscape. Visitor attractions such as the Waitangi National Trust Treaty Grounds and the many museums in Northland, reveal the history of the region to visitors.

Cape Reinga, Ruapekapeka Pa, Flagstaff Hill and the Mangonui Courthouse are examples of the wide variety of sites managed by the Department for visitors. Such sites are relatively undeveloped as visitor attractions.

Other agencies administer a range of outdoor recreation facilities on lands not administered by the Department.

The Whangarei District Council manages a number of walking tracks and reserves close to Whangarei, and the Kaipara District Council administers several campgrounds and a small number of tracks. Of significance are the Kaiwi Lakes. The Far North District Council manages numerous coastal reserves catering for day use visitors.

The exotic pine forests of Northland are a major recreational resource.

Recreation opportunities such as four-wheel driving, horse riding and mountain biking are often compatible with the management of exotic pine forests.

Northland has limited opportunities for active freshwater activities such as rafting and canoeing, and no resource base for mountain or alpine activities. Caving and rock climbing opportunities are available but are not common activities.

The main rivers used for canoeing are the Wairua, Mangakahia and Waitangi. Many of the estuaries and accessible dune lakes (Kaiwi and Lake Ngatu) are used for canoeing. There is a small thermal resource at Ngawha with health springs for public use.

Table One: Sites and Areas of Visitor Use on Land Administered by the Department or Associated With Departmental Administration

<u>Use in Excess of 50,000 Visitors per year.</u>	<u>Use Under 10,000 Visitors per year.</u>	<u>New Zealand Walkways</u> (Approved by the former NZ Walkways commission but not necessarily legally secure or gazetted under the NZ Walkways Act 1990. May cross private land as well as land administered by the Department.)
1 Cape Reinga 2 Kerikeri Basin and Rainbow Falls 3 Bay of Islands Historic and Maritime Park Visitor Centre and Flagstaff Hill 4 Urupukapuka Island 5 Motuarohia Island 6 Poor Knights Islands Marine Reserve 7 Tane Mahuta, Te Matua Ngahere, and Four Sisters 8 Waipoua Visitor Centre	24 Other Te Pahi Reserves 25 Lake Ohia 26 Mangonui Courthouse 27 Ahipara Gumfields 28 Mangamuka Gorge and Raetea Forest 29 Puketi and Omahuta Forests 30 Whangaroa Reserves 31 Mahinepua 32 Motukawanui Island 33 Taronui 34 Marsden Cross 35 Akeake 36 Waitangi Forest 37 Ngawha 38 Ruapekapeka Pa 39 Russell Forest 40 Mimiwhangata 41 Tutukaka Reserve 42 Taheke Falls Scenic Reserve 43 Pukenui Forest 44 Waro Limestone Scenic Reserve 45 Tamaterau 46 Mount Manaia and Bream Head 47 Tangihua Forest 48 Kauri Bushmens Scenic Reserve 49 Pouto Lighthouse 50 Waima Forest 51 Warawara Forest 52 Mataraua Forest 53 Remainder of Waipoua Forest 54 Kawerua	Cape Reinga Coastal Kaitia Mangamuka Gorge Golden Stairs Paihia-Opuia (managed by FNDC) Waoku Coach Road Waipoua Coastal Mount Tutamoe Tokatoka Waipu Caves Brynderwyn Hills Mangawhai Cliffs Otaika Valley Pukenui Waikaraka Whananaki Coastal
<u>Use Between 50,000 and 10,000 Visitors per year.</u> 9 Tapotupotu Bay 10 Te Pahi Stream 11 Rarawa Beach 12 Lake Ngatu 13 Maitai Bay 14 Rangikapati Pa 15 Manginangina Scenic Reserve 16 Other Islands and Reserves in the Bay of Islands 17 Smugglers Cove 18 Otamure Bay and Motutara 19 Ruakaka Wildlife Refuge 20 Uretiti Campground 21 Waipu Wildlife Refuge 22 Arai Te Uru 23 Trounson Kauri Park		

Refer also to Volume Two for brief descriptions of visitor facilities at each site or area.

INSERT MAP SIX VISITOR USE