

# 1. Introduction

## 1.1 THE PROTECTED NATURAL AREAS PROGRAMME

The Protected Natural Areas Programme (PNAP) was established in 1982 to implement Section 3 (b) of the Reserves Act 1977:

*Ensuring, as far as possible, the survival of all indigenous species of flora and fauna, both rare and commonplace, in their natural communities and habitats, and the preservation of representative examples of all classes of natural ecosystems and landscape which in the aggregate originally gave New Zealand its own recognisable character.*

The goal of the programme is:

*To identify and protect representative examples of the full range of indigenous biological and landscape features in New Zealand, and thus maintain the distinctive New Zealand character of the country (Technical Advisory Group 1986).*

The specific aim of the PNAP is to identify, by a process of field survey and evaluation, natural areas of ecological significance throughout New Zealand that are not well represented in existing protected natural areas, and to retain the greatest possible diversity of landform and vegetation patterns consistent with what was originally present. To achieve this, representative biological and landscape features that are common or extensive within an ecological district are considered for protection, as well as those features that are special or unique.

As knowledge and information about the presence and distribution of biota such as invertebrates and bryophytes are limited, the protection of the full range of habitat types is important for maintaining the diversity of lesser known species.

This report differs from many PNAP reports in that:

- it is based mainly on a reconnaissance survey of all natural areas supplemented by existing published and unpublished information; and
- it includes descriptions of all natural areas within the study area.

All natural areas described have been evaluated and classified using two levels of significance, based on specified criteria (see Section 2.4). Thus evaluation is not confined to recommended areas for protection (RAPs), as is the case in many PNAP reports outside of Northland.

This approach was adopted so that the survey report better meets the broader information requirements of the Department of Conservation arising from the Resource Management Act 1991 (RMA), the Convention on Biological Diversity (Anon 1992), and the more recent New Zealand Biodiversity Strategy (Anon 2000).

The Purpose and Principles of the RMA 1991 are set out in Part II of that Act and include:

- safe-guarding the life-supporting capacity of air, water, soil and ecosystems;
- the preservation of natural character of the coastal environment, wetlands and lakes and rivers and their margins;
- the protection of outstanding natural features and landscapes;
- the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna;
- intrinsic values of ecosystems;
- maintenance and enhancement of the quality of the environment.

Of particular relevance is Section 6 (c) of the RMA 1991, which lists as a 'matter of national importance':

*The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.*

The Convention on Biological Diversity (1992), under the auspices of the United Nations Environment Programme, has promoted the concepts of biodiversity and ecosystems. These concepts are reflected in this report by the number of sites, their size, and the emphasis on buffers and linkages in the identification and assessment of sites.

## **1.2 ECOLOGICAL REGIONS AND DISTRICTS**

New Zealand's physical environment is very diverse and this is reflected in the considerable diversity of indigenous plant and animal communities. In recognition of the biogeographic variation New Zealand, a classification of Ecological Regions and Districts has been established (McEwen 1987). An Ecological District (ED) is a local part of New Zealand where the topographical, geological, climatic, pedological, and biological features, including the broad cultural pattern, produce a characteristic landscape and range of biological communities. Ecological Districts are grouped together into Ecological Regions on the basis of shared general geological and ecological characteristics. In some cases, a single very distinctive Ecological District is given the status of Ecological Region to emphasise its uniqueness (Technical Advisory Group 1986).

The New Zealand Biological Resources Centre co-ordinated mapping of the country into more than 268 Districts in 1982. Ecological Regions and Districts in northern New Zealand have since been refined to classify ecological variation more accurately (Brook 1996).

The PNAP programme uses the Ecological District system as a framework throughout the country for determining the ecological significance, including representativeness, of remaining natural areas.

### **1.3 CONTENTS OF THIS REPORT**

This report presents the findings of a PNAP survey of the Kaipara ED (Northland). The methods and terminology follow those defined and specified in the Otamatea Ecological District PNAP report of Lux and Beadel (2006) except that the vast majority of natural areas were surveyed on site and assessed using a LENZ framework (Leathwick et al. 2002). This report includes maps and brief descriptions of all of the indigenous natural areas within the ED which were surveyed during the summer of 2006/2007, together with an analysis of the main vegetation types and information on threatened species and other taxa of scientific and/or conservation interest.

Two 'Nationally Important' soil sites occur within Kaipara ED (Northland): Kaipara Soils at Kidd's Open Space covenant at Tatarariki, and unspecified soil types (aeolian sand, alluvium, and peat) at Pouto Point Wildlife Reserve (Arand et al. 1993). Three 'Nationally Important' geological sites and landforms occur: lignites and dune sands at Bayly's Beach; the dammed dune lakes at Kai Iwi; and the extensive dune system at Pouto (Kenny & Hayward 1996). See Appendix 3 for ranking criteria.

### **1.4 KAIPARA ECOLOGICAL DISTRICT (NORTHLAND CONSERVANCY)**

Kaipara ED (Northland) covers a land area of approximately 87 700 ha, encompassing a long, narrow strip of mostly consolidated sand country between Maunganui Bluff and North Kaipara Head, including what is colloquially known as the 'Pouto Peninsula'. It is bordered for much of its length by the long, convoluted coastline of the Kaipara Harbour and its northern extension, the Northern Wairoa River on the eastern side, and by the Tasman Sea on the west. Significant natural features of particular note are:

- The Kaipara Harbour and its estuaries at Pouto that provide habitat for a range of estuarine wetland flora and fauna. They are nationally and internationally important feeding and roosting grounds for migratory waders such as godwits, and also constitute an important habitat for resident species such as rails, herons, gulls, terns, shags, and fernbirds.
- The dune lakes along the western coast, particularly in the north at Kai Iwi, west of Dargaville, and south at Pouto. They have been augmented in recent decades by farm ponds. Both provide habitat for a range of wetland flora and fauna. Fauna includes species such as grebes, waterfowl, rails, and shags, including some rarer species such as banded rail and spotless crane (both sparse).
- The very extensive Pouto dune system and its associated lakes and wetlands that provides habitat for a range of littoral, sand dune, and freshwater wetland flora and fauna. Fauna include resident waders

(such as dotterels and oystercatchers), rails, herons, gulls, terns, shags, fernbirds, katipo, and the moth *Notoreas* sp. “northern”.

- Two substantial remnants of old-growth forest, Tapu Bush and Pretty Bush, on sand dunes at Pouto.
- The large gumland-wetland complex at Maitahi.

Kaipara ED adjoins four other Ecological Districts: Tutamoe to the north, Tangihua to the northeast, Tokatoka to the east, and Otamatea to the southeast.

Of the natural areas identified, comprising some 23 652 ha, < 1% (324 ha) of the total area is forest, 17% (4037 ha) forest/shrubland, 4% (901 ha) shrubland, 3% (687 ha) flaxland, 4% (857 ha) freshwater wetland (including small areas of open water), 2% (532 ha) open water, 4% (1027 ha) estuarine wetland, 47% (11145 ha) estuarine waters (Kaipara Harbour), and 16% (3818 ha) sand communities.

## 2. Methods

### 2.1 GENERAL APPROACH

Between 1994 and 1996, reconnaissance surveys using rapid semi-quantitative methods were carried out in 12 Ecological Districts in the northern sector of Northland, to obtain information on the composition, extent, and ecological values of remaining indigenous natural areas. A rapid survey method was selected by DOC because of time constraints for the field survey, the extensive areas to be covered, and because it could be easily applied to all natural areas. These methods were also specified by DOC for the present study, in order to achieve consistency in information between surveys over several decades.

For the present survey, natural areas (henceforth called ‘sites’) were identified regardless of tenure using recent aerial photography (orthophotography flown in 2002 for Northland Regional Council and Kaipara District Council) and the Sites of Special Biological Interest (SSBI) information system held by DOC. Consequently, sites administered by DOC as well as other protected areas were surveyed using the same methods, providing a consistent approach to determine the representativeness of all sites.

Each site was mapped, allocated a specific number, and described. After evaluation, each site was allocated to one of two levels of ecological significance.

Scientific names of species for which common names have been used are given in Appendix 6 (flora) and Appendix 8 (fauna).

Extensive use was made of information from biological databases and information systems such as the SSBI, the Bioweb Threatened Plants and