

PROTECTED NATURAL AREAS IN
NORTHLAND, AND CARE STANDARDS
FOR PROTECTED NATURAL AREAS

SEPTEMBER 2008

Report No. 1844

Prepared for:

NORTHLAND REGIONAL COUNCIL
PRIVATE BAG 9021
WHANGAREI 0140



WILDLAND CONSULTANTS LTD, WELLINGTON OFFICE, 11 PATIKI PLACE, TITAHI BAY, WELLINGTON 5022
Ph 04-236-6815, Fax 04-236-058, email astrid@xtra.co.nz, Website www.wildlands.co.nz

HEAD OFFICE, 99 SALA STREET, P.O. BOX 7137, TE NGAE, ROTORUA
Ph 07-343-9017, Fax 07-343-9018, email ecology@wildlands.co.nz, www.wildlands.co.nz

EXECUTIVE SUMMARY

This report uses available data to determine what proportion of Northland Region can be classed as Protected Natural Areas (PNA). A PNA is defined as an area of land that has formal legal status intended to protect indigenous ecosystems, vegetation, habitats, or species. Within the PNA network, different types of legislation provide different levels of protection. Some types of reserve, and areas looked after by community care groups, do not fit the definition of a PNA. A summary is provided of national and regional priorities for protection of natural values.

In total, 13.75% of the Northland Region has some sort of legal protection. This equates to 2,067 sites covering 180,336.2 ha. Of that total, 1,905 sites (*c.*87% of the total number) covering 156,451 ha (*c.* 92% of the total area) are PNAs, as they have the legal mandate to conserve natural values. The remainder of the sites may protect natural values as a by-product of reservation (legal protection for other reasons than conservation of natural values) or through management without legal protection.

Northland Region includes 24 ecological districts, of which 19 have been fully or partially surveyed. For 11 ecological districts, less than 10% of the total land area comprises PNAs. These are ordered from least area of PNA sites to highest; Otamatea, Tokatoka, Hokianga, Whangarei, Kaikohe, Rodney (part), Kerikeri, Tangihua, Pouto, Aupouri, and Waipu. Other ecological districts (Poor Knights, Three Kings, Manaia, Taranga) are nearly completely protected.

Some of these ecological districts still contain a large proportion of indigenous vegetation in Acutely Threatened or Chronically Threatened Land Environments of New Zealand (LENZ) categories (Ministry for the Environment 2007a, 2007b). However, as a general rule, PNAs within ecological districts only include a small percentage of Acutely Threatened (1.7% over total region) and Chronically Threatened (4.2% over total region) land environments.

The amount of indigenous vegetation remaining within ecological districts varies greatly. Using the Land Cover Database vs 2 (LCDB2), 11.9% of the Northland Region is a PNA, a further 5.8% is legally protected but not a PNA (i.e. the legislative mandate is not protection of natural values) or is being looked after by community or Landcare Groups. This leaves *c.*82% of Northland Region without any form of legal protection or care¹. There is considerable scope for further protection of natural values, as nearly 37% of Northland Region consists of indigenous landcover. The LCDB2 categories of native vegetation that require urgent protection are Alpine Gravel and Rock, Depleted Tussock Grassland, Estuarine Open Water and Fernland. Many other vegetation categories also warrant further protection.

¹ Note that the numbers do not quite add up as the different mapping layers LCDB2, PNA, Regional Council Territory include variable amounts of estuarine and coastal environments.

The Department of Conservation manages 92% of the area covered by PNAs (144,089 ha), Queen Elizabeth II National Trust protects 4.2% (6,587 ha), Nga Whenua Rahui 2.2% (3,718 ha), and the Whangarei District Council has protected 1.5% (2,266 ha) by means of covenants. The number of PNAs managed by the different agencies are: DOC 802 sites (42% of the sites), Whangarei District Council 613 sites (32%), QEII Trust 475 sites (25%), and Nga Whenua Rahui 15 sites (0.8%).

Within the Northland Region, 1,320 (283,947.8 ha) Natural Areas of Ecological Significance (NAES) were identified through Protected Natural Areas Programme surveys. In total, 506 NAES (37.39% of the area) are partially or fully protected by some mechanism. Of these, 444 NAES (85,535.9 ha or 31.5% of the area) are PNAs, either wholly or partially. A further 162 NAES (equalling 16,636 ha or 5.86% of the area) are partially or fully protected by mechanisms that may not protect natural values. Sixty-two percent of NAES are not protected or managed by any mechanism. Of those that are protected or managed (this includes legal protection but also efforts by community groups), nearly all NAES (98%) only have part of their total area protected. NAES can be protected by multiple mechanisms.

Whangarei District Council (WDC) has required the covenanting of 613 areas, usually as part of sub-division processes, totalling 2,266.0 ha. Nearly 50% of them (24% by area) were not NAES identified in PNAP surveys. In total, 311 NAES are fully or partially protected by WDC covenants.

A range of other mechanisms contribute to the conservation of natural values, but do not result in PNA status. These include community care groups, Council funded pest management projects, Government funded biodiversity projects, and Fish and Game reserves. The data for most of these mechanisms is often incomplete, contains errors, or in some cases is not available in a spatial (mapped) format. This limits how these data can be used.

There is currently no consistent classification of ecological features within protected areas. Descriptions of ecological areas vary within and between organisations. The only nationwide classification of vegetation cover that is relatively consistent across the entire country is the LCDB2. A consistent nationwide approach to classifying and ranking natural areas is required. The extent of all natural areas, and all areas where management is undertaken to manage natural values, needs to be mapped as GIS layers to allow better comparison and analysis.

There are no consistent standards of care between, and sometimes within, organisations. Few agencies have specified what the minimum standards of care should be, or have the means to enforce standards if they are present. Often management of PNAs can be hampered by lack of funds or other resources. General standards of care are suggested for different ecosystem types.

CONTENTS

EXECUTIVE SUMMARY	1
1. INTRODUCTION	1
2. PROJECT OBJECTIVES	1
2.1 Existing protected natural areas	1
2.2 Care standards	2
3. METHODS	2
4. DEFINITION OF PROTECTED NATURAL AREAS	2
5. PRIORITIES FOR PROTECTION	3
5.1 National priorities for protecting rare and threatened biodiversity on private land (2007)	3
5.2 Northland Protection Strategy (2001)	5
5.3 Protected Natural Areas Programme (1998-2008)	6
5.3.1 Proportion of Ecological Districts threatened	9
6. PROTECTED NATURAL AREAS	10
6.1 DOC administered lands, QEII covenants, and Nga Whenua Rahui	10
6.2 Level of protection afforded by various acts	12
6.3 Protection status of Natural Areas of Ecological Significance (NAES)	27
6.4 Whangarei District Council Covenants	28
7. OTHER PROTECTION MECHANISMS (NON-PNAS)	29
7.1 Kaipara District Council Biodiversity Improvement Fund	29
7.2 Northland Regional Council Community Pest Control Areas	30
7.3 Northland Regional Council CoastCare Groups	32
7.4 Fish and Game wetlands	33
7.5 Landcare Groups	34
7.6 Far North District Council significant natural areas	36
7.7 Areas afforded some level of protection investment through the Biodiversity Condition and Advice Funds	37
8. ECOLOGICAL FEATURES THAT OCCUR WITHIN PROTECTED AREAS	38
8.1 Types of habitats protected as classified by LCDB2	40
8.2 Types of habitats protected under QEII Trust covenants	41
9. INFORMATION GAPS AND ANOMALIES	53
10. STANDARDS OF CARE	54
10.1 Suggested standards of care	55
10.2 Queen Elizabeth II covenants	57

11. RECOMMENDATIONS	57
ACKNOWLEDGMENTS	58
REFERENCES	58

APPENDICES

1. The originally rare ecosystems included in National Priority Three
2. Purposes and key definitions within various acts
3. Landcare Groups for which the extent of the lands they are working on have not been captured on a GIS database
4. GIS data layers not available as at 1 January 2008
5. Protected natural areas listed by ecological district
6. Natural areas of ecological significance identified in Protected Natural Area Programme surveys
7. List of areas of conservation lands for which part or all of the reserve boundaries overlap with boundaries of other types of Protected Natural Areas or management (e.g. QEII, Nga Whenua Rahui, etc) mapped in GIS layers
8. Natural areas of ecological significance without any level of protection or management
9. Glossary of terms

FIGURES

1. Northland Ecological Districts and LENZ threat categories - 2008.	8
2. The extent of remaining indigenous vegetation and the relationship with the Acutely Threatened and Chronically Threatened LENZ Environments	11
3. Protected natural areas in relation to extent of indigenous vegetation and natural areas of ecological significance.	14
4. Map of Coast Care Groups in Northland Region.	33

TABLES

1. Definition of a Protected Natural Area in Northland Regional Council Area	4
2. Northland Region ecological regions and districts.	7
3. Total area of each ecological district in Northland and proportion that falls within Acutely or Chronically Threatened LENZ environments sorted in order of most threatened.	9
4a. Area and number of Protected Natural Areas in Northland Region by reserve status	25
4b. Area and number of protected areas in Northland Region for which legislative mandate is not protection of natural values	26

4c.	Area and number of DOC managed lands, QEII covenant or Nga Whenua Rahui land in Northland Region for which legislative mandate is protection of natural values.	26
5.	Protection status of Natural Areas of Ecological Significance (NAES) in Northland Region	27
6.	Number of protection mechanisms per Natural Area of Ecological Significance (NAES)	28
7.	Number and extent of area protected by Whangarei District Council covenants.	29
8.	Number and extent of area protected by by Kaipara District Council Biodiversity Improvement Fund Projects.	30
9.	Approved Community Pest Control Areas and NAES	31
10.	Area of Community Pest Control Areas (CPCAs) that are NAES.	31
11.	List of Northland Region Coast Care Groups.	32
12.	Fish and Game Wetlands and NAES	34
13.	New Zealand Fish and Game wetlands that are also a NAES	34
14.	Landcare Group areas and NAES	35
15.	Number of NAES contained within Landcare Group areas	35
16.	Proportion of Landcare Group areas by administration type, and the proportion of each that is also a NAES.	36
17.	Far North District Council, Significant Natural Areas funding recipients.	37
18.	Funds approved in various rounds for the Biodiversity Condition and Advice Funds.	38
19.	Types of organisations that successfully applied for funds	39
20.	List of indigenous and non-indigenous land use and landcover classifications used in the Landcover Database (LCDB2)	40
21a.	Proportion of ecological district currently protected, partially protected or not protected at all, and amount of native vegetation remaining.	43
21b.	Proportion of ecological district currently protected by PNA, with special attention to Acutely and Chronically Threatened LENZ categories.	44
21c.	Proportion of other protected areas in Northland Region Proportion, for which legislative mandate is not protection of natural values by, ecological district, with special attention to Acutely and Chronically Threatened LENZ categories.	45
22a.	LCDB2 native landcover or land-use types in Protected Natural Areas in each ecological district	46
22b.	LCDB2 native landcover or land-use types 'protected' by non-PNA reserves or community care groups in each ecological district	46
22c.	LCDB2 native land-cover or land-use types currently not afforded any protection in each ecological district and total of each land-cover type within Northland Region	47
22d.	Area (ha) comprising Acutely or Chronically Threatened categories of LENZ for each LCDB2 native landcover or land-use class and summarised by ecological district	48
23.	Number of Queen Elizabeth II covenants in Northland Region by the main habitat type(s) (up to two) in each covenant	51
24.	Area (ha) of Queen Elizabeth II covenants in Northland Region by the main habitat type(s) (up to two) in each covenant.	52
25.	Numbers of QEII covenants fenced in the Northland Region.	57

26. Adherence of QEII covenants to covenant conditions in Northland Region.

57

PROJECT TEAM

Astrid van Meeuwen-Dijkgraaf, Wildland Consultants Ltd - report preparation.
Sarah Beadel, Wildland Consultants Ltd - project overview and set up, peer review.
Roger Bawden, Wildland Consultants Ltd - GIS.
Stephen Rate, Wildland Consultants Ltd - peer review.
John Craig, Auckland Uniservices Ltd - peer review.

Reviewed and approved for release by:



Sarah Beadel
Director
Wildland Consultants Ltd



© *Wildland Consultants Ltd 2008*

This report has been produced by Wildland Consultants Ltd for Northland Regional Council. All copyright in this report is the property of Wildland Consultants Ltd and any unauthorised publication, reproduction, or adaptation of this report is a breach of that copyright.

1. INTRODUCTION

Northland Regional Council would like to establish a baseline data set on the location, extent, and type of Protected Natural Areas (PNAs) in Northland. This data set and associated report will help guide Regional and District Policy Statement Objectives and work plans for the Regional Council and the local District Councils.

Northland Regional Council (NRC) would also like to identify, in general terms, the existing levels of care in the various types of protected areas and to identify some minimum standards of care across all protected areas.

2. PROJECT OBJECTIVES

2.1 Existing protected natural areas

- Define “Protected Natural Areas” (PNAs).
- Collate existing GIS data on the location of all PNAs in Northland, e.g. DOC, QEII, Nga Whenua Rahui, and also data on other covenants, kiwi protection areas, Environment Fund areas, Biodiversity Condition Fund areas, Landcare Groups. Information on these latter groups is currently being pulled together in “The Whole of Northland Project”, a project which is to summarise biodiversity work in Northland jointly funded by Landcare Trust, NRC, DOC, and Biodiversity Advice Fund.
- Prepare a GIS map of PNAs in Northland using existing GIS data.
- Identify gaps in existing GIS layers.
- Use centrepoints for PNAs not mapped on existing GIS layers, if available, to help map the general location of PNAs.
- Calculate numbers and areas of each type of PNA (e.g. scenic reserves, conservation parks, QEII covenants, Nga Whenua Rahui).
- Undertake an analysis of the type of features that occur within the PNA network (e.g. are all ecosystem types represented, what are the most threatened land environments, what features were originally rare ecosystems, to what extent do the areas contribute to preserving biodiversity at a landscape scale by retaining habitat linkages, ecological sequences etc.).
- Identify anomalies. For example, the legal status of recreation reserves is not designed to protect indigenous ecosystems, vegetation, habitats, or species, even though some recreation reserves have significant ecological values (e.g. Te Pahi Recreation Reserve). Another category is Esplanade Reserves which are primarily for public access rather than for ecological values, although some often have significant ecological values (e.g. coastal and lake margins.)

- Identify private landowners such as forestry companies and farmers that may manage areas for natural values without formally protecting them.

2.2 Care standards

- Identify existing levels of care in natural areas, e.g. formal protection, fencing, pest animal control, pest plant control, and restoration.
- Identify levels of care related to:
 - (i) types of protected areas;
 - (ii) unprotected versus protected sites;
 - (iii) levels of ecological significance.
- Develop minimum standards of care. This could extend to recommending different levels of care for various types of features, or based on the relative ecological values of the area.

3. METHODS

All areas conforming to the definition of a PNA (see section 4 below and also Wildland Consultants Ltd 2002) were collated from existing databases. A spatial layer was developed in the Geographic Information System (GIS) ARCVIEW 3.1 from existing digital data provided by Department of Conservation (DOC), NRC, Whole of Northland Project, and QEII National Trust, and extracted from the Digital Cadastral Database (DCDB), as shown in Figure 3. Information on each site was recorded in an attribute table linked to the GIS layer (Tables in Appendix 5 Protected Natural Areas and Appendix 6 Significant Areas identified by Protected Natural Areas Programme (PNAP) surveys). The attributes table includes site name, protection status, DOC Conservation Management Strategy site number (where applicable), and area (hectares).

Nearly all of the layers used have limitations and some of the data is based on a range of assumptions. The various types of PNA, and areas that are not PNA but protected or managed by other means, are analysed and discussed in separate sections. Each section highlights any associated limitations and assumptions of those data. Section discusses and summarises these data limitations and suggests improvements.

4. DEFINITION OF PROTECTED NATURAL AREAS

Past definitions of Protected Natural Areas (PNA) have varied between agencies and surveys. There is an urgent need to standardise definitions and terminology across agencies and across the country.

For the purposes of this report a PNA is defined as:

An area of land that has a formal legal status intended to protect indigenous ecosystems, vegetation, habitats, or species. These include areas administered by the Crown or formally constituted Scenic Reserve Boards, and Maori and private land with covenants (e.g. Nga Whenua Rahui or QEII) or other protective mechanisms. In other words, the areas are legally protected with the express purpose of protecting natural values, or native species, or ecosystems.

Sites that have been identified as having high natural values, for instance through the Protected Natural Areas Programme (PNAP) survey approach, have been designated as Natural Areas of Ecological Significance (NAES). PNAs (i.e. sites with legal protection) may contain all or part of one or more NAES. Conversely, some PNAs do not include any NAES, because there were other sites with similar but somewhat higher values that became NAES, or because a process like a PNAP survey has not yet taken place, or because the sites were reserved some time ago but are not the best representative example of that habitat type.

The definition of PNAs quite strict, and areas of native vegetation that have been protected by mechanisms that do not expressly include protection of natural values, or native species, or ecosystems are not considered to be PNAs. Examples of this are Historic reserves (protection of historic values) and Recreation Reserves (protection of recreation opportunities). Table 1 lists those pieces of legislation that create or protect PNAs, and also those which create or protect sites other than PNAs. Appendix 2 provides more detail of the actual text within the various pieces of legislation, with text in bold highlighting the principle purpose for that legislation.

Note that, along the foreshore, the Land below mean high water springs (MHWS) is the responsibility of the Regional Council, while land above MHWS is the responsibility of the city and district councils. The foreshore and seabed below MHWS that extends out to the 12 mile nautical limit - in other words the "wet" part of the coast - is called the coastal marine area and is administered by the Crown.

5. PRIORITIES FOR PROTECTION

A range of protection and priority setting mechanisms have been developed over the last 30 to 40 (or so) years by central and local government. This section briefly outlines these tools and the priorities within them.

5.1 National priorities for protecting rare and threatened biodiversity on private land (2007)

Four national priorities for biodiversity protection have been set (Ministry for the Environment 2007a, 2007b). They are based on the latest and best scientific research available. Note that these priorities are not in order of importance but in order of scale, starting with the largest scale (Land Environments of New Zealand, also called

TABLE 1: DEFINITION OF A PROTECTED NATURAL AREA IN NORTHLAND REGION

A Protected Natural Area is a defined area of land that has formal legal status intended to protect indigenous ecosystems, vegetation, habitats, or species. These include areas administered by the Crown or formally constituted Scenic Reserve Boards, and Maori and private land with covenants or other protective mechanisms.

There are many categories and levels of legal protection and the ones included within the scope of this definition are listed below:

Land vested in the Crown and administered by the Department of Conservation (excluding reserves where other agencies have been appointed to control and manage, or reserves vested in other agencies):

- Conservation Park, Wilderness Area, or Ecological Area, Section 61, Conservation Act 1987
- Marginal Strip, Section 24, Conservation Act 1987
- Stewardship Area, Section 7, Conservation Act 1987 (land acquired and held for conservation purposes since the enactment of the Conservation Act 1987)
- Stewardship Area, Section 62, Conservation Act 1987
- Wildlife Management Reserve, Government Purpose, Reserves Act 1977
- Wildlife Refuge, Reserves Act 1977
- Wildlife Sanctuary, Government Purpose, Reserves Act 1977
- Nature Reserve, Reserves Act 1977
- Scientific Reserve, Reserves Act 1977
- Scenic Reserve, Reserves Act 1977

Other land classifications that can overlay land administered by the Department of Conservation:

- Ecological Area, Section 61, Conservation Act 1987
- Sanctuary Area, Section 61, Conservation Act 1987
- Wildlife Refuge, Wildlife Act 1953

Land vested in the Crown and administered by the Scenic Reserve Boards or District or Regional Councils

- Scenic Reserve, Section 19(1)(a), Reserves Act 1977
- Recreation Reserve, Section 17, Reserves Act 1977

Other lands classed as Protected Natural Areas:

- Conservation Covenants, Section 27, Conservation Act 1987
- Conservation Covenants, Section 77, Reserves Act 1977
- Wildlife Refuge, Wildlife Act 1953 (over land administered by the Crown that is NOT administered by the Department of Conservation)
- Wildlife Refuge, Wildlife Act 1953 (over private land)
- Protected private land administered as a Scenic Reserve, Reserves Act 1977
- QEII Covenants, Queen Elizabeth II National Trust Act 1977
- Nga Whenua Rahui Kawenata Section 27A, Conservation Act 1987 (some are also Maori Reserved Land Act 1955)
- Scenic Reserves and covenants, Reserves Act 1977, administered by District Council or other local authorities
- Reserves set aside as a condition of resource consent (RMA, Section 221)
- Conservation covenants, Crown Forest Assets Act 1989
- Reserves protected under the Maori Reserved Land Act 1955

Lands that do not offer protection, or for which the principle aim is not to protect indigenous habitats of species or species

- Public foreshore and seabed vested in the Crown is regarded as unprotected land of interest to DOC under Section 28(3), Foreshore and Seabed Act 2004.
- Recreation Reserves, section 17, Reserves Act 1977 - principle aim is protection of recreation opportunities.
- Historic Reserves, section 18, Reserves Act 1977 - principle aim is protection of historic assets.
- Watercourse areas, Section 23, Conservation Act 1987, or Section 16, 76, or 77 of the Reserves Act 1977, or Section 21(2)(a) or 22 of the Queen Elizabeth II National Trust Act 1977, or Section 52 of the Historic Places Act 1980 - purpose is to protect the wild, scenic, and other natural or recreational characteristics and allow for administration and management.

LENZ environments²) followed by smaller scale environments that are not adequately picked up in LENZ.

National Priority 1: To protect indigenous vegetation associated with land environments, (defined by Land Environments of New Zealand at Level IV), that have 20 percent or less remaining in indigenous cover.

National Priority 2: To protect indigenous vegetation associated with sand dunes and wetlands; ecosystem types that have become uncommon due to human activity.

National Priority 3: To protect indigenous vegetation associated with 'originally rare' terrestrial ecosystem types not already covered by Priorities 1 and 2 (the complete list of these originally rare habitats (Williams *et al.* 2007) is provided in Appendix 1).

National Priority 4: To protect habitats of acutely and chronically threatened indigenous species (these species are listed in de Lange *et al.* 2004 and Hitchmough *et al.* 2007).

5.2 Northland Protection Strategy (2001)

This strategy was prepared to assist the Nature Heritage Fund to assess priorities for further protection or restoration of indigenous ecosystems within Northland (Conning 2001). The report outlines five overarching priorities in order of rank.

Priority 1 Sites

1. Habitats are poorly represented as protected areas.
2. Habitats are now generally confined to small isolated areas, are rare and under continued threat of modification or development.
3. Habitats which are now nationally threatened and are essential to New Zealand biodiversity. In Northland they have a high degree of endemism and may contain a number of threatened species.

Priority 2 Sites

1. Habitats under-represented as protection areas.
2. Habitats may be adequately represented at a national level but are poorly represented in Northland.
3. Habitats that contain a large diversity of threatened and Northland endemic species.

² LENZ is a classification system that groups regions with similar climatic and soil attributes throughout the country. This classification system has been combined with a map of still extant native vegetation to determine which LENZ environments have the least amount of native vegetation remaining and are therefore considered to be at most risk. This has resulted in the LENZ threat classification, also known as Threatened Environments.

Priority 3 Sites

1. Habitats inadequately represented as protected areas.
2. Habitats that contain a significant diversity and number of threatened and Northland endemic species.

Priority 4 Sites

1. Habitats inadequately protected in some ecological districts.
2. Habitats important to threatened and Northland endemic species.

Priority 5 Sites

1. Habitat reasonably represented as protected areas or with within most ecological districts.
2. Habitats become significant if tThreatened or Northland endemic species are present, or the site adds to existing protected areas or they form linkages with other habitats and ecosystems.

5.3 Protected Natural Areas Programme (1998-2008)

New Zealand's physical environment is extremely diverse and this diversity is reflected in its indigenous plant and animal species, communities, and ecosystems. The concept of dividing New Zealand into a series of Ecological Regions and Ecological Districts evolved because of the need for the establishment of a representative system of reserves which would encompass this ecological diversity. One purpose of the Reserves Act 1977, is to ensure the

"preservation of representative samples of all classes of natural ecosystems and landscapes which in the aggregate originally gave New Zealand its own recognisable character."

(Section 3(1) (b))

Ecological District

The definition of an ecological district depends on a thorough consideration of the topography, geology, climate, soils, vegetation and man-induced modifications of the area (McEwen 1987). Thus, an ecological district is a local part of New Zealand where the topographical, geological, climatic, soil and biological features, including the broad cultural pattern, produce a characteristic landscape and range of biological communities (McEwen 1987).

Ecological Region

An aggregation of adjacent ecological districts with very closely related characteristics together form an ecological region. In some cases, a single very distinctive ecological district is given the status of ecological region to emphasise its uniqueness (Park *et al.* 1983).

Table 2: Northland Region ecological regions and ecological districts.

CURRENT CLASSIFICATION		FORMER CLASSIFICATION (as it relates to the current classification)	
Ecological Region (DOC 2007)	Ecological District (DOC 2007)	Ecological Region (McEwen 1987)	Ecological District (McEwen 1987)
Kermadec	Kermadec ⁵	Kermadec	Kermadec
Three Kings	Three Kings	Three Kings	Three Kings
Northern Northland ¹	Te Paki ²	Te Paki	Te Paki
	Aupouri ³ (Conning and Holland 2003)	Aupouri	Aupouri
Eastern Northland	Whangaroa ³ (Conning 1999)	Eastern Northland	Eastern Northland and Islands
	Kerikeri ³ (Conning and Miller 1999)	Eastern Northland	Eastern Northland and Islands
	Puketi ³ (Conning and Moors 1998)	Western Northland	Maungataniwha
	Kaikohe ³ (Conning and Miller 2000)	Eastern Northland; Western Northland	Hokianga; Eastern Northland and Islands
	Whangaruru ³ (Booth 2005)	Eastern Northland	Eastern Northland and Islands
	Whangarei ³ (Manning 2001)	Eastern Northland; Western Northland	Eastern Northland and Islands; Tangihua
	Manaia ⁴	Eastern Northland	Eastern Northland and Islands
	Taranga ³ (Lux <i>et al.</i> 2007)	Eastern Northland	Taranga
	Waipu ³ (Lux <i>et al.</i> 2007)	Eastern Northland; Western Northland	Eastern Northland and Islands; Tangihua
	Rodney (Part) ³ (Michen <i>et al.</i> 1992)	Auckland	Rodney
Poor Knights	Poor Knights	Poor Knights	Poor Knights
	Mokohinau ⁵	Eastern Northland	Taranga
Western Northland	Maungataniwha ³ (Conning 2002)	Western Northland	Maungataniwha
	Ahipara ³ (Conning 1998)	Western Northland	Maungataniwha
	Hokianga ³ (Conning <i>et al.</i> 2004)	Western Northland	Hokianga; Maungataniwha
	Tutamoe ³ (Miller and Holland 2008)	Western Northland	Tutamoe; Hokianga
	Tangihua ⁴	Eastern Northland; Western Northland	Tangihua; Eastern Northland and Islands; Tutamoe
Kaipara	Tokatoka ⁴	Western Northland	Tangihua
	Otamatea ³ (Lux and Beadel 2006)	Kaipara	Kaipara
	Kaipara ² (known as Pouto in Brook 1996)	Kaipara	Kaipara

Notes

1. Te Paki and Aupouri Ecological Districts were formerly within their own separate ecological regions (see McEwen 1987), however they were merged into a single ecological region by Brook (1996).
2. PNAP field survey undertaken, draft PNAP report prepared, yet to be published.
3. PNAP field surveys have been undertaken and published for these ecological districts.
4. PNAP field survey undertaken, not written up.
5. Kermadec and Mokohinau Island are not included in further analysis

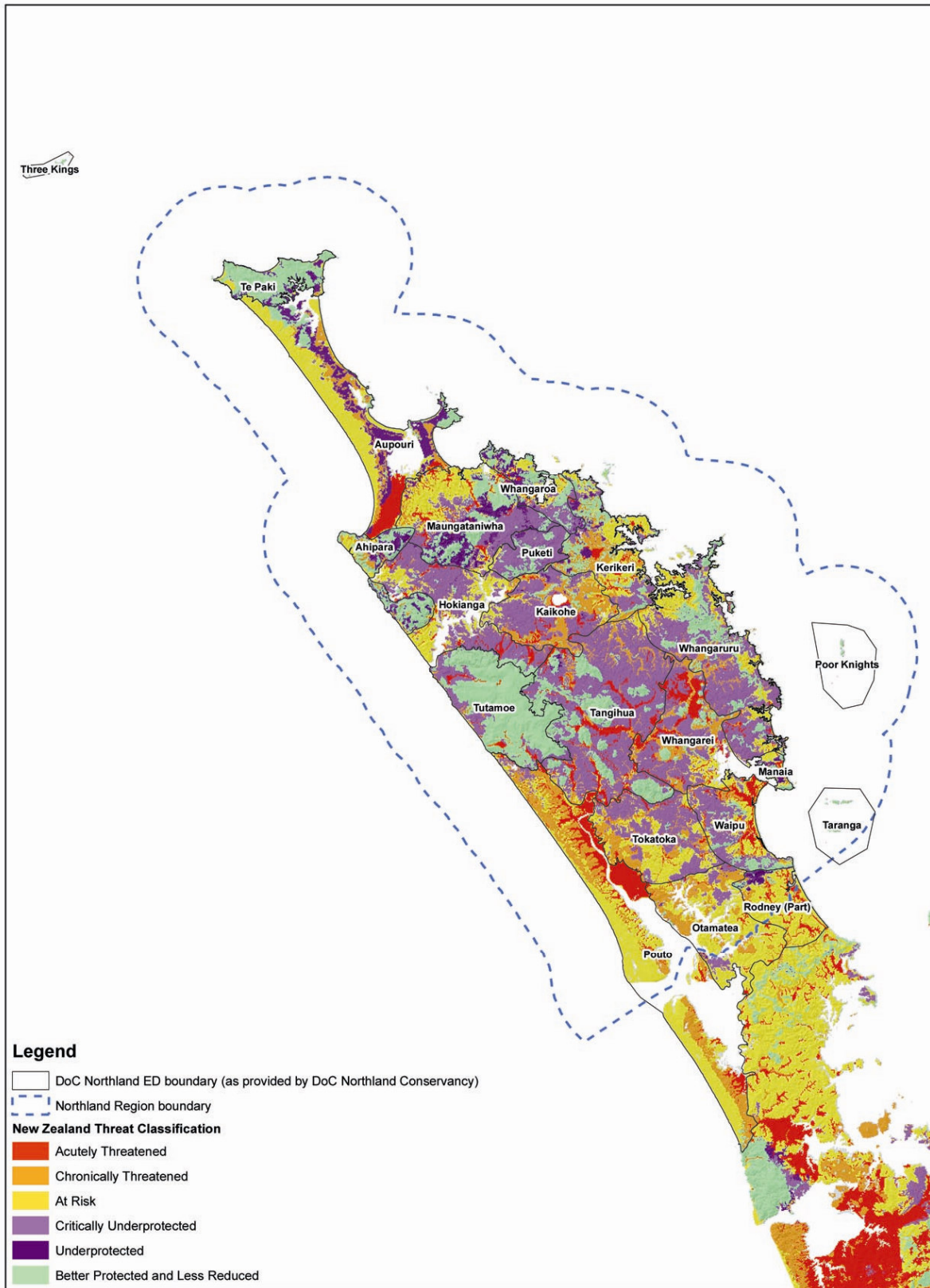


Figure 1. Ecological Districts in the Northland Region and LENZ threat categories - 2007

Data source: Land Environments of New Zealand: Landcare Research and Ministry for the Environment, Wellington. Threat Classification from Walker et al. (2006).

0 25 50 km
E:\gis\Northland_PNA_Status\figures\Figure 1 Northland.mxd

Wildlands

Scale: 1:1,100,000
Date: 17/03/08
Cartographer: RPB

The Northland Regional Council area includes all or part of seven ecological regions and 24 ecological districts (Table 2). Note that the original ecological district boundaries within the Northland Region (McEwen 1987) were revised by Brook (1996) (Table 2).

5.3.1 Proportion of Ecological Districts threatened

Tables 3 and Figure 1 illustrate the size of each ecological district and the proportion that is considered to be an Acutely Threatened or Chronically Threatened land environment. About 20% (8% Acutely Threatened and 12% Chronically Threatened) of Northland falls within the first National Priority for protection (Ministry for the Environment 2007a, 2007b). The amount of area considered to be at threat varies greatly between ecological districts. For example, more than 50% of Pouto ED is considered to be highly threatened (i.e. contains significant areas of both Acutely or Chronically Threatened land environments), but only 0.8% of Te Paki comprises threatened land environments.

Table 3: Total area of each ecological district in Northland and proportion that falls within Acutely or Chronically Threatened LENZ categories. Ecological districts are sorted by proportion of district threatened. (Note that the Kermadec and Mokohinau Islands are not included.)

Ecological District	Total Area (ha)	Acutely Threatened		Chronically Threatened		Total Threatened %
		ha	%	ha	%	
Pouto	92,913.4	24,366.9	26.20%	23,107.3	24.90%	51.10%
Whangarei	76,950.6	14,627.3	19.00%	15,362.1	20.00%	39.00%
Kaikohe	67,261.3	5,355.2	8.00%	19,021.7	28.30%	36.30%
Otamatea	57,953.3	1,130.2	2.00%	16,420.9	28.30%	30.30%
Tokatoka	74,669.4	3,583.8	4.80%	16,185.7	21.70%	26.50%
Kerikeri	67,349.5	3,455.7	5.10%	14,104.0	20.90%	26.00%
Waipu	50,072.1	8,429.1	16.80%	3,833.3	7.70%	24.50%
Rodney	20,578.8	1,942.5	9.40%	2,395.5	11.60%	21.00%
Aupouri	119,817.5	10,155.1	8.50%	14,494.7	12.10%	20.60%
Tangihua	167,024.4	16,292.9	9.80%	11,631.3	7.00%	16.80%
Manaia	6,356.6	612.7	9.60%	289.5	4.60%	14.20%
Ahipara	32,271.5	337.9	1.00%	3,063.3	9.50%	10.50%
Maungataniwha	98,407.0	7,601.9	7.70%	2,693.1	2.70%	10.40%
Whangaruru	120,437.6	1,626.3	1.40%	10,397.8	8.60%	10.00%
Hokianga	88,199.5	5,293.4	6.00%	2,453.5	2.80%	8.80%
Tutamoe	81,690.5	2,222.2	2.70%	1,472.4	1.80%	4.50%
Whangaroa	31,944.2	956.9	3.00%	152.1	0.50%	3.50%
Puketi	24,516.1	41.2	0.20%	180.7	0.70%	0.90%
Te Paki	31,134.7	2.9	0.00%	237.6	0.80%	0.80%
Poor Knights	308.0		0.00%	1.7	0.50%	0.50%
Taranga	989.8		0.00%	2.4	0.20%	0.20%
Three Kings	523.2		0.00%		0.00%	0.00%
Grand Total	1,311,369.0	108,034.2	8.20%	157,500.5	12.00%	20.25%

The National Priorities for Protection (described in Section 5.1 and Ministry for the Environment 2007a, 2007b) encourage the protection of remaining indigenous vegetation in the Acutely Threatened and Chronically Threatened LENZ categories. The extent of remaining indigenous vegetation and the relationship with the Acutely Threatened and Chronically Threatened LENZ categories is illustrated in Figure 2.

6. PROTECTED NATURAL AREAS

This section describes the number and extent of PNAs protected by various mechanisms and whether the PNA network protects areas that are thought to be ecologically significant (such as NAES). By necessity, this section includes some analysis and discussion of non-PNAs to provide context and in order to appreciate the distinction between PNAs and non-PNAs.

6.1 DOC administered lands, QEII covenants, and Nga Whenua Rahui

These PNAs include lands administered by the the Department of Conservation on behalf of the Central Government (also known as public lands), and privately owned lands covenanted by the owners with the Queen Elizabeth II National Trust (here after QEII), or under Nga Whenua Rahui. In general, DOC administered lands and protected private lands (QEII and Nga Whenua Rahui) are mutually exclusive, but in some cases the mapped areas overlap. For example, Pakanae Scenic Reserve (overlap 111.7 ha) and Motatau Scenic Reserve (overlap 97.2 ha) appear to have significant overlap with Nga Whenua Rahui mapped areas.

Other overlaps are less substantial (next largest overlap is 0.5 ha), but further work may need to be undertaken to determine the exact cause of the apparent overlap. Determining the cause of overlap is beyond the scope of this project. The name of each of the areas of public conservation land that overlap with other agencies or groups is provided in Appendix 7. For the purposes of this report, overlaps between different agencies have been ignored; this may contribute to a slight error in reporting of the total areas.

Note that, in general, the data used in the analysis does not include Regional Council or District Council reserves or administered land. These data were not requested, or not available, and this is an omission that needs to be rectified in subsequent analysis. In a few cases a district council or community group may be the administering authority for an area of public lands e.g. Nihonui Scenic Reserve is public land administered by the Far North District Council and Whangarei District administers Parakao Domain, Mangapai Domain, Waiotira Domain, and Springfield Domain Recreation Reserves. These few areas have been included in the analysis.

Within the analysed data, there are also a few examples of public land administered by non-government organisations such as the New Zealand Historic Places Trust or community groups. The New Zealand Historic Places Trust has principle responsibility for the Edmonds Ruins Historic Reserve and Kaipara North Head Lighthouse Historic Reserve. Community groups look after the Hukatere Hall Recreation Reserve, Kohukohu Historic Reserve, Mangonui Court House Historic