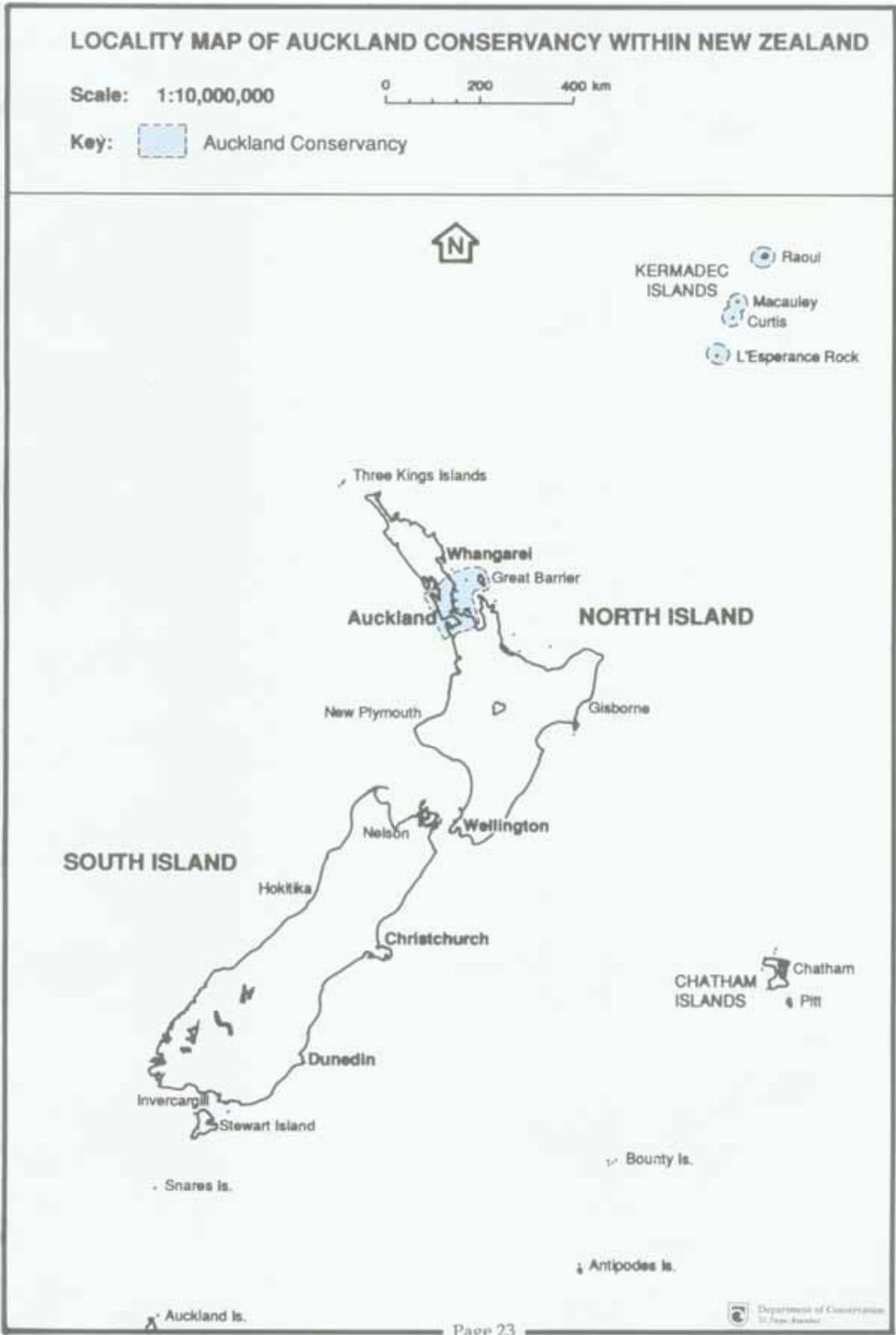
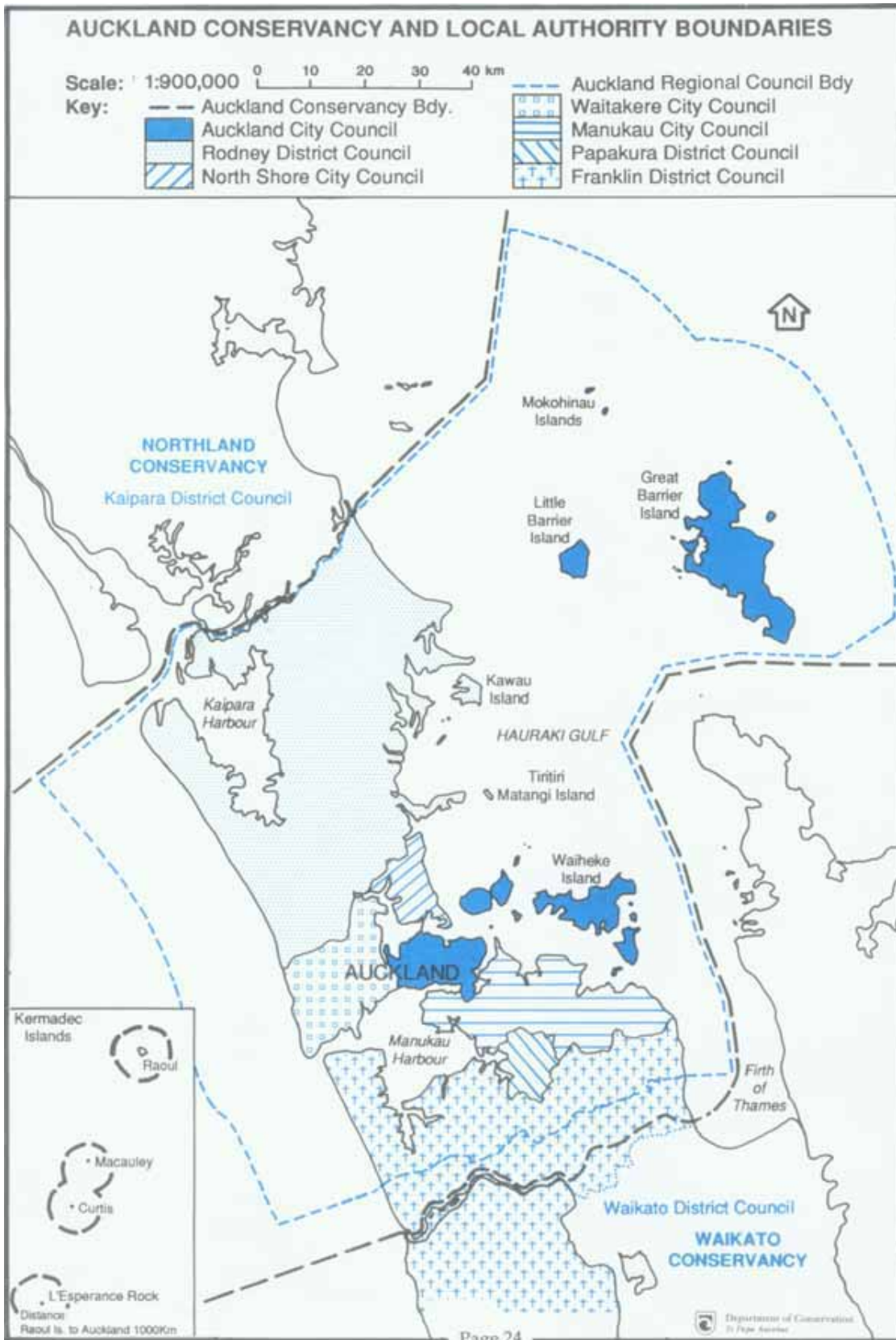


## **Section 2**

# **The Conservation Context The Auckland Conservancy**





Conservation Management Strategy Auckland Conservancy 1995 - 2005

# Introduction

The Auckland Conservancy is a metropolitan place but it is set in the context of an unusually rich natural environment. Wilderness and wildlife habitats penetrate to the heart of the city, and a visible historic and cultural heritage dominates its skyline and gives meaning and names to its suburban partitions. In stark contrast, it is also a Conservancy of remote places, of islands uninhabited by humans, difficult of access, but rich in nature and history; and with species and cultural expressions found nowhere else on earth. Above all it is a Conservancy of the sea and the coast, where the marine environment is incorporated into the sense of place and the identity of a quarter of all New Zealanders.

Auckland has a quality environment. More than 14% of the Conservancy is protected natural land, but it is the rhythm and juxtaposition of the coasts, east and west, which provide the essential public open space and landscape character of the Conservancy. The richness of its natural resources has always made this a popular and productive place to live. Today's agricultural landscapes show the results of almost a millennia of production, taking advantage of rich soils and the equable climate. The waterways which historically made this a meeting place of tribes and attracted waves of migration, today give Auckland a strategic position in trade and international commerce.

The Auckland Conservancy is shown on the map opposite. It extends from the Waikato River and Miranda in the south to the Kaipara Harbour entrance and Mangawhai in the north. It includes the west and east coast in the narrowest part of New Zealand, and extends east and north to embrace the Hauraki Gulf and its cluster of islands, and a further 1,000 kilometres northeast to include the Kermadec Islands, the northernmost part of New Zealand.

In this Conservancy, the Department of Conservation administers about 36,400 ha of land in some 400 protected areas, and two marine reserves totalling some 749,000 ha. This national heritage covers many significant islands and island groups: islands of the Hauraki Gulf Maritime Park (others are in Northland and Waikato Conservancies), 60% (18,500 ha) of Great Barrier Island, and the subtropical Kermadec Islands. About 10,000 ha in about 300 protected areas is located on the mainland. This means that areas administered by the Department in Auckland Conservancy are very scattered, highly visible and have many neighbours.

**The integrated objectives for the management of these places constitute the balance of this volume of the strategy. The geographic location and the natural and historic context of the protected areas administered by the Department are to be found in Volume II, and the summary description and values of each area in Volume III. The remainder of this section gives the wider Auckland context within which the Conservancy's management decisions are to be made.**

# Climate and Weather

The moist, warm equable weather and climate of Auckland are determined by New Zealand's elongated and insular shape, its oceanic location and its isolation from any other land mass. The Kermadec Islands, which lie 7°30' north of Auckland (1000 km to Raoul Island), experience a much warmer subtropical climate than the rest of the Conservancy. The major part of the Conservancy lies in a zone of transition between those influences to the north, and the cool temperate conditions to the south.

The climate of Auckland is characterised by continual change from day to day, and only a relatively small change from moist winters to warm and somewhat humid summers. The rainfall is generally adequate to sustain plant growth (1100 - 1400mm rising to 2040 mm per annum in the Hunua Ranges) and is well spread throughout the year. Auckland enjoys plentiful sunshine (2090 hours per year on average). Although it is often windy, especially from the westerly quarter, gales are rare and tend to come from the east and northeast, affecting Great Barrier Island and the islands of the Hauraki Gulf in particular.

In the Kermadec Islands, the prevailing wind cycle is west to southwest in the winter and east to northeast in summer. Although not in the 'cyclone belt', cyclones do occur on an infrequent basis and can be catastrophic. Rain is plentiful, with about 1500mm annually, fairly evenly distributed throughout the year. The 'dry' season, October to January (being also the sunniest period) still receives about 85mm per month on average, although droughts of up to six weeks' duration have been recorded. Sunshine hours are comparable with northern New Zealand, at 2150 hours on average per annum. Warm temperatures are the rule, with average daily maximums being about 24° in summer and 19° in winter, with minimums only about five degrees lower. The heat is exacerbated by the high level of humidity which averages over 75%.

Because of the proximity of the east and west coasts, the high frequency of islands, the extensive intertidal flats, and the interfingering of land and sea in Auckland, there are marked variations both in climate and day to day weather conditions throughout the Conservancy. These changes are most significant where there are abrupt changes in elevation and slope, notably around the isthmus volcanic cones, the Waitakere and Hunua Ranges and on Great Barrier and Little Barrier Islands. These local microclimates have important implications for the location of different habitat types and exposure to climatic hazards.

## Conservation Context

- **The Kermadec Islands are the only subtropical part of New Zealand.**
- **Geographic variation in climates presents different natural environments.**
- **n Auckland has a warm climate which has made it attractive as a place to live throughout the history of human settlement, resulting in a rich historic record.**

- **Auckland has a climate which makes it attractive for year-round recreational pursuits.**

## Water

Waters of the Auckland Conservancy are diverse both in nature and source. There are over 50 lakes, many rivers, variable quantities of ground water, the large enclosed Waitemata, Manukau and Kaipara Harbours, the major wetland systems of Mangatawhiri, Te Henga and Kaitoke, the sheltered coasts of the inner Hauraki Gulf and Firth of Thames, the exposed coasts of the outer Gulf - Great Barrier and the Tasman Sea, and the truly oceanic waters of the Kermadec Marine Reserve.

There are several dominant characteristics. The mainland part of the Conservancy is narrow and the islands are relatively small, making the catchments short and small. As a result, all rivers have a relatively small flow. The Hotoke, Kaipara, Rangitopuni, Wairoa and Tamaki Rivers are the most important, but even the smallest streams have significance in this Conservancy.

Most of the lakes are associated with the consolidated sand landforms of the Awhitu and South Kaipara Peninsulas, and at Tomarata. Western Springs, Lake Pupuke and the Raoul Island lakes formed as a result of volcanic activity. Artificial lakes have been created by damming valleys in the Waitakere and Hunua Ranges for metropolitan water supply purposes.

Ground water is used for supply throughout the Conservancy, but apart from Rangitoto Island (which has a large underground freshwater "lens" reservoir), island supplies tend to be limited. Geothermal water is found mainly in the vicinity of Waiwera, Parakai, Whitford and in the Kermadec Islands, and in small quantities at Great Barrier Island.

The relatively small freshwater water resources of Auckland are under pressure for consumption for potable, industrial and horticultural uses as well as for waste product disposal. Auckland has an active water conservation programme.

Coastal water quality is remarkably good given the enclosed nature of much of the coast. However in the Manukau Harbour, and in some other localised places, problems are persistently at a level which affects habitats, food taking and recreation.

### Conservation Context

- **Relatively few freshwater bodies are formally protected.**
- **Water quality needs to be protected and enhanced to safeguard its mauri and**

**its ability to sustain freshwater fish, marine, and wildlife habitats.**

- **The waters of the Conservancy are an essential part of tribal identity and mana.**
- **Recreational use of freshwater is minimal but of the sea is intense.**
- **Major focus for advocacy work.**
- **Water supply for potable purposes is a problem on many islands.**

## **Geology and Landforms**

The most remarkable feature of the Pacific Ocean floor in the vicinity of New Zealand is the long, narrow and very deep Kermadec Trench. This runs northeasterly towards Tonga in the general direction of the main mountain axis of the North Island, marking the zone of subduction of the Pacific tectonic plate under the Indian-Australian plate. The Kermadec Islands stand on the inner edge of the Trench. Instability of this part of the ocean floor is reflected in the volcanic structure of the islands, contemporary volcanic activity on Raoul and Curtis Islands, and the frequency of local and sometimes severe earthquakes (often a hundred a month). Raoul Island has a central, large, basin-shaped crater (caldera) with the sides rising to almost 520 metres on the east side. The hard olivine basalts on the eastern side are amongst the oldest exposed rocks, but andesitic basalts are predominant. Above them is usually a thick mantle of soft fragmental rocks (pyroclastic deposits), mainly pumice and some ash (tuff). These may be inter-bedded with scoria, breccias, and ash. Recent deposits of loose pumice cover much of the crater floor.

The mainland-Gulf Islands part of the Conservancy has a more varied geological history. It evolved through several quite different environments which are reflected in the variety of rock types exposed in the area, and in the classes of landforms and geomorphic processes which contribute to the distinctive physical character of the Conservancy. There are seven major groupings of parent material: chaotically sheared claystones and limestones of the north; the greywacke and argillite basement rocks in the east; the alternating sandstone and mudstone exposed mostly in the central and northern part of the region; the volcanic breccia and lava to the west; the younger lava and scoria of the Auckland and Pukekohe areas; the beach and dune deposits on the Awhitu and South Kaipara peninsulas; and the alluvial terraces of the inner harbours and along the river valleys.

The greywacke basement rocks form the prominent hills of the Hunua Ranges and most of the islands of the Hauraki Gulf. They are a succession of ancient deepwater marine sandstones and mudstones compacted and hardened by tectonic pressure. Extensive

submarine landslides brought claystone and muddy limestone to the region from some distance away. The alternating sandstone and mudstone, with some limestone, were deposited next in a marine basin overlying the greywackes. Those are found extensively in the northern part of the region, but are best seen as yellow or light grey alternating sandstones and mudstones in the cliffs around the Waitemata and Manukau Harbours.

The older volcanic breccia and lava rocks of the Waitakere Ranges and Barrier-Coromandel erupted at approximately the same time as the above mentioned basin sediments (22-15 million years ago). These are seen in some places interlayered and juxtaposed with them. They are mainly andesite breccias and conglomerates with some lava, pillow lava and dikes. There was a long gap in volcanic activity until between 1.4 and half a million years ago, when at least 82 eruption centres associated with tectonic movements in the Franklin District (Glenbrook-Pukekohe-Bombay-Papakura-Hunua) produced extensive volcanic fields and landforms. More recently, in the last 125,000 years (and especially the last 60,000 years), small localised eruptions have characterised what is now the Auckland metropolitan area, producing small explosion craters, scoria cones, lava fields and related features. The youngest of these, dominating the inner Gulf and harbour, is Rangitoto Island. This volcano has been active in the last 600 years.

Continual shifting of sand by wind and water currents have built up the large barrier dune complexes of the Awhitu and the South Kaipara Peninsulas, converting open embayments and river valleys on the west coast to enclosed harbours. Dune systems also characterise the Pakiri and outer Great Barrier coast while elsewhere, notably along the western Firth of Thames, pebbles and shell have been transported into distinctive landforms. The shell ridges of the Miranda Chenier Plain and the gravel ridges at Whakatiwai record falls in sea level over the last 4000 years, the last of many sea level fluctuations recorded in the landscape.

Erosional processes have redistributed material and softened the landscape, leaving relatively small areas of alluvium, mainly as peripheral terraces and small wetlands.

## **Conservation Context**

- **The Conservancy contains a distinctive congregation of landforms with examples from all the major suites, reflecting sedimentary, karst, volcanic, tectonic coastal, aeolian and fluvial erosional processes. Over 180 sites are identified in the Geopreservation Index as warranting protection for their regional, national or international significance.**
- **About a quarter of the representative sites recommended for protection are presently protected. Only a small proportion are on lands administered by the Department (See Volumes II and III) but they are nonetheless widely representative.**
- **Significant examples of volcanic landforms are protected on lands administered by the Department (notably Kermadec Islands Nature Reserve, Rangitoto Island Scenic Reserve and Browns Island Recreation Reserve) and on**

**Crown reserves administered by local authorities (eg. isthmus cones).**

- **Generally, landforms are not easily threatened or destroyed, but volcanic and sand/shell/gravel landforms have been significantly modified and threatened.**
- **Many important sites remain unprotected and their protection is a focus for advocacy effort.**
- **Frequent earthquakes and the risk of violent volcanic activity pose continual operational hazards on Raoul Island.**

## Soils

The character of soils is influenced by a range of physical factors such as parent material, climate, time, flora, fauna and topography. Within the Conservancy there is a complex diversity of soil types, which characteristically change over quite short distances. The more fertile soils are amongst the most extensive of their type in the area, and highest in productivity in New Zealand. Some others are infertile, erosion-prone, or subject to slope instability.

The sedimentary and igneous rocks that underlie most of the north and southeast of the region weather rapidly in the warm, moist climate to produce a variety of clay soils, of which the yellow brown earths are the most widely distributed. Where these soils were formed under broadleaf-podocarp forests as at Puhoi, soils are only moderately leached, and are of a relatively high natural fertility. However, where the original vegetation included kauri forest, (eg. near Helensville) soils are strongly leached with a low natural fertility. These soils are generally unable to sustain repeated cultivation.

In the limestone areas (Dairy Flat), sand areas of the west coast, and in areas where soils are derived from volcanic material, soils show the strong influence of parent material. Limestone soils (rendzina) are fertile and have good structure, but are generally poorly drained. Yellow brown sands associated with the older, consolidated west coast sands are well drained soils with good structure. They are relatively fertile, though subject to drought.

Volcanic soils form a wide range of soil types and a complex distribution pattern depending on the nature of their origin. The yellow brown loams and the brown granular loams have formed from volcanic ash; the brown granular clays, from andesitic agglomerates and lava; the dark red and brown loams from basaltic rocks associated with the isthmus volcanic

cone field; and in the Kermadec Islands, soils are of recent volcanic origin, formed mainly from layers of ash. Apart from those on the Kermadecs and Rangitoto, the volcanic soils have high natural fertility.

The soils that form the recent flats and swampy country are scattered throughout Auckland in small areas. Among these are the recent alluvial soils which occur in the river flats and flood terraces. Gley soils are grey unaerated soil that form in flats where ground water lies close to the surface for long periods of time. They are found mostly in the sand country to the west or in swamps where ground water permanently lies on the surface stopping oxygen flow into the soil. In the steep country of the Waitakere and Hunua Ranges and on Great Barrier Island, yellow brown earths and brown granular clays have accumulated as thin skeletal soils - mixed by surface movement and erosion.

## **Conservation Context**

- **Soils express the ecological diversity and complexity of the Conservancy.**
- **No places are protected because of the scientific significance of their soils.**
- **There are many soil conservation issues, which involve a number of lands administered by the Department. These are mainly where illegal grazing, recreational use or other practices affect the stability of sand and cliff landforms.**
- **Because prime agricultural soils are generally highly developed in Auckland, many of the former natural environments, and the historic records of human settlement and development, are now rare and endangered or erased from the landscape.**

## **The Coast**

Every aspect of the natural environment of Auckland is affected by its proximity to the sea coast. The coastline stretches over some 2000 kilometres in length. It is characterised by sheltered harbours with broad intertidal flats, long sandy beaches, exposed rocky cliff-backed shores, mobile sand spits, many islands, and almost everywhere an intricate interweaving of land and water. This diversity results in a variety of habitats for a large number of plant and animal species. The junction between the land and water is a highly productive area. In addition, the coastal zone provides food, living space, scenic amenity and recreation. The Tasman Sea in the west and the South Pacific in the east are integral

parts of the marine waters which cover over two-thirds of the earth's surface.

The west coast is a typical surf coast exposed to westerly swells, with a cool current flowing from the south. Broken in the Conservancy only by the narrow entrances to the Kaipara and Manukau harbours and the mouth of the Waikato River, it is a long stretch of ironsand beaches backed, for the most part, by steep cliffs.

The east coast is washed by a warm subtropical current and much of it lies, protected, within the island-studded Hauraki Gulf. To the north of Cape Rodney, a long exposed sand-backed beach extends to Mangawhai Heads, while south and east of Waiheke Island, the Firth of Thames separates the Conservancy from the Coromandel Peninsula.

The large, sheltered harbours of Kaipara, Mahurangi, Waitemata and Manukau, bring the oscillating rhythm of east and west coast tides to the heart of the region, providing an abundant and changing natural palette.

The Kermadec Islands are truly mid-oceanic exposed islands, surrounded by deep water on the edge of the Kermadec Trench. The Kermadec Marine Reserve is the largest (750,000 ha), deepest (3000 m), and fully protected area of sea in the world. It protects habitats transitional between subtropical (coral) and temperate.

The Cape Rodney-Okakari Point Marine Reserve protects a high quality example of the natural character of the outer Hauraki Gulf. Other areas have been applied for, or are under investigation for, marine protected area status.

## **Conservation Context**

- **The Conservancy has a long, complex coastline varying from intensely developed for human use, to remote and relatively unmodified.**
- **The sea and coast are essential elements of tribal mana.**
- **Most of the outstanding natural and historic resources of the Conservancy are concentrated in the coastal environment.**
- **The Department has responsibility for marine mammals but not for marine fish. It manages marine reserves.**
- **The Auckland coast is a focus for recreational activities.**
- **The coast is an important focus of Departmental effort in advocacy and the exercise of regulatory (especially Resource Management Act) responsibilities.**

# Plants, Animals and Habitats

Auckland is not homogeneous; it is a number of ecologically distinct places. This complexity and richness reflects the physiographic structure of the land, the associated vegetation patterns and wildlife habitats, and the length of isolation of some islands from the mainland.

New Zealand has been divided into 268 ecological districts. These are the minimum subdivisions necessary to identify and capture the full range of ecological classes and landscapes present. Within the Auckland Conservancy there are 13 ecological districts and the margins of three others. (See map opposite).

The original vegetation cover of most of the Auckland Conservancy was forest, with a few areas of wetland (mainly reedlands). At the coast, the forest would have given way to saltmarsh and mangrove forest in tidal inlets, and to pingao - spinifex communities on mobile sand dunes.

The history of human settlement in the Conservancy is such that little of the “original” forest cover remains. Most of the Conservancy was settled and utilised by Maori for many centuries, and Europeans continued the process. The “natural” landscape of today reflects everywhere this human impact.

In some areas, land was set aside as reserve. This often happened quite early in the history of European settlement - for instance Rangitoto Island in 1853, Little Barrier Island in 1894, and the Waitakere Ranges from the turn of the century, (but most prominently as a centennial memorial from 1940). Elsewhere however, native vegetation remains mainly where efforts to clear it have been unsuccessful.

The present day picture is of three extensive, rugged, hill country areas of regenerating forest areas, in the Waitakere Ranges, Hunua Ranges and on Great Barrier Island. Elsewhere, there are fragmented remnants of native vegetation. A consequence of this fragmentation is that the more common vegetation types we see today are those of the “less useful” sites ie, colder, steeper, wetter and less fertile. However, despite the destruction, a considerable quantity, diversity and distribution of natural areas remains as a feature of the Conservancy. From almost any standpoint in the Conservancy one can see forest.

The characteristic forests of Auckland are mixed podocarp - broadleaf forests and kauri. (For scientific, common and Maori names of plants used in this document, see Appendix 4.) Kauri is naturally distributed throughout the Conservancy, almost always in complex associations with other species such as totara, nikau and kahikatea as well as taraire (in the north), tawa (in the south) and hard beech (Hunua). The high incidence of manuka, kanuka and tree ferns is a mark of past disturbance, but almost everywhere shrublands and forests are now “recovering” as regenerating and/or successional forests. Forest canopies rarely have fewer than six species, and not uncommonly have 15 or more. Raoul Island is characterised by Kermadec pohutukawa, Kermadec mapou, hutu and Kermadec nikau

forests.

In addition to human modification, forests throughout the Conservancy have been browsed by goats and pigs. Possums, and in some places deer, have progressively modified mainland forests. Of the larger islands, only Waiheke, Great Barrier, Little Barrier, Tiritiri Matangi and Raoul have never had possum browsers.

Although forest habitat values have been reduced, the Auckland forests still support an abundant bird population, especially in the larger forests and on offshore islands. Hochstetter's frog, geckos and skinks are widespread, and both species of bat are found in restricted localities.

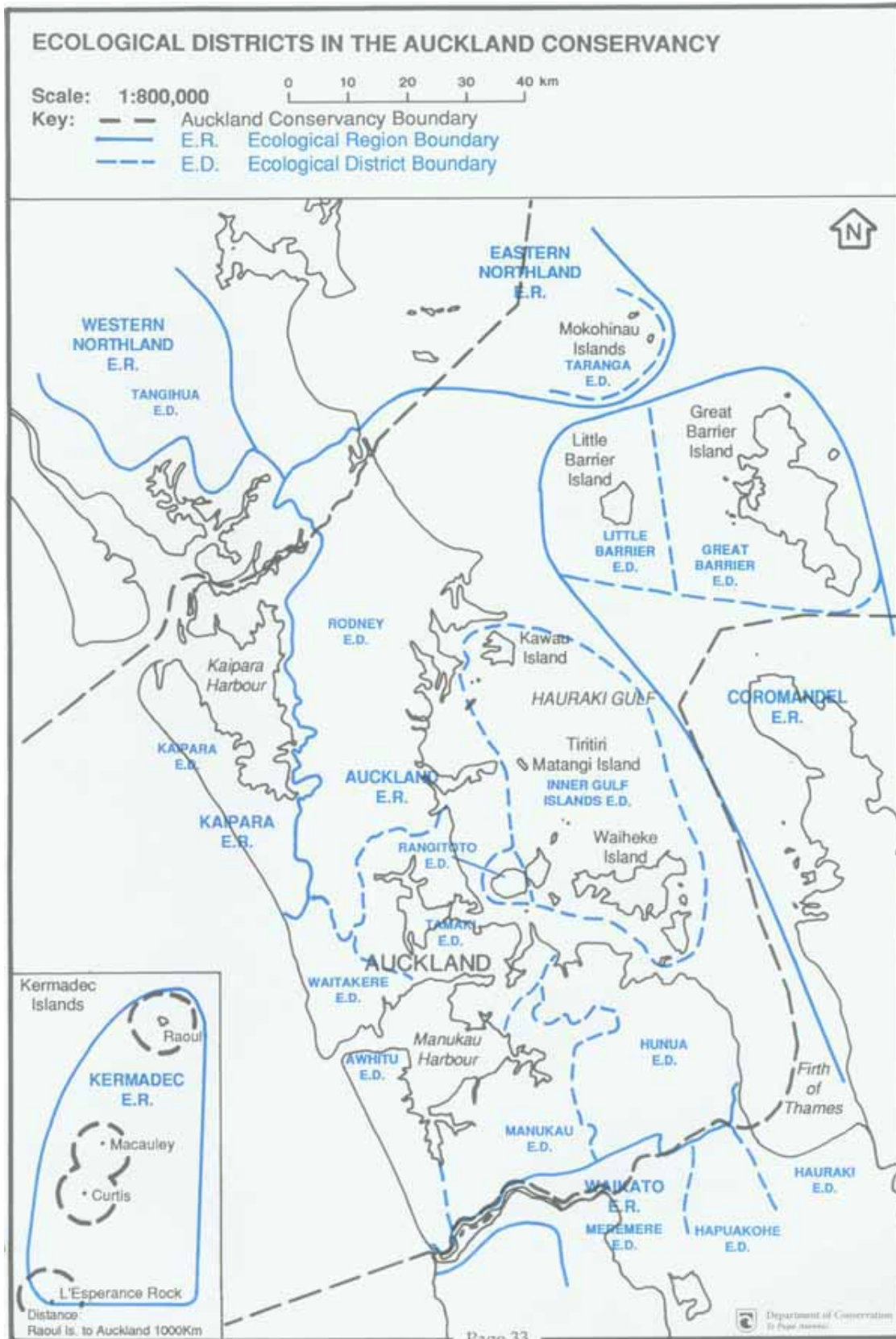
The coastal ecosystem includes extensive mangrove forests and saltmarsh sedgelands. They are for the most part relatively undisturbed compared with terrestrial wetlands. These vegetation types are generally simple in species composition and appear to be expanding geographically.

Freshwater wetlands are generally small and scattered in the Conservancy. The Conservancy is bounded to the south by the extensive Whangamarino and Waikato River mouth wetlands. Within the Conservancy, the most significant wetlands are Kaitoke, Te Henga and Mangatawhiri.

The large shallow harbours, estuaries, extensive coastline, offshore islands, and wetlands harbour numerous bird species, both rare and commonplace. The Kaipara, Waitemata, and Manukau Harbours and the Firth of Thames provide rich breeding grounds for tens of thousands of migratory waders from Arctic and subarctic areas and the South Island.

Sandfields are a feature of the Conservancy, notably at South Kaipara Head and along the Rangatira - Muriwai Beach. The Pakiri coast, Whatipu, Maioro and Kaitoke sandfields are also significant, and have surviving areas of spinifex, pingao and pohuehue.

Islands are an important feature of the Conservancy and there are more than 50. Many are managed by the Department and are important refuges for native plants and animals. Because of their relative isolation they are also the focus for habitat restoration work, and species management for the recovery of threatened species. Of particular note are Little Barrier (kakapo, kaka, black petrel, kiwi, kokako, saddleback, tuatara, bat, giant weta), Mokohinau Islands (grey faced petrel, stag beetle, Mokohinau lizard), Great Barrier Island (brown teal, black petrel, lizards, kokako), Tiritiri Matangi Island (saddleback, takahe, little spotted kiwi) and the Kermadec Islands.



Conservation Management Strategy Auckland Conservancy 1995 - 2005

## **Conservation Context**

- **High endemism of plants and animals within the Conservancy, notably in the Kermadec Islands and outer Hauraki Gulf Islands.**
- **National and international significance of island refuges and sanctuaries.**
- **Rate of destruction of terrestrial habitats continues at a high rate.**
- **A good (but not complete) representation of all major classes of natural ecosystems is presently protected. The areas administered by the Department capture many of the areas of regional and national significance (see Map Series 2 Volume II). Other significant habitats are owned by the Auckland Regional Council (notably the Waitakere and Hunua Ranges).**
- **Habitat restoration is a significant feature of Conservancy management effort, particularly on islands. Active animal and plant pest eradication projects are underway and planned. Forest planting/habitat restoration projects are significant community undertakings.**
- **Management of the Kermadec Islands environment may provide useful lessons to transfer to other subtropical situations.**
- **Field management is paralleled by active law enforcement and CITES programmes to safeguard species and habitats.**

# History of Human Settlement

## Maori Settlement

New Zealand was the last significant land mass in the world to be settled by humans. Ancestors of the Maori people settled New Zealand from East Polynesia perhaps 800 years ago, reaching the final outpost of the Pacific after some 4000 years of voyaging and exploration. Once here, there is good evidence that the whole of New Zealand was rapidly explored. Early settlement sites dating back 600-700 years occur in many places in the North and South Islands, predominantly in coastal areas. In the Auckland Conservancy, early sites are known in a number of locations, notably Motutapu, Great Barrier Island and Motukorea (Browns Island). Other sites undoubtedly remain undiscovered or unrecognised; many more have been destroyed by coastal erosion or development.

Raoul Island in the Kermadec Islands was settled from East Polynesia, possibly at an even earlier date. It is unclear whether settlement was independent of the colonisation of New Zealand or was a link in the chain of expansion of Polynesians to New Zealand. The islands contain a number of plant species not introduced to New Zealand, and the duration of settlement is unknown, since the islands were abandoned before the arrival of the Europeans. The Kermadecs can be numbered among the Pacific's mystery islands, and hold crucial information on the Polynesian settlement of the southwest Pacific.

Within New Zealand, the rich coastal resources of the mainland and the numerous offshore islands in the Auckland region were eminently suited to the Polynesian maritime way of life. The earliest sites on the Conservancy are often coastal settlements with midden layers containing a wide range of species, including moa and seal (now extinct or restricted in distribution). They also contain implements in an East Polynesian style, many of which are made of stone materials brought from remote locations, indicating that there was considerable movement and communication between distant settlements in New Zealand. Greywacke from Motutapu Island and other parts of the Hauraki Gulf, basalt from Tahanga in the Coromandel, and obsidian from Mayor Island in the Bay of Plenty, are found at sites throughout the Auckland region. Mayor Island obsidian, indeed, has been found as far afield as Raoul Island.

The Polynesians brought other elements of their economy with them. The Pacific rat (kiore) and the dog (kuri) were both important introductions. Agricultural features, such as storage pits, associated with early sites show it is likely that the imported crops described by the first Europeans (taro, kumara, gourd, paper mulberry) were brought by the earliest settlers. These Polynesian crops were best adapted to conditions in the northern half of the North Island.

During the period following initial settlement, the Polynesian inhabitants of New Zealand developed a distinctive culture known as New Zealand Maori.

As agricultural techniques were perfected for the new conditions, and as the population grew and food items such as moa and seal disappeared, agriculture and agricultural land became of paramount importance. The region's landscape strongly influenced the pattern of later Maori settlement. The friable soils of the Tamaki isthmus, the South Kaipara and Awhitu Peninsulas all attracted dense settlement. Elsewhere, settlement focused on coastal areas and islands. The lands administered by the Department include many of the environments least disturbed by recent development, and are thus rich in historic features. This is especially the case in coastal areas, and on the islands of the Hauraki Gulf. Motutapu Island, for example, has eleven pa and over 300 other prehistoric sites recorded across its 1500 ha. These sites, together with later historic and military sites on the island, provide a representative example of the history of human occupation in New Zealand.

The volcanic soils of the Tamaki isthmus were particularly suited to traditional Maori agriculture, while the numerous volcanic cones were easily converted into defensive posts. Most volcanic cones of the Auckland region were fortified in some form, with extensive areas of garden on the flat fertile lands around their base. It has been estimated that 8000 ha of gardens originally surrounded Auckland's volcanic cone pa. While most of the gardens have vanished under urban development, significant remnants still exist at Otutau and Puhinui, where the horticultural field systems are marked by earth and stone mounds and walls. On the isthmus, the intensity of settlement is witnessed by the complex modification of cones such as Mangere Mountain, Maungawhau and Maungakiekie, with their terracing and quantities of kumara storage pits. The cone settlement complexes are the largest in this area, and amongst the most impressive in the South Pacific.

Auckland is also unique in having so many major and highly visible prehistoric sites in the midst of a modern dense, urban settlement. These features contribute significantly to the distinctive metropolitan character of Auckland.

## **Contact and exploitation**

The first Europeans to arrive in the region came largely to exploit its natural resources. Outpost settlements associated with the earliest industries were dependent on local Maori for food supplies, and in many cases labour and transport facilities. Whalers plied the coast, and especially the French Rock field around the Kermadecs.

Kauri, which is specific to the northern part of the North Island, was logged throughout the Conservancy from the 1820s on. Demand for kauri timber steadily increased, exploited initially by the navy for ships' spars, and by later settlers for shipbuilding industries located at Mahurangi, Auckland and Manukau, and for an extensive building industry. Kauri milling took place in many parts of the Conservancy, but notably in the Waitakeres, Hunuas and on Great Barrier Island. Kauri dams and other related historic sites have survived in these places. By the turn of the century, kauri gumdigging had become widespread throughout the region.

The earliest attempts at mineral exploitation in New Zealand were made in the Auckland area. While all metals were prospected for, manganese and copper were the first to be exploited on the Gulf Islands of Kawau, Great Barrier Island and Waiheke in the 1840s.

Silver was later exploited on Great Barrier Island. Significant sites and structures associated with the copper industry still exist on Kawau and Great Barrier Island. Mansion House, the residence of Sir George Grey on Kawau, was formerly the mine manager's house. Mansion House and the industrial structures are major historic attractions in the region.

One of the remarkable features of the Conservancy is that while urban Auckland quickly moved from an exploitative economy towards a more mature and complex commercial one, on Great Barrier Island the exploitative phase continued into the 1960s. One of New Zealand's last whaling stations operated at Whangaparapara until this time, and kauri logging, on a scale sufficient to warrant floating logs to Auckland for milling, continued until 1941. Today Great Barrier has a rich assemblage of historic features characteristic of the exploitative phase of New Zealand history.

## **Colonial settlement**

Just as early Maori settlement was influenced by the available resources, so too were early European settlements. These initially grew up close to the timber mills at Henderson and Huia (now West Auckland suburbs), the shipbuilding yards at Mahurangi, the mines at Kawau and at other locations where available resources and transport opportunities allowed early industries to become viable.

Other settlements were the result of planned development. Colonial settlement became intensively focused on Auckland in 1840 when Governor Hobson selected it as the site for the country's capital. Auckland was the centre of government for 25 years, and the population increased dramatically during this period. Auckland achieved city status in 1871. Many archaeological sites dating to the period of colonial settlement still survive beneath Auckland's modern buildings.

Settlements such as Onehunga, Otahuhu, Panmure and Howick owe their origin to the establishment there of military settlers of the corps known as the Royal New Zealand Fencibles, recruited in England by Sir George Grey in 1847 to protect the city against possible attacks from Waikato Maori.

A number of special settlements were also established by private individuals. These include the 1840s Cornwallis settlement in the Manukau and the 1860s Albertland settlement in the Kaipara, both of which were unsuccessful due to early hardships. A Bohemian settlement at Puhoi survived (largely thanks to the goodwill of the local Maori community) and exists today as a small historic village. Also established were Special Waikato Immigrant Scheme Settlements associated with the South Auckland confiscation blocks of the Scottish Settlers of Clevedon, the Scottish, Irish and South African settlements made at Tuhimata, Pukekohe, Patumahoe and Tuakau (1864-1865).

Over time, the focus of industry shifted from supplying raw materials for markets in Britain and Europe to catering for the region's growing population. Auckland developed into a major industrial centre with shipyards, timbermills, flourmills, and manufactories producing a wide range of commodities.

The importance of the Kaipara and Manukau harbours, once much-used ports and early

centres of settlement, gradually declined as timber production in those areas fell off and the dangerous bars at the mouths of the harbours took their toll.

Other industries grew in importance as the settlement at Auckland and demand for building materials expanded. Remains of early brickworks survive at Avondale and Te Atatu in West Auckland and at Hobsonville (particularly impressive) and elsewhere. A hydraulic lime works was established at Warkworth in the 1850s, exploiting the limestone of the Mahurangi basin, and the first attempts to produce Portland cement in New Zealand were made here in the 1880s.

The military played an important role in the Auckland region's colonial and later history. There was a strong military presence in Auckland for much of the first 25 years, and a number of historic sites associated with this presence still survive. They include Fencible cottages and blockhouses in the early military suburban settlements, and remnants of the Albert Barracks in Albert Park and in parts of the University complex.

Albert Barracks and other early fortifications were built for defensive reasons, but by the 1860s the European settlers had outgrown their early dependence on Maori trade and goodwill and were eager to expand their territory. As a prelude to the New Zealand Land Wars, a string of redoubt sites, remnants of which have survived, were built along the Great South Road to the Waikato. They include St Johns Redoubt and the Queen's Redoubt (Pokeno).

Fear of a Russian invasion during the 1870s prompted the establishment of substantial coastal defences to protect the rapidly growing Auckland settlement. Forts were built at North Head, Mt Victoria, Bastion Point and other strategic locations around the periphery of the city, and prior to and during World War II were expanded to form a wider coastal defence system that extended to Whangaparaoa Peninsula in the north, and included defences on Rangitoto, Motutapu, Waiheke, Tiritiri Matangi, Mokohinau and Great Barrier islands.

Much of the domestic nature of colonial settlement has been obliterated by later development, but some examples of the finer colonial residences and commercial establishments have been protected. The New Zealand Historic Places Trust has registered a number of significant buildings from the period for protection, and owns outstanding examples from the period. The Department manages the suite of industrial ruins and Sir George Grey's mansion and related buildings at Kawau. It also has an unusually extensive inheritance of military sites, ranging from the forts at North Head and the outlying islands, to the barracks which now form the Motutapu Outdoor Education camp.

Most historic sites are not on lands administered by the Department, and the Department has an active advocacy role which aims to ensure that essential places are protected, and that others are properly recorded prior to modification or destruction. Despite this situation, there is an exciting richness of sites protected on land administered by the Department. More than half the key areas managed by the Department have significant historic features. This feature derives in part from the intensity of early settlement in Auckland, and partly from the conscious policy of the former Hauraki Gulf Maritime Park

Board to acquire and manage historic places for the public benefit.

The result is that although the Conservancy administers an incomplete record of Auckland's history, it is one which, taken as a whole, does give an overview and conveys a narrative of Auckland's history through:

- (a) the successive occupation of particular places by different generations and/or cultures;
- (b) the ability to observe the record of the full range of human activities (eg domestic, agricultural, maritime, industrial, sacred, military) for any one period of human settlement by looking at a number of protected sites;
- (c) the ability to observe the changes and development of any one of these activities through time, by looking at a number of protected sites; or
- (d) providing the opportunity to sustain ongoing social and cultural relationships.

An overview is given in the descriptions of the key areas that follow in Section Four, in Map Series 4 in Volume II and in the land inventory, Volume III.

## **Conservation Context**

- **Auckland has been a population centre from earliest human contact and thus has a rich history and high frequency of historic sites.**
- **Metropolitan expansion and intensive economic activity has obliterated or obscured much of the historic record.**
- **The land administered by the Department contains a remarkably rich record of the fabric of the Conservancy's history, and has benefited by the acquisition policy of the Hauraki Gulf Maritime Park Board. Other significant historic features are protected under the administration of local authorities and the Historic Places Trust.**
- **While not fully representative of every period, the record of the sites can be assembled into a coherent narrative of the Conservancy's history.**
- **Because of the high number of sites which are not on lands administered by the Department, this is an important focus for advocacy.**

# Community and Economy

The Auckland Conservancy is home for one in every four New Zealanders. It has a large and growing population of just under one million people. The 8.2% population increase (1986-91) makes Auckland the fastest growing Conservancy in New Zealand. The region's growth represented 60% of the total population growth for the whole country in that period.

The Conservancy's population is mainly focused in and close to Auckland, New Zealand's largest metropolitan centre. Auckland is cosmopolitan and multicultural, with a large Maori and Pacific Island population, and a growing number of Asian peoples. Nearly 25% of New Zealand's total Maori population lives in the Auckland region, and 68% of New Zealand's Pacific Island population.

The Auckland regional economy is the largest and most diverse in the country. It is the centre of manufacturing, business services and trade. It also is a key destination for overseas and domestic visitors and has a sizeable land-based economy centred on vegetable, milk and meat production and forestry. As a region it contributes approximately 30% of New Zealand's Gross Domestic Product, and about 32% (about 400,000) of all jobs.

Despite this, unemployment is the most important social issue facing the public of Auckland.

Auckland has a number of key resources upon which to base its future economic well-being. They include the port and airport, the industrial, commercial and housing sectors, advanced transport and infrastructural systems and social and educational services. Increasingly, commentators are also noting the new economic significance of the natural environment, including the waterways and harbours, the Hauraki Gulf Islands, beaches, volcanic cones, bush-clad hills and coastline which contribute so much to the image and beauty of the region. Their conservation is now a broadly-based, and accepted economic goal.

The community in Auckland has a strong political influence, as almost one third of New Zealand's Members of Parliament have all or part of their electorates within the Auckland Conservancy.

Auckland is a national as well as regional centre for media and education. The Auckland metropolitan area has a concentration of print and electronic media, including many national media services. The country's largest circulation newspaper, the New Zealand Herald, is based in Auckland along with 16 radio stations and three television channels.

Nearly one third of all New Zealand school children attend the 550 schools within the Auckland Conservancy. Education reform provides many opportunities for conservation education, and educating the educators. There is also substantial and uncatered for demand for conservation, education and vocational material from the 33,000 University, Teachers

College and Polytechnic students in the region. Auckland has two universities, including the country's largest, and five technical institutes.

There are two regional councils (Auckland and Waikato), and following local government re-organisation in 1989, the 31 territorial local authorities were consolidated into seven (Auckland City Council, North Shore City Council, Manukau City Council, Waitakere City Council, Rodney District Council, Franklin District Council and Papakura District Council (see map on page 24).

## **Conservation Context in 1995**

- **Large and growing population places considerable pressure on natural and historic values and visitor facilities.**
- **A multicultural society bringing different and changing cultural perspectives to conservation issues in the Conservancy.**
- **Unemployment is a significant feature of Auckland society and any new enterprises and changing leisure patterns will influence conservation management.**
- **Increasingly, the economic and enterprise attraction of the natural environment, and especially of those areas of protected land, is being recognised.**
- **Auckland presents many opportunities to achieve public awareness and committed support for conservation.**
- **A large section of the population is already actively interested in and involved in conservation, creating many opportunities for volunteer programmes, community participation in conservation activities, and for private conservation initiatives.**
- **The opinions and choices of Aucklanders can have a powerful political influence on Government.**
- **Auckland is a major media and education centre.**

# Visitors

The Auckland region receives nearly twice as many visitors as any other region in New Zealand (2.6 million visits a year in 1989-90). Two-thirds of these are New Zealanders from outside the region and one-third are overseas visitors. Forecasts show that international tourist visits will increasingly outstrip domestic tourist visits.

In 1991, the NZ Tourism Board released a 'Strategy for Growth' which sets out its vision for tourism in New Zealand. The Board set a target of three million overseas visitors by the year 2000, which would treble existing visits. Since 78% of the total international visitors to New Zealand visit Auckland, this increase would have a significant impact on Auckland's tourism. Many of these people visit the areas administered by the Department and it is expected that the proportion will increase with the increase of tourist visits to the region.

All visitors (domestic and international) to areas with natural and historic values enjoy the same rights to visit natural and historic areas, and share the same responsibilities for respecting and caring for them. They may have different needs and interests but they all have freedom of entry and access to most lands managed by the Department of Conservation. In some places such as nature reserves, there may be restricted access because of the vulnerability of threatened species. In some other areas, access may be restricted because of public safety (such as South Kaipara Head) or because of the presence of wahi tapu or other sacred sites.

There is no charge made for access to lands administered by the Department. In the case of nature reserves which require a visitors' permit, there may be a fee to cover administration costs for permit applications. There are wharf fee charges for commercial vessels using Departmental wharves, and other services may also be charged for.

Many of the areas administered by the Department are popular visitor destinations, and offer a wide variety of experiences. North Head Historic Reserve, in the centre of suburban Auckland, attracts over 350,000 visitors a year, while Goat Island Bay and the associated marine reserve near Leigh have over 100,000 visitors annually. The islands of the Hauraki Gulf are other main attractions in the Conservancy, with Rangitoto Island Scenic Reserve receiving over 100,000 visitors each year.

In Auckland, there is a range of complementary or competing interests for visitors interested in a heritage experience. As well as protected areas administered by the Department, other opportunities include the Auckland Regional Council Regional Parks network, which attracts in excess of 5 million people a year; the Auckland Museum, which is the busiest single visitor attraction in New Zealand; the prominent volcanic cones of the isthmus, which are accessible by vehicle and foot; the Auckland Zoological Park, which promotes the conservation of and displays native animals; the extensive commercial forests in the region, which attract a variety of ancillary recreational activities, especially in the sand country at Woodhill, Mangawhai and Waiuku; and commercial theme parks/exhibitions, such as Kelly Tarlton's Underwater World, the Museum of Transport and

Technology, Bell House, the Howick Historical Village, the new waterfront Auckland Maritime Museum and other local museums. In addition the beaches, harbours and coastal waters attract many leisure and recreation seekers. Many, mainly small, recreation reserves are administered by territorial local authorities.

Auckland is an attractive place to live or visit for those interested in year-around outdoor pursuits. Aucklanders are frequent visitors to protected areas in this Conservancy and throughout New Zealand, and comprise a large proportion of the total visitors to areas administered by the Department. Visitors enjoy a range of recreational activities, in particular boating, walking, picnicing, fishing, hunting, diving and other pursuits. Recreational user groups, together with local community groups, form a powerful lobby and volunteer base to assist in the protection and ongoing care and restoration of areas.

The ease of access to these areas means that decisions to visit can be made and executed spontaneously on-the-day. Even places like Great Barrier Island, which five years ago were remote and difficult to access, now have regular scheduled visitor 'packages'. The demand placed on protected areas is thus immediate and great, with daily peaks often more significant in terms of facilities and impact on amenities than annual totals. For example, the small road-end beach at Goat Island Bay in the Cape Rodney-Okakari Point Marine Reserve had an estimated 4000 visitors on Waitangi Day 1992; North Head Historic Reserve had more than 30,000 visitors in one day to farewell the Whitbread Round the World yacht fleet in February 1990; on any New Year's Eve up to a thousand pleasure boats may be moored in the normally tranquil (and empty) waters of Fitzroy Harbour, Great Barrier Island. Visitor areas in Auckland are busy all year round.

Auckland is an important international tourist gateway for New Zealand. About three quarters of all international visitors arrive through Auckland International Airport. But Auckland is also a significant destination for overseas visitors; more than a quarter of all international tourist nights and a quarter of all tourist expenditure are spent in the Conservancy.

This is especially significant as the Government has identified this industry as one that can bring swift economic benefits by providing sustainable growth. At present it contributes about \$3.3 billion to the New Zealand economy (5.2% GDP) and some 150,000 full time jobs. Estimates are that the number of international visitors will double, or even treble by the year 2000.

However, in Auckland expenditure per visitor per day is lower than anywhere else in New Zealand. It is here that perhaps the greatest opportunity exists to increase the revenue take from tourism. For instance if average daily tourist expenditure in Auckland reached the national average, a minimum of \$50 million would flow into the regional economy annually.

Everywhere in New Zealand there is an expectation that the growth in international visitor numbers will be based on the promotion of and satisfaction with an experience of the natural world, a "uniquely New Zealand" heritage encounter. In addition, there is increasing visitor interest in Maori and other Polynesian cultures. The special opportunities

in the Auckland Conservancy focus on its distinctive volcanic features and the natural beauty and attractions of the coast. Auckland's unparalleled marine environment, the variety and accessibility of the Hauraki Gulf Maritime Park islands, the simple and slower pace of the rugged and wild Great Barrier Island and the presence of some of New Zealand's youngest and most dramatic volcanic cones, make this an enviable and inevitable "next discovery" for international tourists and a natural extension and consolidation of New Zealand's green and natural, remote yet sophisticated, tourist image.

## **Conservation Context**

- **Auckland already has very high visitor numbers.**
- **Aucklanders have a high participation in "conservation visits" within this Conservancy and elsewhere in New Zealand.**
- **As well as areas administered by the Department of Conservation, there are several other park networks and heritage attractions in the Conservancy.**
- **Significant developments in public transport in the Hauraki Gulf are opening up new opportunities for island and Gulf-based visits.**
- **Bush and beach attract high visitor use; and the marine areas hold much potential for an expanding visitor industry.**
- **Sustainable management of visitors and visitor impacts means that the survival of conservation resources must take precedence over short term visitor needs and visitor activities. Developments must respect the scale, nature and character of the place where they are located.**
- **In catering for visitors there are opportunities and needs to work constructively with iwi, regional and local authorities, user groups, leisure organisations and other businesses to achieve conservation objectives.**

# Threats

Threats to the natural and historic resources of Auckland are manifold and they are exacerbated by the small, isolated and hence vulnerable nature of the remaining resources. Threats of concern are those which can destroy or significantly alter indigenous habitats and ecosystems, geological features, landforms and historic values such as archaeological sites, kauri dams and old buildings. These threats include natural threats such as volcanic activity, tsunami and earthquakes, and those which are a result of human activities. The former cannot be avoided, however in many circumstances the effects of the latter can be avoided, remedied or mitigated by appropriate planning and management. Fire, pests and inappropriate or over use are examples of threats in Auckland arising from human activity. As the population of Auckland increases so, too do the risks from the threats.

There are many places where the consequences of fire on natural and historic resources would be of national significance. Island habitats such as Little Barrier Island, Great Barrier Island and the Kermadecs are virtually irreplaceable. The destruction by fire of historic sites on Kawau Island reserves and Great Barrier Island would be a national loss.

Animal pests which threaten indigenous habitats throughout much of the Conservancy include rodents, mustelids, pigs, goats, rabbits and possums. Feral deer, wallabies, and koi carp are problems in certain localities. Animals which disturb the ground such as rabbits and pigs present threats to subsurface archaeological sites. Species of plant pests, which are even more numerous than animal pests, are damaging and difficult to control or eradicate once they have taken hold. Certain introduced animal and plant species are also a problem in the coastal marine area and present threats to indigenous habitats and species and coastal processes.

Land uses such as urbanisation, farming, afforestation, quarrying, and mining are vital to the well being of the community. Yet the vegetation clearance, wetland drainage, recontouring of the land and coastal margins, stormwater discharges and runoff containing residues from fertiliser and pesticides associated with these land uses in the past, have destroyed or diminished the indigenous ecosystems, geological features, landforms and the historic record and values. Should these land use activities continue to occur today as they often have in the past, in inappropriate locations and/or in an inappropriate manner, the remaining natural and historic heritage will continue to be lost to future generations.

Recreational pursuits can also be damaging to indigenous ecosystems, landforms and historic values. Off-road vehicles can, for example, interfere with natural coastal processes when used in dune areas, or alter the configuration of middens or kumara pits. Visitor services such as, picnic tables, tracks and toilet blocks need to be located so as to avoid placing them on or near sacred sites.

While the threats are numerous, expensive and difficult to prevent or eliminate, there is a

growing awareness in the Auckland community of their existence and of the consequences of doing nothing, or too little too late, on the existing natural and historic resources. As attitudes change and the range of mechanisms available to the community to deal with the threats improve, such as technologies for pest control and eradication, and legislation which enables holistic approaches to be taken, for example the Resource Management Act and the Biosecurity Act, the opportunities for achieving protection of the natural and historic resources increase dramatically.

## **Conservation Context**

- **All types of habitats and ecosystems, landforms, and geological, historic and cultural values are threatened.**
- **Many threats can be managed so as to avoid, remedy or mitigate their adverse effects on natural and historic resources.**
- **Avoiding, remedying and mitigating threats are a major focus of management and advocacy in Auckland.**
- **In some cases the effects of certain threats have such severe consequences, that urgency is a prime factor in setting priorities for their prevention or management.**
- **Numerous opportunities for public participation to prevent or rectify the adverse effects of human activities.**

# A Bicultural Setting

The Treaty of Waitangi is the founding document of the relationship between the Crown and the tangata whenua. (See Appendix 5).

Crown authority is embedded in the recognition of customary tribal authority especially over land and resources, and in a web of mutual obligations. For Maori there are many grievances relating to Crown actions or omissions which breached the Treaty, and until these matters are resolved, they will colour their view of the relationship. The Crown has re-established the expectations of the Treaty, through the Treaty of Waitangi Act 1975, and subsequent inclusion of consistent obligations in other statutes. Section 4 of the Conservation Act 1987 requires that it “shall be so interpreted and administered to give effect to the principles of the Treaty of Waitangi”. As this strategy is prepared under the Conservation Act, this imperative forms a central feature of the plan and expected outcome of its implementation.

There is no formal set of principles, although the Waitangi Tribunal and the Court of Appeal have given a considerable lead in identifying some base line propositions. Those propositions include recognition that the right of the Crown to make laws (eg. the Conservation Act) 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 partnership to be exercised with the utmost good faith; and that the duties are not merely passive, but extend to active protection of the Maori interests.

The Department of Conservation is not the Crown, but it is an agent of the Crown, with limited powers, but consistent jurisdiction. Rendered into its most simple terms, the obligations of the Treaty are about attitude and about demonstrating a willingness to take an open, generous and flexible approach to the duty.

At the Conservancy level, this is about forging relationships that work. The Treaty does not authorise unreasonable restrictions on the Crown’s right to govern, or in this case to administer lands for the purposes of conservation. There is an expectation that the needs of both Maori and the wider community must be met and this may require compromise on both sides.

There are a large number of iwi and hapu in the Auckland Conservancy. They are almost landless. Some of the most important sacred sites and places of ancestral significance are on lands administered by the Department. The mana and identity of these places is derived in part from these relationships with atua, tupuna and whenua. In turn the mana and identity of the tribes is related to these places. Thus there is a real need to have sensitive and sensible relationships between the Department and iwi. Those relationships may take a different form with individual tribes or hapu, or with respect to individual places, species or resources. In each case they are intended to be an exercise of the Treaty and become part of its evolving meaning and meaningfulness.

## **Conservation Context**

- **A bicultural conservation ethos and practice has yet to be fully developed, articulated and exercised.**
- **Tangata whenua in Auckland are generally landless.**
- **Resentment continues over unresolved grievances against the Crown.**
- **There is a high expectation that the exercise of partnership provided for in the Treaty will prevent any further grievances.**
- **The interest in the past, in natural places and in the protection of heritage for the next generation, brings the Department and iwi together in a special relationship.**