

Appendix 2

LETTER TO RATEPAYERS

1 November 2006

Dear Landowner

I would like to advise you that Landcare Research New Zealand and The University of Waikato under contract with the Department of Conservation will soon be undertaking an updated survey of natural features such as forest, wetlands, gumlands and dunelands within the Pouto, Dargaville and Kai Iwi Lakes area of the Kaipara District. The natural features have been identified from recent aerial photography and are viewed from roadsides or (with the permission of landowners) from other viewpoints, recording information on their vegetation type and general condition. This survey is a continuation of work first undertaken by the Department in 1994.

In some cases, if these areas are not visible from the road, you may be contacted for permission to enter your land to enable a quick survey of the natural feature to gain information on the vegetation type and key plant species present.

Why are we doing this survey? Northland's natural features make a significant contribution to the character and quality of the region. Many of these areas are habitat for some of our increasingly rare plants and animals. The Department of Conservation and Kaipara District Council have existing information on many of the natural features in the District. However some of this information is now out of date, and therefore may no longer be accurate. This survey enables us to update our information and is an important reference point for assessing habitat changes over time and to assist landowners with management of their natural features.

The information gathered in this survey will be made available to anyone interested in natural features such as landowners, iwi, environmental groups, local bodies, and professionals.

The Kaipara District Council will be provided with the results of the survey upon completion.

With an increasing awareness in the value of natural features many residents and future residents to the District will have updated information describing the native plants and animals in the District. Information collected during this survey may be used to support cases made by private landowners to increase protection of forest or wetland on their land. These cases can be made to the Governments Biodiversity Condition and Advice Fund and the Northland Regional Council's Environment Fund. The Funds were set up to support landowners for the management and protection of natural areas, the information provided in this survey is an important tool in achieving these aims.

If you have any questions about the survey, please contact the Department of Conservation, (attention Wendy Holland or Peter Anderson) at Northland Conservancy Office in Whangarei, telephone (09) 430 2470; fax 09 430 2479 or email wholland@doc.govt.nz. or panderson@doc.govt.nz .

Thank you for your assistance

Chris Jenkins,
Conservator Northland
Department of Conservation

DOC to note natural features

By Annette Lambly

The Department of Conservation is currently undertaking a survey of all-important natural habitat features within the Kaipara area.

DOC has contracted Landcare Research NZ and the University of Waikato to identify these important habitats and record them into an update database.

DOC co-ordinator Wendy Holland said the survey would include forests, wetlands, gumlands and dunelands.

The alluvial forest remnants along the Kaihu River, the dune lakes on the Pouto Peninsula and the Maitahi wetlands off State Highway 12 north west of Dargaville are examples of habitats which have been identified as significant, but there are perhaps other areas which have not been recorded she said.

The aim of the survey is to provide an updated database of baseline information for local bodies, environmental groups, iwi and landowners to work and plan from.

Ms Holland said landowners had been sent letters prior to the survey commencing in December asking for help in identifying any of these natural features.

Survey teams are now working in the Pouto, Dargaville and the Kai Iwi Lakes. A full project report is expected at the end of the year said Ms Holland.

The public is encouraged to contact the Department of Conservation on 094302470 if they have, or would like, further information.

Appendix 3

CATEGORIES OF THREAT

In this report the categories of threat are taken from the New Zealand Threat Classification developed by Molloy et al. (2002). This new system replaces Molloy and Davis (1992), the prioritising system used previously for threatened species work by the Department of Conservation. Below are Sections 3 and 7, which have been taken from Molloy et al. (2002) to explain the new species classification system.

Classification structure and categories

This section describes each of the categories (shown in Figure 3)

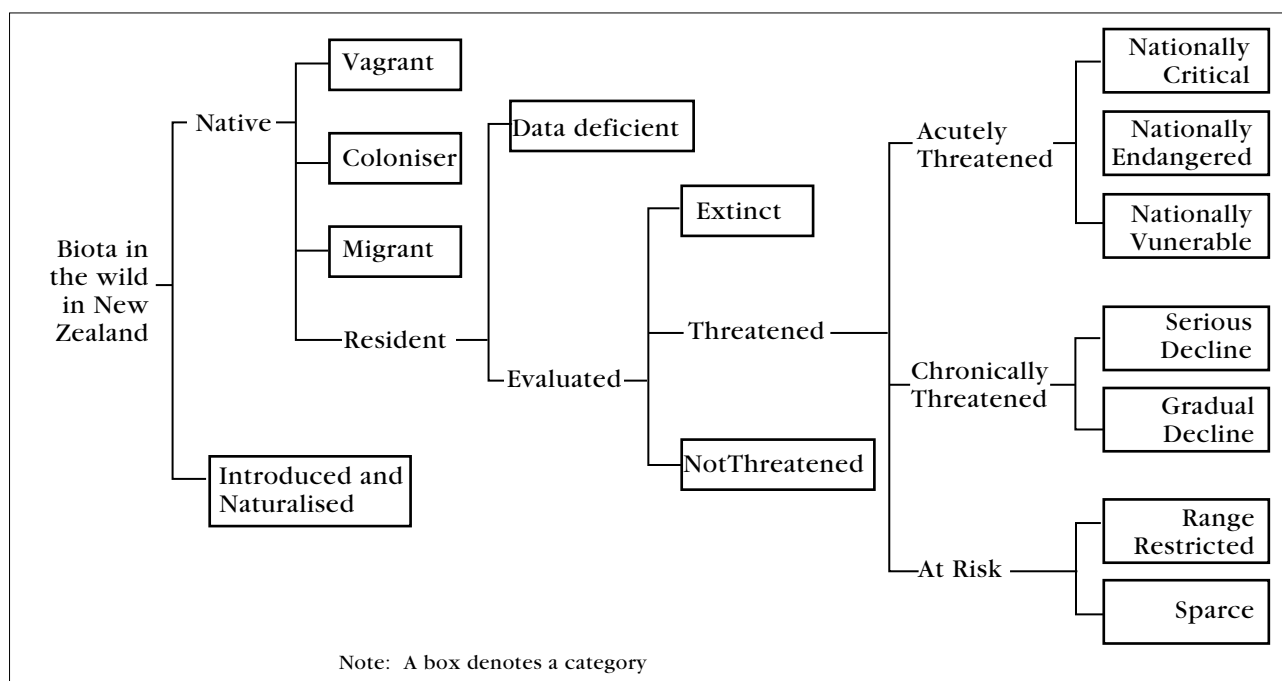


Figure 3. Structure of the New Zealand Threat Classification System

Introduced and naturalised

Introduced and Naturalised taxa are those that have become naturalised in the wild after being deliberately or accidentally introduced to New Zealand by human agency. If an Introduced and Naturalised taxon has an IUCN Red Listing in its country (or countries) of origin, the IUCN category and source of the listing are shown after the taxon's name in the New Zealand list. Current examples of this include the cress *Lepidium hyssopifolium* and the southern bell frog (*Litoria raniformis*), both of which are listed as Endangered in Australia; and the parma wallaby (*Macropus parma*), listed as Lower risk/Near threatened.

Vagrant

For the purposes of this document, vagrants are taxa that are found unexpectedly and rarely in New Zealand, and whose presence in our region is naturally transitory. These are taxa that do not establish themselves beyond their point of arrival because of reproductive failure or for specific ecological reasons. Examples include the red-kneed dotterel (*Erythrogonys cinctus*) and the blue moon butterfly (*Hypolimnys bolina nerina*), both from Australia, and the spotted sawtail (*Prionurus maculatus*) from the tropical south-west Pacific Ocean. If a taxon in the Vagrant category has been listed in an IUCN Red List in its country of origin, the IUCN category and source of the listing are shown beside the taxon's name in the New Zealand list.

Coloniser

Colonisers are taxa that have arrived in New Zealand without direct or indirect help from humans and have been successfully reproducing in the wild for less than 50 years. Three examples are the Nankeen night heron (*Nycticorax caledonicus*), the scoliid wasp *Radumeris tasmaniensis* and the orchid *Cryptostylis subulata*. The IUCN Red List category and source of the listing is included where this exists.

Migrant

Taxa that predictably and cyclically visit New Zealand as part of their normal life cycle, but do not breed here are included in the category Migrant. Examples include the Arctic skua (*Stercorarius parasiticus*) and striped marlin (*Tetrapturus audax*). In contrast, taxa that either breed here and migrate beyond New Zealand during their life cycle, e.g., Chatham Island albatross (*Thalassarche eremita*), or taxa that are resident in New Zealand for most of their lives, such as longfin eels (*Anguilla dieffenbachii*), are not included in this category. The IUCN Red List category and source of the listing is included where this exists.

Data deficient

The amount of information available for assessing the threat of extinction is highly variable between taxa and groups of taxa. At one extreme there are taxa such as kakapo, *Gunnerya hamiltonii* and *Tecomanthe speciosa* where every wild individual is known, while at the other extreme there are taxa whose ecology and biology is virtually unknown (e.g. *Koeleria riguorum*, a recently described grass). Certain criteria and/or definitions must be met for a taxon to be listed in a category. Where information is so lacking that an assessment is not possible, the taxon is assigned to the Data Deficient category. If a taxon is listed in a category other than Data Deficient but confidence in the listing is low due to poor quality data, then the listing can be qualified with the letters DP (Data Poor) to indicate this.

Extinct

A taxon is listed as Extinct when there is no reasonable doubt, after repeated surveys in known or expected habitats at appropriate times (di-

urnal, seasonal and annual) and throughout the taxon's historic range, that the last individual has died. Examples include huia (*Heteralocha acutirostris*) and Adams's mistletoe (*Trilepidea adamsii*). Only taxa that have become extinct since 1840 are included in the list. Taxa that are extinct in the wild but occur in captivity or cultivation are not listed in this category. These are listed as Critically Endangered and are qualified with the letters EW (Extinct in the Wild).

Threatened

The threatened categories are grouped into three major divisions: 'Acutely Threatened', 'Chronically Threatened' and 'At Risk'.

Acutely Threatened

The categories in the 'Acutely Threatened' division - Nationally Critical, Nationally Endangered and Nationally Vulnerable - equate with the IUCN categories of Critically Endangered, Endangered and Vulnerable. Taxa in these three categories are facing a very high risk of extinction in the wild, as defined by criteria that quantify:

- Total population size
- Area of occupancy
- Fragmentation of populations
- Declines in total population
- Declines in habitat area
- Predicted declines due to existing threats

Although the criteria (described in Section 6) measure similar population features as those in the IUCN Red List criteria, numerical limits and time-frames are tailored to suit New Zealand circumstances. These were set through a process of testing and refinement by the project team and as a result of feedback from New Zealand species experts. Criteria that attempt to predict declines due to possible future threats are not included because of the highly speculative nature of this type of assessment.

Chronically Threatened

Taxa listed in either of the two categories in the 'Chronically Threatened' grouping (Serious Decline and Gradual Decline) also face extinction, but are buffered slightly by either a large total population, or a slow decline rate (see Section 6).

At Risk

Taxa that do not meet the criteria for Acutely Threatened or Chronically Threatened, but have either restricted ranges or small scattered subpopulations, are listed in one of two categories (Range Restricted and Sparse) that fall under the division 'At Risk'. Although these taxa are not currently in decline, their population characteristics mean a new threat could rapidly

deplete their population(s). Range Restricted taxa either occur in a small geographic area (e.g., Three Kings Islands), are restricted to a particular habitat (e.g. geothermal areas), or require very specific substrates (e.g.

ultramafic rock), and for colonial breeders, have fewer than 10 subpopulations. Taxa that have naturally restricted ranges and taxa that have become restricted as a result of human activities are both included in this category. This is because both would face the same risk of extinction in the face of a new threat. The two

groups are differentiated by the use of a qualifier (see Section 4). Sparse taxa have very small, widely scattered populations, e.g., New Zealand spinach (*Tetragonia tetragonoides*). As with the Range Restricted category, taxa that are either naturally sparse or have become sparse as a result of human activities are included in this category.

Not threatened

Taxa that are assessed and do not fit any of the Threatened categories are listed in the Not Threatened category.

Criteria for the Acutely Threatened and Chronically Threatened categories

... a taxon must meet specific criteria to be listed in one of the Acutely Threatened or Chronically Threatened categories. The criteria for each category are set out below ...

Nationally Critical

Very small population or a very high predicted decline

A taxon is Nationally Critical when available scientific evidence indicates that it meets any of the following three criteria:

1. The total population size is < 250 mature individuals.
2. Human influences have resulted in < 2 sub-populations and either:
 - a. < 200 mature individuals in the largest sub-population, or
 - b. the total area of occupancy is < 1 ha (0.01 km²).
3. There is a predicted decline of > 80% in the total population in the next 10 years due to existing threats.

Nationally Endangered

A: Small population and moderate to high recent or predicted decline

A taxon is **Nationally Endangered** when available scientific evidence indicates that it fits at least one Status criterion and one Trend criterion as follows:

Status criteria

1. The total population size is 250–1000 mature individuals.
2. There are < 5 sub-populations and either:
 - a. < 300 mature individuals in the largest sub-population, or
 - b. the total area of occupancy is < 10 ha (0.1 km²).

Trend criteria

1. There has been a decline of > 30% in the total population or habitat area in the last 100 years.

2. There is a predicted decline of > 30% in the total population in the next 10 years due to existing threats.

B: Small to moderate population and high recent or predicted decline

A taxon is **Nationally Endangered** when available scientific evidence indicates that it fits at least one Status criterion and one Trend criterion:

Status criteria

1. The total population size is 1000-5000 mature individuals.
2. There are < 15 sub-populations and either:
 - a. 300-500 mature individuals in the largest sub-population, or
 - b. the total area of occupancy is 10-100 ha (0.1-1 km²).

Trend criteria

1. There has been a decline of > 60% in the total population or habitat area in the last 100 years.
2. There is a predicted decline of > 60% in the total population in the next 10 years due to existing threats.

Nationally Vulnerable

Small to moderate population and moderate recent or predicted decline

A taxon is **Nationally Vulnerable** when scientific evidence indicates that it fits at least one Status criterion and one Trend criterion:

Status criteria

1. The total population size is 1000-5000 mature individuals.
2. There are < 15 sub-populations and either:
 - a. 300-500 mature individuals in the largest sub-population, or
 - b. the total area of occupancy is 10-100 ha (0.1-1 km²).

Trend criteria

1. There has been a decline of 30-60% in the total population or habitat area in the last 100 years and the total population or habitat area is still in decline.
2. There is a predicted decline of 30-60% in the total population in the next 10 years due to existing threats.

Serious Decline

A. Moderate to large population and moderate to large predicted decline

A taxon is listed in **Serious Decline** when scientific evidence indicates that it fits at least one Status criterion and the Trend criterion:

Status criteria

1. The total population size is > 5000 mature individuals.

2. There are > 15 sub-populations and either:
 - a. > 500 mature individuals in the largest sub-population,
or
 - b. the total area of occupancy is >100 ha (1 km²).

Trend criterion

1. There is a predicted decline of > 30% in the total population in the next 10 years due to existing threats.
- B. Small to moderate population and small to moderate predicted decline

A taxon is listed in **Serious Decline** when available scientific evidence indicates that it fits at least one Status criterion and the Trend criterion:

Status criteria

1. The total population size is < 5000 mature individuals.
2. There are < 15 sub-populations and either:
 - a. < 500 mature individuals in the largest sub-population,
or
 - b. the total area of occupancy is < 100 ha (1 km²).

Trend criterion

1. There is a predicted decline of 5-30% in the total population in the next 10 years due to existing threats.

Gradual Decline

Moderate to large population and small to moderate decline.

A taxon is listed in **Gradual Decline** when available scientific evidence indicates that it fits at least one Status criterion and the Trend criterion:

Status criteria

1. The total population size is > 5000 mature individuals.
2. There are > 15 sub-populations and either:
 - a. > 500 mature individuals in the largest sub-population,
or
 - b. the total area of occupancy is > 100 ha (1 km²).

Trend criterion

1. There is a predicted decline of 5-30% in the total population in the next 10 years due to existing threats, and the decline is predicted to continue beyond 10 years.

Appendix 4

CATEGORIES OF IMPORTANCE FOR GEOLOGICAL AND SOIL SITES

Ranking criteria for important geological sites and landforms in the Northland Region follow Kenny & Hayward (1996) and Arand et al. (1993).

Sites are listed under three levels of importance:

- (a) **International** - site of international scientific importance.
- (b) **National** - site of national scientific, educational or aesthetic importance.
- (c) **Regional** - site of regional scientific, educational or aesthetic importance.

The importance given to each site was assessed by those informants of Kenny and Hayward (1996) and Arand et al. (1993) who were familiar with the site.

Appendix 5

CHECKLIST OF PLANT SPECIES IN KAIPARA ECOLOGICAL DISTRICT (NORTHLAND CONSERVANCY)

This species list was compiled by the authors during a reconnaissance survey in the summer of 2006/2007. Other records, including those from Department of Conservation Sites of Specific Biological Interest (SSBI) database, Auckland Museum Herbarium (AK), and Allan Herbarium, Land-care Research (CHR) are referenced.

5.1 Indigenous Species

GYMNOSPERMS

<i>Agathis australis</i>	kauri
<i>Dacrycarpus dacrydioides</i>	kahikatea, white pine
<i>Dacrydium cupressinum</i>	rimu
<i>Phyllocladus trichomanoides</i>	tanekaha
<i>Podocarpus totara</i>	totara
<i>Prumnopitys taxifolia</i>	matai, black pine
<i>Prumnopitys ferruginea</i>	miro

MONOCOT. TREES AND SHRUBS

<i>Cordyline australis</i>	ti kouka, cabbage tree
<i>Cordyline banksii</i>	ti ngahere, forest cabbage tree

<i>Cordyline australis</i> X <i>C. pumilio</i>	(Cameron et al. 2001)
<i>Phormium tenax</i>	harakeke, flax
<i>Rhopalostylis sapida</i>	nikau
DICOT. TREES AND SHRUBS	
<i>Ackama rosifolia</i>	makamaka
<i>Alectryon excelsus</i> ssp. <i>excelsus</i>	titoki
<i>Avicennia marina</i> ssp. <i>australasica</i>	mangrove, manawa
<i>Beilschmiedia tarairi</i>	taraire
<i>Beilschmiedia tawa</i>	tawa
<i>Brachyglottis repanda</i>	rangiora
<i>Carmichaelia australis</i>	common broom
<i>Carpodetus serratus</i>	putaputaweta, marbleleaf
<i>Coprosma acerosa</i>	sand coprosma
<i>Coprosma arborea</i>	mamangi, tree coprosma
<i>Coprosma areolata</i>	
<i>Coprosma crassifolia</i>	thick-leaved coprosma
<i>Coprosma grandifolia</i>	kanono
<i>Coprosma lucida</i>	shining karamu/kakaramu
<i>Coprosma macrocarpa</i> ssp. <i>minor</i>	coastal karamu
<i>Coprosma macrocarpa</i> × <i>C. robusta</i>	(J. Reid & P. Simpson)
<i>Coprosma parviflora</i>	
<i>Coprosma propinqua</i> ssp. <i>propinqua</i>	
<i>Coprosma propinqua</i> ssp. <i>propinqua</i> × <i>C. robusta</i>	
<i>Coprosma propinqua</i> ssp. <i>propinqua</i> × <i>C. macrocarpa</i>	AK 217494
<i>Coprosma repens</i>	taupata
<i>Coprosma repens</i> × <i>C. robusta</i>	
<i>Coprosma repens</i> × <i>C. rhamnoides</i>	AK 277974
<i>Coprosma rhamnoides</i>	
<i>Coprosma rigida</i>	
<i>Coprosma robusta</i>	karamu
<i>Coprosma rotundifolia</i>	round-leaved coprosma
<i>Coprosma spathulata</i>	
<i>Coprosma tenuicaulis</i>	swamp coprosma
<i>Coriaria arborea</i> var. <i>arborea</i>	tutu
<i>Corokia cotoneaster</i>	korokio, AK 205024, AK 205262, AK 180236
<i>Corynocarpus laevigatus</i>	karaka
<i>Dodonaea viscosa</i>	akeake
<i>Dracophyllum sinclairii</i>	SSBIO07/H007
<i>Dracophyllum lessonianum</i>	
<i>Dysoxylum spectabile</i>	kohekohe
<i>Elaeocarpus dentatus</i>	hinau, (Wright & Young 1991)
<i>Entelea aborescens</i>	whau
<i>Gaultheria antipoda</i>	snowberry

<i>Geniostoma rupestre</i> var. <i>ligustrifolium</i>	hangehange
<i>Griselinia lucida</i>	puka, shining broadleaf
<i>Hebe diosmifolia</i>	AK 205275, AK 205276, AK 180253, AK 205265
<i>Hebe stricta</i> var. <i>stricta</i>	koromiko
<i>Hedycarya arborea</i>	pigeonwood, porokaiwhiri
<i>Hoberia populnea</i>	houhere, northern lacebark
<i>Knightia excelsa</i>	rewarewa
<i>Kortbalsella salicornioides</i>	AK 232713
<i>Kunzea ericoides</i> var. <i>ericoides</i>	kanuka
<i>Kunzea ericoides</i> var. <i>linearis</i>	sand kanuka, AK 288776
<i>Laurelia novae-zelandiae</i>	pukatea
<i>Leptecophylla juniperina</i> ssp. <i>juniperina</i>	prickly heath
<i>Leptospermum scoparium</i>	manuka
<i>Leucopogon fasciculatus</i>	mingimingi
<i>Leucopogon fraseri</i>	patotara
<i>Litsea calicaris</i>	mangeao
<i>Lophomyrtus bullata</i>	
<i>Lophomyrtus bullata</i> × <i>L. obcordata</i>	AK 252585
<i>Lophomyrtus obcordata</i>	rohutu, AK 180267, AK 203113
<i>Macropiper excelsum</i> ssp. <i>excelsum</i> f. <i>excelsum</i>	kawakawa
<i>Melicope simplex</i>	poataniwha
<i>Melicope ternata</i>	wharangi (Reid 1977)
<i>Melicytus macrophyllus</i>	large-leaved mahoe
<i>Melicytus micranthus</i>	small-leaved mahoe
<i>Melicytus ramiflorus</i> ssp. <i>ramiflorus</i>	mahoe
<i>Metrosideros excelsa</i>	pohutukawa
<i>Metrosideros robusta</i>	northern rata
<i>Mida salicifolia</i>	willow-leaved maire
<i>Myrsine australis</i>	mapau, mapou
<i>Myrsine divaricata</i>	weeping mapou (Reid 1977)
<i>Nestegis lanceolata</i>	white maire, AK 252377
<i>Nestegis montana</i>	orooro, narrow-leaved maire
<i>Olearia albida</i>	AK 180238
<i>Olearia furfuracea</i>	akepiro
<i>Olearia rani</i>	heketara, (Reid 1977)
<i>Olearia solandri</i>	AK 252693
<i>Ozothamnus leptophyllus</i>	tauhinu
<i>Pennantia corymbosa</i>	kaikomako
<i>Pimelea arenaria</i>	sand pimelea, AK 101199, AK 101198
<i>Pimelea prostrata</i>	
<i>Pimelea tomentosa</i>	
<i>Pimelea urvilleana</i>	
<i>Pittosporum cornifolium</i>	perching kohuhu
<i>Pittosporum crassifolium</i>	karo

<i>Pittosporun eugenioides</i>	tarata, lemonwood
<i>Pittosporum tenuifolium</i>	kohuhu
<i>Plagianthus divaricatus</i>	saltmarsh ribbonwood, makaka
<i>Plagianthus regius</i>	lowland ribbonwood, manatu
<i>Pomaderris kumerabo</i>	kumarahou
<i>Pomaderris edgerleyi</i>	
<i>Pomaderris ericifolia</i>	
<i>Pomaderris phyllicifolia</i>	AK 286611
<i>Pseudopanax arboreus</i>	fivefinger, whauwhaupaku
<i>Pseudopanax crassifolius</i>	lancewood, horoeka
<i>Pseudopanax crassifolius</i> × <i>P. lessonii</i>	
<i>Pseudopanax ferox</i>	fierce lancewood, AK 205022, AK 205021, AK 300268, AK 252746, AK 203129
<i>Pseudopanax ferox</i> × <i>P. lessonii</i>	AK 205023
<i>Pseudopanax lessonii</i>	coastal fivefinger, houpara, AK 203114
<i>Rhabdotoxanthus solandri</i>	turepo
<i>Schefflera digitata</i>	pate
<i>Sophora microphylla</i> s.l.	kowhai
<i>Streblus heterophyllus</i>	small-leaved milk tree, turepo
<i>Syzygium maire</i>	swamp maire, maire-tawake
<i>Vitex lucens</i>	puriri
<i>Weinmannia silvicola</i>	towai
MONOCOT. LIANES	
<i>Freycinetia banksii</i>	kiekie
<i>Ripogonum scandens</i>	supplejack, kareao
DICOT. LIANES	
<i>Calystegia sepium</i>	pink bindweed, pohue
<i>Calystegia soldanella</i>	shore bindweed, panahi
<i>Calystegia tuguriorum</i>	AK 222425, AK 120119
<i>Cassytba paniculata</i>	AK 225853
<i>Clematis cunninghamii</i>	AK 4150
<i>Clematis paniculata</i>	puawananga
<i>Metrosideros diffusa</i>	
<i>Metrosideros fulgens</i>	
<i>Metrosideros perforata</i>	aka
<i>Muehlenbeckia australis</i>	pohuehue
<i>Muehlenbeckia complexa</i>	pohuehue
<i>Passiflora tetrandra</i>	<i>kobia</i>
<i>Parsonsia heterophylla</i>	NZ jasmine
<i>Rubus cissoides</i>	bush lawyer, tataramoa
<i>Tetragonia implexicoma</i>	NZ spinach

LYCOPODS AND PSILOPSIDS

<i>Huperzia varia</i>	AK 205253
<i>Lycopodiella cernua</i>	arching clubmoss
<i>Lycopodium deuterodensum</i>	
<i>Lycopodium lateralis</i>	AK 35472
<i>Lycopodium varium</i>	
<i>Phylloglossum drummondii</i>	AK 286617
<i>Tmesipteris lanceolata</i>	(Cameron et al. 2001)

MOSSES¹

<i>Acbrophyllum dentatum</i>	AK 201987
<i>Brachythecium rutabulum</i>	AK 201988
<i>Bryum billardierei</i> var. <i>platyloma</i>	AK 201989
<i>Bryum sauteri</i>	AK 201990
<i>Calyptrochaeta brownii</i>	AK 201991
<i>Camptochete arbuscula</i>	AK 201992
<i>Camptochaete pulvinata</i>	AK 201993
<i>Camptochaete deflexa</i>	AK 201994
<i>Campylopus introflexus</i>	AK 201995
<i>Campylopus pyriformis</i>	AK 201996
<i>Cyatboporum bulbosum</i>	AK 201997
<i>Cyrtopus setosus</i>	AK 201998
<i>Dicranoloma billardierei</i>	AK 201999
<i>Dicranoloma fasciatum</i>	AK 202000
<i>Dicranoloma menziesii</i>	AK 202001
<i>Disticophyllum crispulum</i>	AK 202002
<i>Eurhynchium praelongum</i>	AK 202028
<i>Fissidens curvatus</i>	AK 202004
<i>Fissidens tenellus</i>	AK 202005
<i>Haplobryum pseudo-triste</i>	AK 202006
<i>Hypnodendrum colensoi</i>	AK 202008
<i>Hypnum chrysogaster</i>	AK 202009
<i>Hypnum cupressiforme</i>	AK 202010
<i>Hypopterygium rotulatum</i>	AK 202011
<i>Lembophyllum divulsum</i>	AK 202012
<i>Leptodontium interruptum</i>	AK 202013
<i>Leptostomum macrocarpum</i>	AK 202014
<i>Leucobryum candidum</i>	AK 202015
<i>Lopidium concinnum</i>	AK 202016
<i>Macromitrium gracile</i>	AK 202017
<i>Macromitrium ligulaefolium</i>	AK 202018
<i>Macromitrium ligulare</i>	AK 202019
<i>Macromitrium prorepens</i>	AK 202020
<i>Macromitrium retusum</i>	AK 202021
<i>Orthorrhynchium elegans</i>	AK 202022

¹ All moss records are from Beaver (1991).

<i>Papillaria crocea</i>	AK 202023
<i>Pseudotaxiphyllum falcifolium</i>	AK 202007
<i>Ptychomion aciculare</i>	AK 202024
<i>Racopilum convolutaceum</i>	AK 202025
<i>Rhyncostegium muriculatum</i>	AK 202003
<i>Rhyncostegium tenuifolium</i>	AK 202026
<i>Rbaphidorrhynchium amoenum</i>	AK 202027
<i>Sphagnum cristatum</i>	
<i>Tetraphidopsis pusilla</i>	AK 202029
<i>Thuidium furfurosum</i>	AK 202030
<i>Thuidium sparsum</i>	AK 201985
<i>Tortella knightii</i>	AK 202031
<i>Trachyloma diversinerve</i>	AK 202032
<i>Trachyloma planifolium</i>	AK 202033
<i>Weymouthia cochlearifolia</i>	AK 202034
<i>Weymouthia mollis</i>	AK 2022035
<i>Wijkia extenuata</i>	AK 2022036
<i>Zygodon intermedius</i>	AK 202037

FERNS

<i>Adantium aethiopicum</i>	true maidenhair, AK 252590
<i>Adiantum cunninghamii</i>	common maidenhair
<i>Adiantum formosum</i>	AK 135734
<i>Adiantum hispidulum</i>	rosy maidenhair
<i>Adiantum viridescens</i>	
<i>Anarthropteris lanceolata</i>	
<i>Arthropteris tenella</i>	
<i>Asplenium bulbiferum</i>	hen and chickens fern
<i>Asplenium flaccidum</i>	hanging spleenwort
<i>Asplenium gracillimum</i>	
<i>Asplenium bookerianum</i>	AK 205258
<i>Asplenium oblongifolium</i>	shining spleenwort huruhuru whenua
<i>Asplenium obtusatum</i> ssp. <i>northblandicum</i>	shore spleenwort
<i>Asplenium polyodon</i>	sickle spleenwort, petako
<i>Blechnum chambersii</i>	rereti
<i>Blechnum discolor</i>	crown fern AK 25272, AK 252726
<i>Blechnum filiforme</i>	thread fern, panako
<i>Blechnum fluviatile</i>	kiwakiwa, AK 252702
<i>Blechnum fraseri</i>	
<i>Blechnum minus</i>	swamp kiokio
<i>Blechnum novae-zelandiae</i>	kiokio
<i>Cyathea dealbata</i>	ponga, silver fern
<i>Cyathea medullaris</i>	mamaku, black tree fern
<i>Cyclosorus interruptus</i>	AK 248058
<i>Deparia petersenii</i> ssp. <i>congrua</i>	
<i>Dicksonia squarrosa</i>	wheki

<i>Diplazium australe</i>	lady fern
<i>Doodia australis</i>	rasp fern, pukupuku
<i>Doodia mollis</i>	AK 235015
<i>Gleichenia dicarpa</i>	tangle fern
<i>Gleichenia microphylla</i>	carrier tangle, waewaekaka
<i>Grammitis ciliata</i>	AK 205263
<i>Histiopteris incisa</i>	water fern, matata
<i>Hymenophyllum demissum</i>	filmy fern, irirangi (Wright & Young 1991)
<i>Hymenophyllum dilatatum</i>	AK 205259
<i>Hymenophyllum flexuosum</i>	AK 205271
<i>Hymenophyllum revolutum</i>	AK 205264
<i>Hymenophyllum sanguinolentum</i>	AK 205252
<i>Hymenophyllum scabrum</i>	AK 205250
<i>Hypolepis ambigua</i>	AK 25237, AK 252351, AK 252376
<i>Hypolepis distans</i>	
<i>Lastreopsis glabella</i>	
<i>Lastreopsis bispida</i>	
<i>Lastreopsis microsora</i> ssp. <i>pentangularis</i>	AK 235016
<i>Leptopteris hymenophylloides</i>	AK 115901
<i>Lindsaea linearis</i>	AK 292349
<i>Lygodium articulatum</i>	mangemange
<i>Microsorium pustulatum</i>	hound's tongue fern, kowaowao
<i>Microsorium scandens</i>	mokimoki, fragrant fern
<i>Paesia scaberula</i>	ring fern, hard fern, matata
<i>Pellaea rotundifolia</i>	AK 155152, AK 206067
<i>Polystichum neozelandicum</i> ssp. <i>neozelandicum</i>	AK 203112, AK 205257
<i>Pneumatopteris pennigera</i>	gully fern
<i>Psilotum nudum</i>	AK 22895, AK 228957
<i>Pteridium esculentum</i>	bracken, rarahu
<i>Pteris comans</i>	coastal brake AK 252732
<i>Pteris macilenta</i> (of NZ authors)	
<i>Pteris tremula</i>	shaking brake, turawera
<i>Pyrrosia eleagnifolia</i>	leather-leaf fern
<i>Schizaea fistulosa</i>	comb fern, AK 163524
<i>Sticherus flabellatus</i> var. <i>flabellatus</i>	
<i>Thelypteris confluens</i>	marsh fern, AK 252344, AK 220594, AK 202660, AK 248057, AK 287536
<i>Trichomanes reniforme</i>	AK 205251
ORCHIDS	
<i>Acianthus sinclairii</i>	(Wright & Young 1991)
<i>Calochilus</i> aff. <i>herbaceus</i>	AK 241957
<i>Corybas trilobus</i> agg.	(Wright & Young 1991)
<i>Drymoanthus adversus</i>	

<i>Earina aestivalis</i>	AK 203130, AK 203125, AK 252450
<i>Earina autumnalis</i>	(Wright & Young 1991)
<i>Earina mucronata</i>	peka-a-waka
<i>Gastrodia aff. sesamoides</i>	AK 3677
<i>Icthyostomum pygmaeum</i>	(Wright & Young 1991)
<i>Microtis unifolia</i>	onion orchid, maikaika
<i>Pterostylis alobula</i>	(Wright & Young 1991)
<i>Spiranthes novae-zelandiae</i>	ladies tresses, AK 252671
<i>Tbelymitra cyanea</i>	
<i>Tbelymitra longifolia</i>	
<i>Tbelymitra pauciflora</i>	(Colenso 1888)
<i>Tbelymitra pulchella</i>	
<i>Tbelymitra tholiformis</i>	(SSBI P07/H056)
<i>Winika cunninghamii</i>	(Wright & Young 1991)

GRASSES

<i>Austrostipa stipoides</i>	shore tussock
<i>Cortaderia fulvida</i>	toetoe
<i>Cortaderia splendens</i>	coastal toetoe
<i>Dichelachne crinita</i>	
<i>Elymus multiflorus</i>	AK 11173, AK 278676, AK 198002, AK 232709
<i>Isachne globosa</i>	swamp millet
<i>Lachnagrostis filiformis</i>	AK 216376
<i>Lachnagrostis billardierei</i>	sand wind grass
<i>Microlaena polynoda</i>	AK 252691, AK 252691
<i>Microlaena stipoides</i>	patiti, meadow rice grass
<i>Oplismenus hirtellus</i> ssp. <i>imbecillis</i>	
<i>Poa anceps</i> var. <i>anceps</i>	drooping poa
<i>Poa pusilla</i> var. <i>pusilla</i>	AK 289603, AK 158406, AK 158406
<i>Rytidosperma biannulare</i>	
<i>Rytidosperma gracile</i>	danthonia, (Wright & Young 1991)
<i>Rytidosperma unarede</i>	AK 252582
<i>Rytidosperma viride</i>	
<i>Spinifex sericeus</i>	spinifex
<i>Trisetum arduanum</i>	AK 11153, AK 233099
<i>Zoysia pauciflora</i>	

SEDGES

<i>Baumea arthrophylla</i>	
<i>Baumea articulata</i>	
<i>Baumea juncea</i>	
<i>Baumea rubiginosa</i>	
<i>Baumea tenax</i>	
<i>Baumea teretifolia</i>	
<i>Bolboschoenus caldwellii</i>	AK 252378, AK 36466
<i>Bolboschoenus fluviatilis</i>	marsh clubrush

<i>Carex dissita</i>	
<i>Carex fascicularis</i>	AK 35492, AK 294608, AK 252705
<i>Carex lambertiana</i>	AK 252710
<i>Carex lessoniana</i>	AE Wright, unpubl. data
<i>Carex maorica</i>	
<i>Carex ochrosaccus</i>	AK 235020
<i>Carex pumila</i>	sand sedge
<i>Carex secta</i>	purei
<i>Carex spinirostris</i>	AK 252708
<i>Carex subdola</i>	AK 35474
<i>Carex</i> aff. <i>testacea</i> ('raotest')	
<i>Carex virgata</i>	purei
<i>Cyperus ustulatus</i>	giant umbrella sedge,
<i>upokotangata</i>	
<i>Desmoschoenus spiralis</i>	pingao, golden sand sedge
<i>Eleocharis acuta</i>	
<i>Eleocharis gracilis</i>	
<i>Eleocharis neozelandica</i>	sand spike-sedge, AK 284635, AK 252643
<i>Eleocharis sphacelata</i>	
<i>Ficinia nodosa</i>	knobby clubrush
<i>Fimbristylis velata</i>	AK 254137
<i>Gabnia lacera</i>	tarangarara
<i>Gabnia setifolia</i>	mapere
<i>Gabnia xanthocarpa</i>	toikiwi
<i>Isolepis cernua</i>	
<i>Isolepis distigmata</i>	
<i>Isolepis prolifer</i>	
<i>Isolepis reticularis</i>	
<i>Lepidosperma australe</i>	AK 202653
<i>Lepidosperma laterale</i>	sword sedge
<i>Morelotia affinis</i>	
<i>Schoenoplectus tabernaemontanii</i>	lake sedge, kuta
<i>Schoenus brevifolius</i>	
<i>Schoenus carsei</i>	AK 246919
<i>Schoenus maschalinus</i>	
<i>Schoenus pauciflorus</i>	
<i>Schoenus tendo</i>	wiwi
<i>Tetraria capillaris</i>	
<i>Uncinia banksii</i>	hook sedge
<i>Uncinia distans</i>	(Cameron et al. 2001)
<i>Uncinia laxiflora</i>	AK 205277, AK 252719, AK 252733
<i>Uncinia uncinata</i>	hook sedge
<i>Uncinia zotovii</i>	hook sedge, (Wright & Young
1991)	
RUSHES AND ALLIED PLANTS	
<i>Juncus australis</i>	(Cameron et al. 2001)
<i>Juncus edgarae</i>	

<i>Juncus kraussii</i> ssp. <i>australiensis</i>	sea rush
<i>Juncus pauciflorus</i>	
<i>Juncus planifolius</i>	
<i>Juncus pallidus</i>	pale rush
<i>Juncus sarophorus</i>	

MONOCOT. HERBS (other than orchids, grasses, sedges and rushes)

<i>Apodasmia similis</i>	oioi, jointed rush
<i>Arthropodium cirratum</i>	rengarenga
<i>Astelia banksii</i>	coastal astelia, kowharawhara
<i>Astelia</i> cf. <i>grandis</i>	AK 297736
<i>Astelia solandri</i>	(Cameron et al. 2001)
<i>Astelia trinervia</i>	kauri grass
<i>Collopermum bastatum</i>	perching lily, kahakaha
<i>Cordyline pumilio</i>	ti rauriki
<i>Dianella baemata</i>	
<i>Dianella nigra</i>	inkberry, turutu
<i>Empodisma minus</i>	wire rush
<i>Hydatella inconspicua</i>	AK 256186, AK 297462, AK 299041, AK 207127, AK 253948
<i>Lemna minor</i>	duckweed
<i>Lepilaina bilocularis</i>	(Cameron et al. 2001)
<i>Libertia ixioides</i>	AK 292945
<i>Phormium tenax</i>	harakeke, flax
<i>Potamogeton cheesemanii</i>	pondweed, (Tanner et al. 1986)
<i>Potamogeton ochreatus</i>	AK 216450, AK 218869, AK 1240
<i>Potamogeton pectinatus</i>	AK 234413, AK 234703
<i>Ruppia polycarpa</i>	AK 252681, AK 252681
<i>Sparganium subglobosum</i>	burr-reed, AK 252720
<i>Stuckenia pectinata</i>	(Wells et al. 2007)
<i>Triglochin striata</i>	arrow grass
<i>Typba orientalis</i>	raupo, bullrush

COMPOSITE HERBS

<i>Centipeda minima</i> ssp. <i>minima</i>	sneezeweed (DOC Bioweb)
<i>Centipeda aotearoana</i>	AK 299835
<i>Cotula coronopifolia</i>	bachelor's buttons
<i>Euchiton sphaericus</i>	(Cameron et al. 2001)
<i>Lagenifera pumila</i>	AK 198003
<i>Lagenifera stipitata</i>	AK 252734
<i>Pseudognaphalium luteoalbum</i> agg.	Jersey cudweed
<i>Senecio glomeratus</i>	AK 120217, AK 252673
<i>Senecio hispidulus</i>	
<i>Senecio lautus</i> var. <i>lautus</i>	shore groundsel
<i>Senecio minimus</i>	
<i>Senecio scaberulus</i>	AK 233091
<i>Sigesbeckia australis</i>	AK 120217, AK 48862

DICOT. HERBS (OTHER THAN COMPOSITES)

<i>Alternanthera</i> aff. <i>sessilis</i>	AK 299836
<i>Apium</i> 'white denticles'	(Cameron et al. 2001)
<i>Apium prostratum</i>	NZ celery
<i>Callitriche muelleri</i>	starwort
<i>Callitriche petriei</i> ssp. <i>petriei</i>	(Wells et al. 2007)
<i>Centella uniflora</i>	
<i>Centrolepis strigosa</i>	CHR 319045, CHR 214231, AK 216436
<i>Dichondra repens</i>	Mercury Bay weed
<i>Disphyma australe</i>	native iceplant, horokaka
<i>Drosera auriculata</i>	common sundew
<i>Drosera binata</i>	forked sundew
<i>Drosera peltata</i>	AK 120008, AK 288722
<i>Drosera pygmaea</i>	AK 288711
<i>Elatine gratiolooides</i>	(Cameron et al. 2001)
<i>Epilobium billardioreanum</i> ssp. <i>billardioreanum</i>	AK 223770, AK 294727, AK 252737
<i>Epilobium cbionanthum</i>	AK 292348
<i>Epilobium rotundifolium</i>	AK 252727
<i>Galium divaricatum</i>	AK 217531
<i>Geranium solanderi</i>	(Cameron et al. 2001)
<i>Glossostigma elatinoides</i>	AK 252701
<i>Glossostigma submersum</i>	(Wells et al. 2007)
<i>Gonocarpus aggregatus</i>	AK 223975, AK 5930
<i>Gonocarpus incanus</i>	
<i>Gratiola sexdentata</i>	AK 11610
<i>Gunnera dentata</i>	AK 248040, AK 257556, AK 252354, AK 252353
<i>Gunnera prorepens</i>	AK 248035
<i>Haloragis erecta</i> ssp. <i>erecta</i>	toatoa
<i>Hydrocotyle dissecta</i>	
<i>Hydrocotyle pterocarpa</i>	
<i>Lagenifera stipitata</i>	AK 252734
<i>Leptostigma setulosum</i>	
<i>Lilaeopsis novae-zelandiae</i>	
<i>Lilaeopsis rutbiana</i>	AK 253608
<i>Limosella lineata</i>	(Cameron et al. 2001)
<i>Lobelia anceps</i>	punakuru
<i>Mentha cunninghamii</i>	AK 7591, AK 108220
<i>Myriophyllum pedunculatum</i>	(Cameron et al. 2001)
<i>Myriophyllum propinquum</i>	
<i>Myriophyllum robustum</i>	WELT SP44985
<i>Myriophyllum triphyllum</i>	AK 289585, AK 229605, AK 216300
<i>Myriophyllum votschii</i>	AK 252641
<i>Nertera dichondrifolia</i>	
<i>Nertera setulosa</i>	AK 252651
<i>Nertera scapanioides</i>	AK 252391, AK 248061, AK 292354, AK 293926

<i>Oxalis exilis</i>	(Cameron et al. 2001)
<i>Oxalis rubens</i>	
<i>Peperomia urvilleana</i>	AK 252361
<i>Persicaria decipiens</i>	native willow weed
<i>Ranunculus amphitricbus</i>	water buttercup
<i>Ranunculus urvilleanus</i>	AK 282128, AK 210673, AK 224122
<i>Samolus repens</i>	sea primrose
<i>Sarcocornia quinqueflora</i>	glasswort
<i>Selliera radicans</i>	remuremu
<i>Solanum americanum</i>	
<i>Stellaria paviflora</i>	(Wright & Young 1991)
<i>Viola lyalli</i>	native violet
<i>Utricularia australis</i>	yellow bladderwort, AK 248055, AK 292387
<i>Utricularia delicatula</i>	AK 292388
<i>Utricularia dichotoma</i>	AK 241956
<i>Wahlenbergia littoralis</i> ssp. <i>vernica</i>	

5.2 Exotic Species

GYMNOSPERMS

<i>Cupressus macrocarpa</i>	macrocarpa
<i>Pinus pinaster</i>	maritime pine
<i>Pinus radiata</i>	radiata pine

DICOT. TREES AND SHRUBS

<i>Acacia paradoxa</i>	kangaroo wattle
<i>Acacia longifolia</i>	Sydney golden wattle
<i>Acacia mearnsii</i>	black wattle
<i>Acacia melanoxylon</i>	Tasmanian blackwood
<i>Acacia verticillata</i>	prickly Moses, AK 120019
<i>Banksia integrifolia</i>	coastal banksia
<i>Berberis glaucocarpa</i>	barberry
<i>Betula pendula</i>	silver birch
<i>Chrysanthemoides monilifera</i>	boneseed
<i>Clerodendrum trichotomum</i>	AK 217175
<i>Cotoneaster glaucophyllus</i>	cotoneaster
<i>Crataegus monogyna</i>	hawthorn
<i>Elaeagnus × reflexa</i>	elaeanthus
<i>Erica baccans</i>	berry heath
<i>Erica caffra</i>	hedge heath, AK 120009
<i>Erica lusitanica</i>	Spanish heath
<i>Eriobotrya japonica</i>	loquat
<i>Erythrina × sykesii</i>	coral tree
<i>Hakea gibbosa</i>	downy hakea

<i>Hakea salicifolia</i>	willow-leaved hakea
<i>Hakea sericea</i>	prickly hakea, needlebush
<i>Ligustrum lucidum</i>	tree privet
<i>Ligustrum sinense</i>	Chinese privet
<i>Lupinus arboreus</i>	tree lupin
<i>Lycium ferocissimum</i>	boxthorn
<i>Paraserianthes lophantha</i>	brush wattle
<i>Pyracantha angustifolia</i>	firethorn, AK 239586
<i>Olea europaea</i> ssp. <i>europaea</i>	olive, CHR 214141, AK 215883
<i>Prunus persica</i>	peach
<i>Psoralea pinnata</i>	dally pine, cut-leaf psoralea
<i>Rosa</i> cv.	rose
<i>Rubus</i> sp. (<i>R. fruticosus</i> agg.)	blackberry
<i>Salix cinerea</i>	grey willow
<i>Salix fragilis</i>	crack willow
<i>Senna septemtrionalis</i>	buttercup bush, CHR 276338
<i>Solanum mauritianum</i>	woolly nightshade
<i>Tibouchina urvilleana</i>	AK 215530
<i>Ulex europaeus</i>	gorse

MONOCOT TREES

<i>Phoenix canariensis</i>	phoenix palm, AK 153623
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FERNS

<i>Azolla pinnata</i>	ferny azolla
<i>Osmunda regalis</i>	royal fern

MONOCOT. LIANES

<i>Asparagus asparagoides</i>	smilax, CHR 81437
<i>Asparagus scandens</i>	climbing asparagus

DICOT. LIANES

<i>Calystegia silvatica</i>	great bindweed, CHR 214249
<i>Cassytha pubescens</i>	dodder laurel, AK 256213
<i>Clematis maximowicziana</i>	(Webb et al. 1989)
<i>Dipogon lignosus</i>	mile-a-minute, CHR 473710
<i>Jasminum polyanthum</i>	Jasmine
<i>Lonicera japonica</i>	Japanese honeysuckle
<i>Passiflora caerulea</i>	blue passionfruit
<i>Passiflora tripartita</i> var. <i>mollissima</i>	banana passionfruit
<i>Rubus ostryifolius</i>	AK 252696
<i>Rubus rosifolius</i>	AK 282117
<i>Senecio mikanioides</i>	German ivy
<i>Vinca major</i>	periwinkle, AK 119922
<i>Vitis vinifera</i>	grape
<i>Wisteria sinensis</i>	wisteria

LYCOPODS AND PSILOPSIDS

Sellaginella kraussiana selaginella

GRASSES

Agrostis capillaris browntop
Agrostis stolonifera creeping bent, AK 143703, AK 252695
Aira caryophyllea silvery hair grass
Alopecurus pratensis meadow foxtail
Ammophila arenaria marram
Anthoxanthum odoratum sweet vernal
Arundo donax giant reed grass
Avena barbata slender oat
Axonopus fissifolius narrow-leaved carpet grass
Briza maxima large quaking grass
Briza minor shivery grass
Bromus arenarius ripgut brome, sand brome
Bromus willdenowii prairie grass
Cortaderia jubata purple pamapas
Cortaderia selloana pampas
Cynodon dactylon Bermuda grass
Cynosurus echinatus rough dogstail, AK 216750
Dactylis glomerata cocksfoot
Echinochloa crus-galli barnyard grass, AK 119869
Glyceria declinata small sweet grass
Glyceria maxima reed sweet grass
Holcus lanatus Yorkshire fog
Lagurus ovatus harestail
Lolium perenne perennial ryegrass
Panicum dichotomiflorum smooth witchgrass, AK 278751
Parapholis strigosa strigose sicklegrass, AK 252694
Paspalum dilatatum paspalum
Paspalum distichum Mercer grass
Paspalum urvillei Vasey grass
Paspalum vaginatum saltwater paspalum
Pennisetum clandestinum kikuyu
Pennisetum macrourum African feather grass, AK 227138, AK 252712, AK 205952
Pbalaris aquatica AK 143702, AK 227138
Pbleum pratense timothy
Poa annua annual meadow grass
Poa trivialis rough-stalked meadow grass, AK 218010
Polypogon fugax
Polypogon monspeliensis beard grass, AK 276721, AK 35459, AK 99168
Rytidosperma penicillatum danthonia
Rytidosperma racemosum (Cameron et al. 2001)

<i>Schedonorus phoenix</i>	tall fescue
<i>Setaria gracilis</i>	knotroot bristlegrass, AK 276722
<i>Setaria palmifolia</i>	plam grass, AK 222555
<i>Setaria pumila</i>	yellow bristlegrass, AK 277088
<i>Spartina alterniflora</i>	spartina
<i>Sporobolus africanus</i>	ratstail
<i>Stenotaphrum secundatum</i>	buffalo grass
<i>Vulpia myuros</i> ssp. <i>myuros</i>	hair grass
<i>Zizania latifolia</i>	Manchurian wild rice

SEDGES

<i>Carex divulsa</i>	grey sedge
<i>Carex longii</i>	
<i>Carex ovalis</i>	oval sedge
<i>Cyperus brevifolius</i>	globe sedge
<i>Cyperus congestus</i>	<i>purple umbrella sedge</i>
<i>Cyperus eragrostis</i>	umbrella sedge
<i>Cyperus polystachyos</i>	
<i>Isolepis marginata</i>	little club sedge, AK 216744
<i>Isolepis sepulcralis</i>	AK 252715
<i>Rhynchospora globularis</i>	globebeak sedge, AK 251997
<i>Schoenoplectus californicus</i>	American bullrush, AK 246002, AK 92826, AK 250304, AK 232860, AK 224056, AK 224055

RUSHES

<i>Juncus acutus</i>	sharp rush
<i>Juncus articulatus</i>	jointed rush
<i>Juncus bufonius</i>	toad rush
<i>Juncus bulbosus</i>	bulbous rush
<i>Juncus capitatus</i>	dwarf rush, AK 151481, AK 298035, AK 266382
<i>Juncus dichotomus</i>	forked rush, AK 252731, AK 252584
<i>Juncus effusus</i>	soft rush
<i>Juncus fockei</i>	(Ogle in Wright & Young 1991)
<i>Juncus microcephalus</i>	AK 35479, AK 35507
<i>Juncus sonderianus</i>	AK 251998, AK 298851
<i>Juncus tenuis</i>	track rush

MONOCOT. HERBS (other than orchids, grasses, sedges and rushes)

<i>Agapanthus praecox</i>	agapanthus
<i>Aristea ecklonii</i>	aristea (Cameron et al. 2001)
<i>Arum italicum</i>	Italian arum, AK 232792
<i>Canna indica</i>	canna lily
<i>Ceratophyllum demersum</i>	hornwort
<i>Crocsmia</i> × <i>crocsmiiflora</i>	montbretia
<i>Dracunculus vulgare</i>	stink lily (Cameron et al. 2001)

<i>Egeria densa</i>	lakeweed (Wells et al. 2007)
<i>Elodea canadensis</i>	Canadian pondweed (Tanner et al. 1986)
<i>Hedychium gardnerianum</i>	kahili ginger; wild ginger
<i>Ixia polystachya</i>	variable ixia, AK 35497
<i>Kniphofia uvaria</i>	red hot poker
<i>Lagarosiphon major</i>	oxygen weed (Wells et al. 2007)
<i>Lilium formosanum</i>	Formosan lily
<i>Otellia ovalifolia</i>	swamp lily (Tanner et al. 1986)
<i>Spirodela punctata</i>	purple-backed duckweed (Tanner et al. 1986)
<i>Tradescantia fluminensis</i>	tradescantia
<i>Watsonia meria</i> subsp. <i>bulbifera</i>	watsonia, AK 35463
<i>Zantedeschia aethiopica</i>	arum lily

COMPOSITE HERBS

<i>Achillea millefolium</i>	yarrow
<i>Ageratina adenophora</i>	Mexican devil
<i>Ageratina riparia</i>	mistflower
<i>Arctotheca calendula</i>	calendula AK 220800
<i>Arctotis stoechadifolia</i>	AK 271117
<i>Aster subulatus</i>	sea aster
<i>Bidens frondosa</i>	beggar's ticks
<i>Carduus acanthoides</i>	plumeless thistle, AK 219403
<i>Carduus nutans</i>	nodding thistle, CHR 212026
<i>Carthamus lanatus</i>	saffron thistle, AK 217798
<i>Cirsium arvense</i>	Californian thistle
<i>Cirsium vulgare</i>	Scotch thistle
<i>Conyza albida</i>	fleabane
<i>Conyza bonariensis</i>	wavy-leaved fleabane, AK 235017
<i>Conyza parva</i>	smooth fleabane, AK 203223
<i>Crepis capillaris</i>	hawksbeard
<i>Gamochaeta simplicicaulis</i>	(Cameron et al. 2001)
<i>Hypochoeris glabra</i>	<i>smooth</i> catsear, AK 252, AK 252350, AK 252728
<i>Hypochoeris radicata</i>	catsear
<i>Leontodon taraxacoides</i>	hawkbit
<i>Senecio bipinnatisecus</i>	Australian fireweed
<i>Senecio diaschides</i>	AK 218148
<i>Senecio jacobaea</i>	ragwort
<i>Senecio sylvaticus</i>	wood groundsel
<i>Sonchus asper</i>	prickly sowthistle
<i>Sonchus oleraceus</i>	sowthistle, puha
<i>Taraxacum officinale</i>	dandelion
<i>Tolpis barbata</i>	European milkwort, AK 205948
<i>Vellereophyton dealbatum</i>	white cudweed, AK 252356

DICOT. HERBS (other than composites)

<i>Alisma plantago-aquatica</i>	water speedwell
<i>Alternanthera philoxeroides</i>	alligator weed
<i>Anagallis arvensis</i>	scarlet pimpernel
<i>Apium nodiflorum</i>	water celery
<i>Aptenia cordifolia</i>	rock rose, AK 119956
<i>Atriplex prostrata</i>	sea orache
<i>Blackstonia perfoliata</i>	yellow-wort
<i>Callitriche stagnalis</i>	starwort
<i>Cardamine flexuosa</i>	wavy bittercress, AK 218226
<i>Carpobrotus edulis</i>	adventive iceplant
<i>Centaureum erythraea</i>	centaury
<i>Cerastium glomeratum</i>	annual mouse-ear chickweed
<i>Chenopodium ambrosioides</i>	Mexican tea, AK 235014, AK 119914
<i>Chenopodium murale</i>	nettle-leaved fathen, AK 297716
<i>Ciclospermum leptophyllum</i>	slender celery, AK 215974
<i>Coronopus didymus</i>	twincress, AK 262953
<i>Crassula multicava</i>	fairy crassula, AK 271800
<i>Daucus carota</i>	wild carrot
<i>Epilobium tetragonum</i>	AK 219372, AK 219373, AK 252672
<i>Euphorbia peplus</i>	milkweed
<i>Foeniculum vulgare</i>	fennel
<i>Galium aparine</i>	cleavers
<i>Galium palustre</i>	marsh bedstraw, AK 217523
<i>Geranium molle</i>	dovesfoot cranesbill
<i>Hypericum androsaemum</i>	tutsan
<i>Kennedia rubicunda</i>	dusky coral pea, AK 223804, AK 233991
<i>Limonium sinuatum</i>	blue statice, AK 201384
<i>Linum bienne</i>	pale flax
<i>Lotus pedunculatus</i>	lotus
<i>Lotus suaveolens</i>	hairy birdsfoot trefoil
<i>Ludwigia palustris</i>	water purslane
<i>Ludwigia peploides</i> ssp. <i>montevidensis</i>	water primrose
<i>Lytbrum hyssopifolia</i>	purple loosestrife
<i>Lytbrum junceum</i>	rose loosestrife, AK 141414
<i>Melilotus indicus</i>	King Island melilot
<i>Mentha pulegium</i>	pennyroyal
<i>Modiola caroliniana</i>	creeping mallow
<i>Myosotis discolor</i>	grassland forget-me-not, AK 276723
<i>Myosotis laxa</i> var. <i>caespitosa</i>	forget-me-not
<i>Nasturtium officinale</i>	watercress
<i>Oenanthe pimpinelloides</i>	parsley dropwort
<i>Ornithopus pinnatus</i>	yellow seradella
<i>Ornithopus sativus</i>	serradella, AK 252448
<i>Orobanche minor</i>	broomrape
<i>Oxalis pes-caprae</i>	Bermuda buttercup, AK 120001

<i>Parentucellia viscosa</i>	tarweed
<i>Petroselinum crispum</i>	parsley, AK 151620
<i>Phytolacca octandra</i>	inkweed
<i>Plantago australis</i>	swamp plantain
<i>Plantago coronopus</i>	buck's horn plantain
<i>Plantago lanceolata</i>	narrow-leaved plantain
<i>Plantago major</i>	broad-leaved plantain
<i>Polycarpon tetraphyllum</i>	allseed
<i>Polygonum hydropiper</i>	water pepper
<i>Polygonum lapathifolium</i>	pale willow weed, AK 299823
<i>Polygonum punctatum</i>	American willow weed
<i>Polygonum strigosum</i>	spotted knotcord
<i>Prunella vulgaris</i>	selfheal
<i>Ranunculus repens</i>	creeping buttercup
<i>Ranunculus sardous</i>	hairy buttercup
<i>Ranunculus sceleratus</i>	celery-leaved buttercup, AK 119870, AK2 76724, AK 179261, AK 299170
<i>Rumex acetosella</i>	sheep's sorrel
<i>Rumex conglomeratus</i>	clustered dock
<i>Rumex frutescens</i>	Argentine dock, AK 218266, AK 252670
<i>Rumex obtusifolius</i>	broad leaved dock
<i>Sagina subulata</i>	<i>Irish moss</i> , AK 252371
<i>Sida rhombifolia</i>	paddy lucerne, AK 235200, AK 251296
<i>Silene gallica</i>	catchfly
<i>Sison amomum</i>	stone parsley, AK 153652
<i>Solanum nigrum</i>	black nightshade
<i>Soliva anthemifolia</i>	AK 90894
<i>Soliva sessilis</i>	Onehunga weed, AK 140756
<i>Spergularia rubra</i>	sand spurrey, AK 35457
<i>Trifolium repens</i>	white clover
<i>Trifolium resupinatum</i>	reversed clover, AK 219455
<i>Tropaeolum majus</i>	garden nasturtium
<i>Utricularia gibba</i>	(Wells et al. 2007)
<i>Verbena bonariensis</i>	purpletop
<i>Verbena littoralis</i>	blue vervain, AK 119957
<i>Verbena officinalis</i>	common vervain
<i>Verbena rigida</i>	creeping vervain, AK 211034
<i>Veronica arvensis</i>	field speedwell
<i>Veronica plebeia</i>	Australian speedwell (Cameron et al. 2001)
<i>Vicia sativa</i>	vetch
<i>Vinca major</i>	periwinkle

Appendix 6

COMMON PLANT NAMES USED IN TEXT

6.1 Native species

akepiro	<i>Olearia furfuracea</i>
arching clubmoss	<i>Lycopodiella cernua</i>
arrow grass	<i>Triglochin striata</i>
bog rush	<i>Schoenus pauciflorus</i>
bracken	<i>Pteridium esculentum</i>
burr-reed	<i>Sparganium subglobosum</i>
coastal karamu	<i>Coprosma macrocarpa</i> ssp. <i>minor</i>
coastal toetoe	<i>Cortaderia splendens</i>
common broom	<i>Carmichaelia australis</i>
domed sun orchid	<i>Thelymitra tholiformis</i>
duckweed	<i>Lemna minor</i>
fierce lancewood	<i>Pseudopanax ferox</i>
fivefinger	<i>Pseudopanax arboreu</i>
forked sundew	<i>Drosera binata</i>
giant umbrella sedge	<i>Cyperus ustulatus</i>
glasswort	<i>Sarcocornia quinqueflora</i>
gully tree fern	<i>Cyathea cunninghamii</i>
hangehange	<i>Geniostoma rupestre</i> var. <i>ligustrifolium</i>
harakeke	<i>Phormium tenax</i>
houhere	<i>Hoberia populnea</i>
kahakaha	<i>Collospermum bastatum</i>
kahikatea	<i>Dacrycarpus dacrydioides</i>
kaikomako	<i>Pennantia corymbosa</i>
kanuka	<i>Kunzea ericoides</i>
karaka	<i>Corynocarpus laevigatus</i>
karamu	<i>Coprosma robusta</i>
karo	<i>Pittosporum crassifolium</i>
kauri	<i>Agathis australis</i>
kauri grass	<i>Astelia trinervia</i>
kawakawa	<i>Macropiper excelsum</i> ssp. <i>excelsum</i> f. <i>excelsum</i>
kiekie	<i>Freycinetia banksii</i>
knobby clubrush	<i>Ficinia nodosa</i>
kohekohe	<i>Dysoxylum spectabile</i>
kohuhu	<i>Pittosporum tenuifolium</i>
korokio	<i>Corokia cotoneaster</i>
kowhai	<i>Sophora microphylla</i> s.l.

kowharawhara	<i>Astelia banksii</i>
kumara	<i>Ipomoea batatas</i>
kumeraho	<i>Pomaderris kumerabo</i>
kuta	<i>Schoenoplectus tabernaemontani</i>
lady fern	<i>Diplazium australe</i>
ladies' tresses	<i>Spiranthes novae-zelandiae</i>
lancewood	<i>Pseudopanax crassifolius</i>
mahoe	<i>Melicactus ramiflorus</i> ssp. <i>ramiflorus</i>
mamaku	<i>Cyathea medullaris</i>
mamangi	<i>Coprosma arborea</i>
manatu	<i>Plagianthus regius</i>
mangeao	<i>Litsea calicaris</i>
mangemange	<i>Lygodium articulatum</i>
mangrove	<i>Avicennia marina</i> ssp. <i>australasica</i>
manuka	<i>Leptospermum scoparium</i>
mapau	<i>Myrsine australis</i>
marsh fern	<i>Thelypteris confluens</i>
matai	<i>Prumnopitys taxifolia</i>
mingimingi	<i>Leucopogon fasciculatus</i>
miro	<i>Stachypitys ferruginea</i>
narrow-leaved maire	<i>Nestegis montana</i>
native iceplant	<i>Disphyma australe</i>
native willow weed	<i>Persicaria decipiens</i>
nikau	<i>Rhopalostylis sapida</i>
northern rata	<i>Metrosideros robusta</i>
New Zealand jasmine	<i>Parsonsia heterophylla</i>
New Zealand spinach	<i>Tetragonia implexicoma</i>
oioi	<i>Apodasmia similis</i>
pale rush	<i>Juncus pallidus</i>
pate	<i>Schefflera digitata</i>
pigeonwood	<i>Hedycarya arborea</i>
pingao	<i>Desmoschoenus spiralis</i>
poataniwha	<i>Melicope simplex</i>
pohuehue	<i>Muehlenbeckia complexa</i>
pohutukawa	<i>Metrosideros excelsa</i>
ponga	<i>Cyathea dealbata</i>
prickly heath	<i>Leptecophylla juniperina</i> ssp. <i>juniperina</i>
pukatea	<i>Laurelia novae-zelandiae</i>
puriri	<i>Vitex lucens</i>
putaputaweta	<i>Carpodetus serratus</i>
rangiora	<i>Brachyglottis repanda</i>

rasp fern	<i>Doodia australis</i>
raupo	<i>Typha orientalis</i>
remuremu	<i>Selliera radicans</i>
rengarenga	<i>Arthropodium cirratum</i>
rewarewa	<i>Knigbtia excelsa</i>
ring fern	<i>Paesia scaberula</i>
rimu	<i>Dacrydium cupressinum</i>
rohutu	<i>Lophomyrtus obcordata</i>
round-leaved coprosma	<i>Coprosma rotundifolia</i>
saltmarsh ribbonwood	<i>Plagianthus divaricatus</i>
sand coprosma	<i>Coprosma acerosa</i>
sand wind grass	<i>Lachnagrostis billardierei</i>
sand sedge	<i>Carex pumila</i>
sand spike-sedge	<i>Eleocharis neozelandica</i>
sea primrose	<i>Samolus repens</i>
sea rush	<i>Juncus kraussii</i> ssp. <i>australiensis</i>
shining karamu	<i>Coprosma lucida</i>
shore bindweed	<i>Calystegia soldanella</i>
shore tussock	<i>Austrostipa stipoides</i>
spinifex	<i>Spinifex sericeus</i>
small-leaved mahoe	<i>Melicytus micranthus</i>
small-leaved milk tree	<i>Streblus heterophyllus</i>
sneezeweed	<i>Centipeda minima</i> ssp. <i>minima</i>
sphagnum	<i>Sphagnum cristatum</i>
supplejack	<i>Ripogonum scandens</i>
swamp coprosma	<i>Coprosma tenuicaulis</i>
swamp kiokio	<i>Blechnum minus</i>
swamp maire	<i>Syzygium maire</i>
swamp millet	<i>Isachne globosa</i>
tanekaha	<i>Phyllocladus trichomanoides</i>
tangle fern	<i>Gleichenia dicarpa</i>
taraire	<i>Beilschmiedia tarairi</i>
tarata	<i>Pittosporum eugenioides</i>
tauhinu	<i>Ozothamnus leptophyllus</i>
tawa	<i>Beilschmiedia tawa</i>
tawapou	<i>Pouteria costata</i>
thick-leaved coprosma	<i>Coprosma crassifolia</i>
ti kouka	<i>Cordyline australis</i>
titoki	<i>Alectryon excelsus</i> ssp. <i>excelsus</i>
toetoe	<i>Cortaderia fulvida</i>
toikiwi	<i>Gabnia xanthocarpa</i>
totara	<i>Podocarpus totara</i>
towai	<i>Weinmannia silvicola</i>
true maidenhair	<i>Adiantum aethiopicum</i>
water buttercup	<i>Ranunculus amphitrichus</i>
water fern	<i>Histiopteris incisa</i>
weeping mapou	<i>Myrsine divaricata</i>

wharangi
whau
wheki
white maire
willow-leaved maire
wire rush
yellow bladderwort

Melicope ternata
Entelea aborescens
Dicksonia squarrosa
Nestegis lanceolata
Mida salicifolia
Empodisma minus
Utricularia australis

6.2 Adventive species

alligator weed
adventive iceplant
berry heath
black wattle
blackberry
boneseed
boxthorn
brush wattle
buffalo grass
Canadian pondweed
catsear
Chinese privet
cleavers
climbing asparagus
creeping bent
creeping buttercup
dally pine
downy hakea
Formosan lily
gorse
hairy birdsfoot trefoil
haretail
hornwort
Japanese honeysuckle
kikuyu
lakeweed
lotus
Manchurian wild rice
maritime pine
marram
Mercer grass
Mexican devil
mistflower
montbretia
prickly hakea
oval sedge
oxygen weed
pampas

Alternanthera philoxeroides
Carpobrotus edulis
Erica baccans
Acacia mearnsii
Rubus sp. (R. fruticosus agg.)
Chrysanthemoides monilifera
Lycium ferocissimum
Paraserianthes lophantha
Stenotaphrum secundatum
Elodea canadensis
Hypochoeris radicata
Ligustrum sinense
Galium aparine
Asparagus scandens
Agrostis stolonifera
Ranunculus repens
Psoralea pinnata
Hakea gibbosa
Lilium formosanum
Ulex europaeus
Lotus suaveolens
Lagurus ovatus
Ceratophyllum demersum
Lonicera japonica
Pennisetum clandestinum
Egeria densa
Lotus pedunculatus
Zizania latifolia
Pinus pinaster
Ammophila arenaria
Paspalum distichum
Ageratina adenophora
Ageratina riparia
Crocasmia X crocosmiiflora
Hakea sericea
Carex ovalis
Lagarosiphon major
Cortaderia selloana

paspalum	<i>Paspalum dilatatum</i>
purple umbrella sedge	<i>Cyperus congestus</i>
quaking grass	<i>Briza minor</i>
radiata pine	<i>Pinus radiata</i>
ragwort	<i>Senecio jacobaea</i>
royal fern	<i>Osmunda regalis</i>
saltwater paspalum	<i>Paspalum vaginatum</i>
sharp rush	<i>Juncus acutus</i>
soft rush	<i>Juncus effusus</i>
Spanish heath	<i>Erica lusitanica</i>
sweet grass	<i>Glyceria</i> spp.
sweet vernal	<i>Anthoxanthum odoratum</i>
Sydney golden wattle	<i>Acacia longifolia</i>
tall fescue	<i>Schedonorus phoenix</i>
tarweed	<i>Parentucellia viscosa</i>
tradescantia	<i>Tradescantia fluminensis</i>
tree lupin	<i>Lupinus arboreus</i>
tree privet	<i>Ligustrum lucidum</i>
umbrella sedge	<i>Cyperus eragrostis</i>
water celery	<i>Apium nodiflorum</i>
water pepper	<i>Polygonum hydropiper</i>
water primrose	<i>Ludwigia peploides</i>
water purslane	<i>Ludwigia palustris</i>
white clover	<i>Trifolium repens</i>
wild ginger	<i>Hedychium gardnerianum</i>
willow-leaved hakea	<i>Hakea salicifolia</i>
woolly nightshade	<i>Solanum mauritianum</i>
Yorkshire fog	<i>Holcus lanatus</i>

Appendix 7

CHECKLIST OF FAUNA IN KAIPARA ECOLOGICAL DISTRICT (NORTHLAND CONSERVANCY)

Checklist compiled by the authors. Additional records from Ornithological Society of New Zealand (OSNZ), Crockett (comp.) (1992–2004), Wells et al. (2007), and R. Parrish (pers. comm.).

7.1 Mammals - native

Arctocephalus forsteri New Zealand fur seal; kekeno

7.2 Mammals - introduced (feral)

Erinaceus europaeus European hedgehog
Felis catus cat

<i>Lepus europaeus</i>	brown hare
<i>Mus musculus</i>	house mouse
<i>Mustela erminea</i>	stoat
<i>Mustela furo</i>	ferret
<i>Mustela nivalis</i>	weasel
<i>Oryctolagus cuniculus</i>	European rabbit
<i>Rattus norvegicus</i>	Norway rat
<i>Rattus rattus</i>	ship rat
<i>Sus scrofa</i>	pig
<i>Trichosurus vulpecula</i>	brush-tail possum

7.3 Birds - native

<i>Anarhynchus frontalis</i>	wrybill; ngutuparore
<i>Anas aucklandica chlorotis</i>	brown teal; pateke (historical)
<i>Anas gracilis</i>	grey teal; tete
<i>Anas rhynchotis</i>	Australasian shoveler; kuruwhengi
<i>Anas superciliosa superciliosa</i>	grey duck; parera
<i>Anthus novaeseelandiae novaeseelandiae</i>	New Zealand pipit; pihoihoi
<i>Apteryx mantelli</i>	North Island brown kiwi
<i>Ardea novaehollandiae</i>	white-faced heron
<i>Arenaria interpres</i>	turnstone
<i>Aythya novaezealandiae</i>	New Zealand scaup; papango
<i>Botaurus poiciloptilus</i>	Australasian bittern; matuku
<i>Bowdleria punctata vealeae</i>	North Island fernbird; matata
<i>Bubulcus ibis</i>	cattle egret
<i>Calidris canutus</i>	lesser knot; huahou
<i>Charadrius bicinctus bicinctus</i>	banded dotterel; tuturiwhatu
<i>Charadrius melanops</i>	black-fronted dotterel
<i>Charadrius obscurus aquilonius</i>	northern New Zealand dotterel; tuturiwhatu pukunui
<i>Chilodrias leucopterus</i>	white-winged black tern
<i>Chrysococcyx lucidus lucidus</i>	shining cuckoo; pipiwharauoa
<i>Circus approximans</i>	Australasian harrier; kahu
<i>Daption capense</i>	Cape pigeon/titore
<i>Diomedea cauta cauta</i>	white-capped mollymawk
<i>Egretta alba modesta</i>	white heron; kotuku
<i>Egretta garzetta</i>	little egret
<i>Egretta sacra sacra</i>	reef heron; matuku-moana
<i>Eudyptula minor iredalei</i>	northern little blue penguin; korora
<i>Fulica atra australis</i>	Australasian coot
<i>Gallirallus australis australis</i>	North Island weka (historical)
<i>Gallirallus philippensis assimilis</i>	banded rail; moho-pereru
<i>Gerygone igata</i>	grey warbler; riroriro
<i>Haematopus ostralegus</i>	South Island pied oystercatcher; torea
<i>Haematopus unicolor</i>	variable oystercatcher; torea; torea-pango
<i>Halobaena caerulea</i>	blue petrel

<i>Hemiphaga novaeseelandiae</i>	New Zealand pigeon; kukupa
<i>Himantopus himantopus leucocephalus</i>	Australasian pied stilt; poaka
<i>Himantopus novaeseelandiae</i>	black stilt; kaki
<i>Hirundo tabitica neoxena</i>	Pacific swallow, welcome swallow
<i>Hirundapus caudacutus</i>	spine-tailed swift
<i>Larus bulleri</i>	black-billed gull
<i>Larus dominicanus dominicanus</i>	(southern) black-backed gull, Dominican gull, karoro
<i>Larus novaehollandiae scopulinus</i>	red-billed gull; tarapunga
<i>Limosa lapponica</i>	bar-tailed godwit
<i>Morus serrator</i>	Australasian gannet; takapu
<i>Nestor meridionalis septentrionalis</i>	North Island kaka
<i>Ninox novaeseelandiae</i>	morepork; ruru
<i>Numenius pbaeopus</i>	whimbrel
<i>Pachyptila desolata</i>	Antarctic prion
<i>Pachyptila tartar</i>	fairly prion
<i>Phalacrocorax carbo novaehollandiae</i>	black shag; kawau
<i>Phalacrocorax melanoleucos</i>	little shag; kawaupaka
<i>Phalacrocorax sulcirostris</i>	little black shag
<i>Phalacrocorax varius varius</i>	pied shag; karuhiruhi
<i>Platalea regia</i>	Royal spoonbill; kotuku-ngutupapa
<i>Plegadis falcinellus</i>	glossy ibis
<i>Pluvialis fulva</i>	Pacific golden plover
<i>Porphyrio porphyrio melanotus</i>	pukeko
<i>Porzana pusilla affinis</i>	marsh crane; koitareke
<i>Porzana tabuensis plumbea</i>	spotless crane; puweto
<i>Prosthemadera novaeseelandiae novaeseelandiae</i>	tui
<i>Pterodroma inexpectata</i>	mottled petrel
<i>Pterodroma macoptera gouldi</i>	grey-faced petrel, North Island muttonbird, oi
<i>Rhipidura fuliginosa placabilis</i>	North Island fantail; piwakawaka
<i>Stercorarius parasiticus</i>	Arctic skua
<i>Sterna albifrons sinensis</i>	eastern little tern
<i>Sterna caspia</i>	Caspian tern; taranui
<i>Sterna fuscata</i>	sooty tern
<i>Sterna hirundo</i>	common tern
<i>Sterna nereis davisae</i>	New Zealand fairy tern
<i>Sterna striata striata</i>	white-fronted tern; tara
<i>Tachybaptus novaehollandiae</i>	Australasian little grebe
<i>Tadorna variegata</i>	paradise shelduck; putangitangi
<i>Thalassoica antarctica</i>	Antarctic petrel
<i>Todiramphus sanctus</i>	New Zealand kingfisher; kotare
<i>Vanellus miles</i>	spur-winged plover
<i>Zosterops lateralis</i>	silveryeye; tauhou

7.4 Birds - introduced

<i>Acridotheres tristis</i>	myna
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<i>Alauda arvensis</i>	skylark
<i>Anas platyrhynchos</i>	mallard
<i>Branta canadensis</i>	Canada goose
<i>Callipepla californica</i>	Californian quail
<i>Carduelis carduelis</i>	goldfinch
<i>Carduelis chloris</i>	greenfinch
<i>Carduelis flammea</i>	redpoll
<i>Coturnix ypsilophorus</i>	brown quail
<i>Cygnus atratus</i>	black swan
<i>Emberiza citrinella</i>	yellowhammer
<i>Fringilla coelebs</i>	chaffinch
<i>Gymnorhina tibicen</i>	Australian magpie
<i>Passer domesticus</i>	house sparrow
<i>Pavo cristatus</i>	peafowl
<i>Phasianus colchicus</i>	pheasant
<i>Platycercus eximius</i>	eastern rosella
<i>Prunella modularis</i>	dunnock; hedge sparrow
<i>Sturnus vulgaris</i>	starling
<i>Synoicus ypsilophorus</i>	brown quail
<i>Turdus merula</i>	blackbird
<i>Turdus philomelos</i>	song thrush

7.5 Reptiles - native

<i>Caretta caretta</i>	loggerhead sea turtle
<i>Chelonia mydas</i>	green turtle
<i>Cyclodina aenea</i>	copper skink
<i>Dermochelys coriacea</i>	leatherback turtle
<i>Eretmochelys imbricata</i>	hawksbill sea turtle
<i>Laticauda colubrina</i>	banded sea snake
<i>Naultinus elegans elegans</i>	Auckland green gecko
<i>Oligosoma smithi</i>	shore skink
<i>Pelamis platurus</i>	yellow-bellied sea snake

7.6 Reptiles - introduced

<i>Litoria aurea</i>	golden bell frog
<i>Litoria ewingii</i>	brown tree frog
<i>Litoria raniformis</i>	southern bell frog
<i>Trachemys scripta elegans</i>	common slider

7.7 Fish - native

<i>Aldrichetta forsterii</i>	yellow-eyed mullet
<i>Anguilla dieffenbachii</i>	longfin eel
<i>Anguilla australis</i>	shortfin eel
<i>Galaxias argenteus</i>	giant kokopu
<i>Galaxias fasciatus</i>	banded kokopu
<i>Galaxias gracilis</i>	dwarf inanga
<i>Galaxias maculatus</i>	inanga

<i>Galaxias</i> sp.	dunelakes galaxias
<i>Gobiomorphus basalis</i>	Cran's bully
<i>Gobiomorphus cotidianus</i>	common bully
<i>Gobiomorphus gobioides</i>	giant bully
<i>Gobiomorphus buttoni</i>	redfin bully
<i>Mugil cephalus</i>	grey mullet
<i>Neobanna diversus</i>	black mudfish
<i>Retropinna retropinna</i>	common smelt

7.8 Introduced

<i>Cyprinus carpio</i>	koi carp
<i>Gambusia affinis</i>	gambusia
<i>Leuciscus idus</i>	orfe
<i>Ptenopharyngodon idella</i>	grass carp
<i>Scardinius erythrophthalmus</i>	rudd

7.9 Freshwater invertebrates - native

<i>Amarinus lacustris</i>	freshwater crab
<i>Hydriella menziesii</i>	freshwater mussel
<i>Parenephrops planifrons</i>	koura; freshwater crayfish

7.10 Freshwater invertebrates - introduced

<i>Craspedacusta sowerbyi</i>	freshwater jellyfish
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Appendix 8

COMMON FAUNA NAMES USED IN TEXT

8.1 Native species

ARTHROPODS

black katipo

Latrodectus atritus

REPTILES

Auckland green gecko

Naultinus elegans elegans

banded sea snake

Laticauda colubrina

green turtle

Chelonia mydas

hawksbill sea turtle

Eretmochelys imbricata

leatherback turtle

Dermochelys coriacea

loggerhead sea turtle

Caretta caretta

copper skink

Cyclodina aenea

shore skink

Oligosoma smithii

yellow-bellied sea snake

Pelamis platurus

MAMMALS

New Zealand fur seal

Arctocephalus forsteri

long-tailed bat

Chalinolobus tuberculata

lesser short-tailed bat

Mystacina tuberculata

BIRDS

Antarctic petrel

Thalassoica antarctica

Antarctic prion

Pachyptila desolata

Arctic skua

Stercorarius parasiticus

Australasian bittern

Botaurus poiciloptilus

Australasian gannet

Morus serrator

Australasian harrier

Circus approximans

Australasian little grebe

Tachybaptus novaehollandiae

Australasian pied stilt

Himantopus himantopus leucocephalus

Australasian shoveler

Anas rhynchos

banded dotterel

Charadrius bicinctus bicinctus

banded rail

Gallirallus philippensis assimilis

black shag

Phalacrocorax carbo novaehollandiae

black stilt

Himantopus novaezealandiae

black-backed gull

Larus dominicanus dominicanus

black-billed gull

Larus bulleri

black-fronted dotterel

Charadrius melanops

blue petrel

Halobaena caerulea

brown teal

Anas aucklandica chlorotis

cape pigeon	<i>Daption capense</i>
cattle egret	<i>Bubulcus ibis</i>
Caspian tern	<i>Sterna caspia</i>
common tern	<i>Sterna hirundo</i>
shag	<i>Phalacrocorax spp.</i>
bar-tailed godwit	<i>Limosa lapponica</i>
North Island fantail	<i>Rhipidura fuliginosa placabilis</i>
fluttering shearwater	<i>Puffinus gavia</i>
glossy ibis	<i>Plegadis falcinellus</i>
grey duck	<i>Anas superciliosa superciliosa</i>
grey-faced petrel	<i>Pterodroma macroptera gouldi</i>
grey teal	<i>Anas gracilis</i>
grey warbler	<i>Gerygone igata</i>
kuaka	<i>Limosa lapponica</i>
kuruwhengi	<i>Anas rhynchotis</i>
lesser knot	<i>Calidris canutus</i>
little black shag	<i>Phalacrocorax sulcirostris</i>
little egret	<i>Egretta garzetta</i>
marsh crake	<i>Porzana pusilla affinis</i>
morepork	<i>Ninox novaeseelandiae</i>
New Zealand dabchick	<i>Poliiocephalus rufopectus</i>
New Zealand fairy tern	<i>Sterna nereis davisae</i>
New Zealand kingfisher	<i>Halcyon sancta vagans</i>
New Zealand pigeon	<i>Hemiphaga novaeseelandiae novaeseelandiae</i>
New Zealand pipit	<i>Anthus novaeseelandiae novaeseelandiae</i>
New Zealand scaup	<i>Aythya novaeseelandiae</i>
North Island brown kiwi	<i>Apteryx mantelli</i>
North Island fernbird	<i>Bowdleria punctata vealeae</i>
North Island kaka	<i>Nestor meridionalis septentrionalis</i>
northern little blue penguin	<i>Eudyptula minor iredalei</i>
northern New Zealand dotterel	<i>Charadrius obscurus aquilonius</i>
Pacific swallow	<i>Hirundo tabitica neoxena</i>
paradise shelduck	<i>Tadorna variegata</i>
ped shag	<i>Phalacrocorax varius varius</i>
pukeko	<i>Porphyrio porphyrio melanotus</i>
red-billed gull	<i>Larus novaehollandiae scopulinus</i>
reef heron	<i>Egretta sacra sacra</i>
Royal spoonbill	<i>Platalea regia</i>
shag	<i>Phalacrocorax spp.</i>
shining cuckoo	<i>Chrysococcyx lucidus lucidus</i>
silveryeye	<i>Zosterops lateralis</i>
sooty shearwater	<i>Puffinus griseus</i>
sooty tern	<i>Sterna fuscata</i>
South Island pied oystercatcher	<i>Haematopus ostralegus</i>
spine-tailed swift	<i>Hirundapus caudacutus</i>

spotless crane	<i>Porzana tabuensis plumbea</i>
spur-winged plover	<i>Vanellus miles</i>
tui	<i>Prosthemadera novaeseelandiae</i>
turnstone	<i>Arenaria interpres</i>
variable oystercatcher	<i>Himantopus unicolor</i>
white-capped mollymawk	<i>Diomedea cauta cauta</i>
white heron	<i>Egretta alba modesta</i>
white-faced heron	<i>Ardea novaebollandiae</i>
white-fronted tern	<i>Sterna striata striata</i>
white-winged black tern	<i>Chlidonias leucopterus</i>
wrybill	<i>Anarhynchus frontalis</i>
little shag	<i>Phalacrocorax melanoleucos brevirostris</i>

FISH AND MOLLUSCS

banded kokopu	<i>Galaxias fasciatus</i>
black mudfish	<i>Neochanna diversus</i>
common bully	<i>Gobiomorphus cotidianus</i>
dwarf inanga	<i>Galaxias gracilis</i>
dunelakes galaxias	<i>Galaxias sp.</i>
freshwater mussel	<i>Hydriella menziesii</i>
giant kokopu	<i>Galaxias argenteus</i>
inanga	<i>Galaxias maculatus</i>
longfin eel	<i>Anguilla dieffenbachia</i>
shortfin eel	<i>Anguilla australis</i>

8.2 Introduced species

MAMMALS

brush-tailed possum	<i>Trichosurus vulpecula</i>
cat	<i>Felis catus</i>
dog	<i>Canis familiaris</i>
ferret	<i>Mustela furo</i>
house mouse	<i>Mus musculus</i>
pig	<i>Sus scrofa</i>
rat	<i>Rattus spp.</i>
stoat	<i>Mustela ermine</i>

FISH

grass carp	<i>Ptenopbaryngodon idella</i>
koi carp	<i>Cyprinus carpio</i>
gambusia	<i>Gambusia affinis</i>
orfe	<i>Leuciscus idus</i>
rainbow trout	<i>Oncorhynchus mykiss</i>
rudd	<i>Scardinius erythrophthalmus</i>

INSECTS

Argentine ant	<i>Linepithema humile</i>
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Appendix 9

VEGETATION TYPES RECORDED IN KAIPARA ECOLOGICAL DISTRICT (NORTHLAND CONSERVANCY) IN RELATION TO GEOLOGY

Key: bold PNA numbers = representative ecological units; part = part of site is within geological unit

GEOL. GROUP:	A	B	C	D	E	F	G	H
NORTHERN LOWLANDS								
A4								
FOREST/SHRUBLAND								
Kanuka	Q09/051 (part)		Q09/056 (part)					
SHRUBLAND								
Manuka	Q09/051 (part)							
ESTUARINE WETLAND								
Mangrove shrubland	P08/200 (part), Q09/056 (part)							
Oioi rushland	P08/200 (part), Q09/056 (part)							
SANDFIELD								
Sandfield	Q09/051 (part), Q09/056 (part)							
A5								
FOREST								
Totara						O7/012 (part), P07/121a (part)	P07/136a (part), P07/150 (part), P07/158 (part)	P07/136a (part), P07/150 (part), P07/158 (part), P07/165 (part)
Kahikatea	P07/141a, P07/142 (part) , P07/158 (part), P07/162, P07/169, P07/173, P07/182, P07/185, P08/056, P08/060, P08/063, P08/067a, P08/067b, P08/068a , P08/068b , P08/068c, P08/094a							

GEOL. GROUP:	A	B	C	D	E	F	G	H
Ti kouka-kahikatea	P07/135 (part), P07/164 (part), P07/169a (part), P08/ 068b							
Puriri	P08/068b							
FOREST/SHRUBLAND								
Kanuka			O07/027 (part), P09/020 (part)	P09/008 (part)		O07/022 (part)	O07/027 (part), P07/135 (part), P09/003 (part) , P09/020 (part), Q09/051 (part) , Q09/150 (part)	P07/135 (part)
SHRUBLAND								
Kanuka/manuka						O07/024 (part)	O07/015 (part), O07/018 (part), P07/121 (part), P07/136a (part), P08/088 (part), Q09/051 (part)	P07/136a (part)
Manuka	O07/012 (part) O07/015 (part), P07/133 (part) , P07/ Contains 59.1 ha of Acutely Threatened environment A5.1b, 21.1 ha of Chronically Threatened A5.2a, and 96.7 ha of At Risk environment A6.1b and A6.1c. (part), P07/140, P07/157, P07/157a, P07/167 (part), P07/177, P08/081, P08/087 (part), P08/095 (part), P08/101 (part), P08/213 (part), P09/003 (part), P09/020 (part), Q09/150 (part)		O07/026 (part), P07/127 (part) , P07/153 (part), P07/154 (part), P07/160 (part)		P07/161	O07/022 (part)	O07/012 (part), P07/125 (part), P07/127 (part), P07/132 (part), P07/133 (part), P07/150 (part), P07/153 (part), P07/158 (part), P07/167 (part), P07/171a (part), P08/095 (part)	P07/150 (part), P07/158 (part)

GEOL. GROUP:	A	B	C	D	E	F	G	H
FLAXLAND								
Flaxland	P07/127 (part), P07/133 (part)		P08/061 (part)				P08/061 (part)	
FRESHWATER WETLAND								
Raupo reedland	O07/015 (part), P07/ 120b (part), P07/127 (part), P07/132 (part), P07/133 (part), P07/145 (part), P07/153 (part), P07/171a (part), P07/ 171b (part), P07/172 (part), Q09/051 (part), Q09/150 (part)			P07/131 (part)	O07/018 (part), P07/125 (part)			
Raupo- <i>Baumea</i> reedland	P08/087 (part), Q09/051 (part)							
<i>Baumea</i> sedgeland	P07/127 (part), P07/153 (part)				O07/024 (part)			
<i>Eleocharis</i> reedland				P07/131 (part)	P07/174a (part)			
<i>Baumea</i> reedland				P07/131 (part)				
ESTUARINE WETLAND								
Mangrove shrubland	P08/101 (part), P08/200 (part), P08/213 (part), P09/003 (part), Q09/150 (part)							
Oioi rushland	P08/101 (part), P08/200 (part), P08/213 (part), P09/003 (part), Q09/150 (part)							
SANDFIELD								
Spinifex sandfield	O07/026 (part)	P08/061 (part)	O07/026 (part)		O07/022 (part)			
Sandfield					O07/018 (part)			
A6								
FOREST								
Pohutukawa		O07/016 (part)	O07/016 (part) O07/026 (part)	O07/025 (part)				
Totara						O7/012 (part), P07/121a (part)	P07/165 (part)	P07/165 (part)

GEOL. GROUP:	A	B	C	D	E	F	G	H
Ti kouka-kahikatea	P07/164 (part)							
Puriri				P09/008 (part)				
FOREST/SHRUBLAND								
Kanuka	Q09/051 (part)		O07/027 (part), P09/020 (part), Q09/056 (part)	P09/008 (part)		O07/027 (part), P09/003 (part) , P09/020 (part), Q09/051 (part), Q09/150 (part)		
SHRUBLAND								
Kanuka/manuka							O07/015 (part), O07/018 (part), P07/121 (part), P08/088 (part)	
Manuka	O07/012 (part), O07/015 (part), P07/133 (part) , P07/167 (part), P08/087 (part), P08/095 (part), P08/101 (part), P08/213 (part), P09/003 part), Q09/051 (part), Q09/150 (part)		O07/026 (part), P07/127 (part) , P07/154 (part)				O07/012 (part), P07/125 (part), P07/127 (part) , P07/132 (part), P07/133 (part) , P07/158 (part), P07/171a (part), P08/087 (part), P08/095 (part)	P07/158 (part)
FLAXLAND								
Flaxland	P07/127 (part)							
FRESHWATER WETLAND								
Raupo reedland	O07/015 (part), P07/120a (part), P07/120b (part), P07/127 (part), P07/132 (part), P07/133 (part), P07/171a (part), P07/172 (part), Q09/051 (part), Q09/150 (part)			O07/025 (part), P07/131 (part)	O07/018 (part), P07/125 (part)			
Raupo- <i>Baumea</i> reedland	P07/127 (part), P08/087 (part), Q09/051 (part)							

GEOL. GROUP:	A	B	C	D	E	F	G	H
<i>Baumea</i> sedgeland					O07/024 (part)			
<i>Eleocharis</i> reedland				O07/014 (part), O07/017, P07/131 (part)				
ESTUARINE WETLAND								
Mangrove shrubland	P08/101 (part), P08/200 (part), P08/213 (part), P09/003 (part), Q09/056 (part), Q09/150 (part)							
Oioi rushland	P08/101 (part), P08/200 (part), P08/213 (part), P09/003 (part), Q09/051 (part), Q09/056 (part) Q09/150 (part)							
SANDFIELD								
Spinifex sandfield		O07/016 (part)						
Sandfield	Q09/056 (part)							
A7								
FOREST								
Totara						O07/012 (part)		
Puriri		P09/011 (part)	Q09/054 (part)	P09/008 (part),				
FOREST/SHRUBLAND								
Kanuka		P09/011 (part), Q09/058 (part), Q09/063 (part)	P09/020 (part), Q09/055 (part), Q09/063 (part)	P09/008 (part), P09/014 (part), Q09/054 (part)			P09/020 (part), Q09/051 (part)	
SHRUBLAND								
Kanuka/manuka							Q09/051 (part)	
Manuka	O07/012 (part), P09/020 (part)		P07/127 (part), P07/153 (part), P07/160 (part)	Q09/053 (part)		O07/012 (part),	P07/127 (part), P07/153 (part)	
FLAXLAND								
Flaxland	P07/127 (part)	O07/016 (part)	O07/016 (part) P08/061 (part)				P08/061 (part)	

GEOL. GROUP:	A	B	C	D	E	F	G	H
FRESHWATER WETLAND								
Raupo reedland	P07/127 (part), P07/145 (part), P07/171b (part), P09/014 (part), Q09/051 (part)			P07/138 (part), P09/011a (part), Q09/053 (part) Q09/055 (part), Q09/058 (part), Q09/060 (part), Q09/203				
Raupo- <i>Baumea</i> reedland				Q09/060 (part), Q09/202				
<i>Baumea</i> sedgeland	P07/127 (part)			Q09/054 (part)				
<i>Eleocharis</i> reedland	P07/080			P08/ 208,P09/ 011a (part), Q09/054 (part), Q09/057				
ESTUARINE WETLAND								
Mangrove shrubland	Q09/056 (part)							
NORTHERN HILL COUNTRY								
D1								
FOREST								
Totara						O07/012 (part), P07/121a (part)		
SHRUBLAND								
Manuka	O07/012 (part)		P07/160 (part)			O07/012 (part)	P07/127 (part)	
FLAXLAND								
Flaxland	P07/127 (part)	O07/016 (part)	O07/016 (part)					
FRESHWATER WETLAND								
Raupo reedland	P07/127 (part), P07/145 (part)							
<i>Baumea</i> sedgeland	P07/127 (part)							
<i>Eleocharis</i> reedland	P07/124a (part)							
<i>Baumea</i> reedland	P07/124a (part)							
NORTHERN RECENT SOILS								
G1								

GEOL. GROUP:	A	B	C	D	E	F	G	H
FOREST								
Pohutukawa		O07/016 (part), O07/011 (part)	O07/016 (part), O07/026 (part), P08/061 (part)	O07/025 (part)				
Puriri		P09/011 (part), Q09/061 (part)	Q09/054 (part), Q09/061 (part)					P07/142 (part)
FOREST/SHRUBLAND								
Kanuka		P09/001 (part), P09/011 (part), Q09/058 (part), Q09/060 (part), Q09/061 (part) Q09/063 (part)	P09/020 (part), Q09/054 (part), Q09/061 (part), Q09/063 (part),	P09/014 (part), Q09/054 (part)			P09/020 (part)	
SHRUBLAND								
Kanuka/manuka		P09/001 (part)						
Manuka		O07/016 (part), P09/001 (part)	O07/016 (part), O07/026 (part)	Q09/053 (part)				
FLAXLAND								
Flaxland		O07/016 (part), P08/072 (part)	O07/016 (part), P08/061 (part), P08/072 (part)				P08/061 (part)	
FRESHWATER WETLAND								
Raupo reedland	P08/073 (part), P09/014 (part)	P08/072 (part), P09/001 (part), Q09/063 (part)		O07/025 (part), P07/138 (part), P08/ 209,P09/ 011a (part), Q09/053 (part), Q09/058 (part), Q09/060 (part)				
Raupo- <i>Baumea</i> reedland		P09/001 (part)		P08/212, Q09/060 (part)				
<i>Baumea</i> sedgeland	P09/014 (part)			Q09/054 (part)				

GEOL. GROUP:	A	B	C	D	E	F	G	H
<i>Eleocharis</i> reedland	P07/130, P08/073 (part)			P08/210, P09/011a (part), P09/205, Q09/054 (part)	P07/174a (part)			
SANDFIELD								
Spinifex sandfield	O07/026 (part)	P08/061 (part), P09/001 (part)	O07/026 (part)	O07/025 (part)				
Sandfield		O07/011 (part), P08/072 (part), P09/001 (part)						
ESTUARINE WETLAND								
Oioi rushland		P09/001 (part)						
G3								
FOREST								
Totara							P07/150 (part)	P07/148, P07/150 (part)
Kahikatea	P07/135 (part), P07/142 (part), P07/149, P07/150 (part)							
Ti kouka-kahikatea	P07/135 (part), P07/141, P07/169a (part)							
FOREST/SHRUBLAND								
Kanuka							P07/135 (part)	P07/135 (part)
SHRUBLAND								
Manuka	P07/134 (part)						P07/150 (part)	P07/150 (part)
ESTUARINE WETLAND								
Oioi rushland	P07/150 (part)							

- A: Holocene alluvial and/or swamp and/or estuarine deposits.
- B: Holocene unconsolidated sand dunes.
- C: Mid-late Pleistocene consolidated dune sands (Kariotahi Group).
- D: Lake and swamp deposits in mid-late Pleistocene (Kariotahi Group) consolidated dune sands.
- E: Lake and swamp deposits on early Pleistocene (Awhitu Group) cemented dune sands.
- F: Miocene (Waipoua Basalt) basalt.
- G: Early Pleistocene (Awhitu Group) cemented dune sands.
- H: Undifferentiated Mangakahia Complex.

Appendix 10

CONCORDANCE OF ECOLOGICAL UNIT (VEGETATION COMPOSITION AND STRUCTURE, AND LANDFORM), MAJOR VEGETATION TYPE, HABITAT MAPPING UNITS, AREA AND LEVEL OF SIGNIFICANCE WITHIN EACH SITE

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Airstrip Road Wetland 1	P07120a	Raupo reedland and <i>Eleocharis acuta</i> sedgeland	Alluvium	Baumea sedgeland	Wetland	2.1	2
Airstrip Road Wetland 2	P07120b	Raupo reedland	Alluvium	Raupo reedland	Wetland	1.3	2
Airstrip Road Wetland 2	P07120b	<i>Isolepis distigmata</i> sedgeland	Alluvium	Baumea sedgeland	Wetland	1.0	2
Aoroa Road Forest	P08056	Kahikatea forest	Alluvium	Kahikatea forest	Forest	2.2	1
Arnesen Farm Shrubland	P07134	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	9.7	2
Arnesen Farm Shrubland	P07134	Ti kouka treeland	Alluvium	*	Forest	1.7	2
Babylon Coast Roadside Shrubland	P07154	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	2.7	2
Babylon Smith Wetland	P07145	Raupo reedland	Alluvium	Mixed raupo reedland	Wetland	4.9	1
Babylon Smith Wetland	P07145	Open water	Lake	*	Wetland	0.6	1
Barfoot's Gully Shrubland	P08095	Manuka-pampas shrub grassland	Alluvium	Manuka shrubland	Shrubland	2.9	2
Barfoot's Gully Shrubland	P08095	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	10.2	2
Barfoot's Shrubland	P08092	Manuka-pampas shrub grassland	Alluvium	Manuka shrubland	Shrubland	7.1	2
Barfoot's Shrubland	P08092	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	2.1	2
Basin Road Shrubland 1	P07160	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	10.0	2
Basin Road Shrubland 2	P07161	Manuka shrubland	Basin	Manuka shrubland	Shrubland	11.8	2
Bayly's Basin Road Wetland 1	P07171b	Raupo reedland	Alluvium	Raupo reedland	Wetland	8.0	2
Bayly's Basin Road Wetland 2	P07206	Raupo reedland	Alluvium	Raupo reedland	Wetland	1.0	2
Bayly's Basin Road Wetland 2	P07206	Open water	Lake	*	Wetland	0.2	2
Bayly's Coast Road Wetland	P07172	Raupo reedland	Alluvium	Raupo reedland	Wetland	4.0	2

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Bayly's Coast Road Wetland and Shrubland	P07171a	Raupo reedland	Alluvium	Raupo reedland	Wetland	6.4	2
Bayly's Coast Road Wetland and Shrubland	P07171a	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	5.3	2
Black Lake and Shrubland	P08207	Undescribed shrubland	Undescribed	*	Shrubland	0.4	2
Black Lake and Shrubland	P08207	Open water	Dune lake	*	Wetland	0.6	2
Bruce Clear's Wetland	O07017	<i>Eleocharis sphacelata</i> reedland	Alluvium	Eleocharis reedland	Wetland	2.2	2
Burgess Road South Shrubland	P08088	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	9.4	2
Clarke's Lake and Wetland	P08208	<i>Eleocharis sphacelata</i> reedland and Open water	Lake	Eleocharis reedland	Wetland	2.4	1
Dargaville Bridge Forest	P07173	Kahikatea forest	Alluvium	Kahikatea forest	Forest	1.8	1
Dargaville Domain Forest	P07185	Kahikatea forest	Alluvium	Ti kouka-kahikatea forest	Forest	2.2	2
Finlayson's Lake and Wetland	Q09201	Undescribed vegetation	Lacustrine fringe	*	Wetland	0.8	1
Finlayson's Lake and Wetland	Q09201	Open water	Dune lake	*	Wetland	2.7	1
Freidrich's Lake	P07171	Mosaic wetland and Open water	Alluvium	Eleocharis reedland	Wetland	7.2	1
Frith Road Northern Dairylands Forest	P07135	Kanuka forest	Hillslope	Kanuka forest/shrubland	Forest	2.9	1
Frith Road Northern Dairylands Forest	P07135	Kahikatea forest	Alluvium	Kahikatea forest	Forest	22.5	1
Frith Road Northern Dairylands Forest	P07135	Undescribed shrubland/forest	Hillslope	*	Forest Shrubland	36.6	1
Frith Road Northern Dairylands Forest	P07135	Kahikatea-ti kouka- <i>Coprosma propinqua</i> -harakeke shrub wetland	Alluvium	Ti kouka-kahikatea forest	Wetland	8.8	1
Glinks Gully Wetland and Grassland	P08073	<i>Eleocharis sphacelata</i> reedland	Alluvium	Eleocharis reedland	Wetland	0.2	2
Glinks Gully Wetland and Grassland	P08073	Raupo reedland	Alluvium	Raupo reedland	Wetland	0.8	2
Glinks Gully Wetland and Grassland	P08073	Mamaku treefernland	Hillslope	Pampas grassland	Forest	6.1	2
Greville's Lagoon and Wetland	P08209	Open water	Dune lake	*	Wetland	2.0	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Greville's Lagoon and Wetland	P08209	Raupo reedland	Alluvium	Raupo reedland	Wetland	0.6	1
Harrison Wetland	P08096a	Pampas-raupo tussock-reedland	Alluvium	Pampas grassland	Wetland	14.3	2
Hoanga Alluvial Forest Fragment	P07162	Kahikatea forest	Alluvium	Kahikatea forest	Forest	5.3	1
Hoanga Road Forest	P07165	Totara forest	Hillslope	Totara forest	Forest	7.7	2
Hokianga Road Forest	P07164	Ti kouka treeland	Alluvium	Ti kouka-kahikatea forest	Forest	0.3	2
Hokianga Road Forest	P07164	Kahikatea forest	Alluvium	Ti kouka-kahikatea forest	Forest	0.6	2
Hokianga Road Railway Treeland	P07169a	Ti kouka- <i>Coprosma propinqua</i> - <i>C.parviflora</i> -pampas treeland	Alluvium	Pampas grassland	Forest	7.3	1
Hokianga Road Railway Treeland	P07169a	Ti kouka forest	Alluvium	Ti kouka-kahikatea forest	Forest	2.0	1
Kai Iwi Lakes South Shrubland	O07027	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	30.8	2
Kai Iwi Lakes South Shrubland	O07027	Undescribed shrubland	Undescribed	*	Shrubland	21.2	2
Kaipara Harbour, Shrubland and Rushland	P08200	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	497.1	1
Kaipara Harbour, Shrubland and Rushland	P08200	Oioi rushland	Estuarine alluvium	Oioi rushland	Estuarine	103.2	1
Kaipara Harbour, Shrubland and Rushland	P08200	Open water	Estuary	*	Estuarine	20000	1
Kelly's Bay/ Punahaere Creek Estuary, Shrubland and Forest	P09003	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	53.2	1
Kelly's Bay/ Punahaere Creek Estuary, Shrubland and Forest	P09003	Kanuka forest	Hillslope & ridge crest	Kanuka forest/shrubland	Forest	257.8	1
Kelly's Bay/ Punahaere Creek Estuary, Shrubland and Forest	P09003	Manuka shrubland	Alluvium	Pampas grassland	Shrubland	45.2	1
Kelly's Bay/ Punahaere Creek Estuary, Shrubland and Forest	P09003	Oioi rushland	Estuarine alluvium	Oioi rushland	Estuarine	78.7	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Kelly's Bay/ Punahaere Creek Estuary, Shrubland and Forest	P09003	Manuka shrubland	Colluvium	Manuka shrubland	Shrubland	19.2	1
Kelly's Bay/ Punahaere Creek Estuary, Shrubland and Forest	P09003	Open water	Estuary	*	Estuarine	44.9	1
Kernot Farm Shrubland	P08081	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	0.6	2
Kernot Farm Shrubland	P08081	Undescribed shrubland	Hillslopes & alluvium	*	Wetland	99.3	2
Kidds Creamery Road Corner Forest	P08068a	Kahikatea forest	Alluvium	Kahikatea forest	Forest	2.9	1
Kidds Creamery Road Middle Forest	P08068c	Kahikatea forest	Alluvium	Kahikatea forest	Forest	0.9	1
Lake Humuhumu, Wetland and Forest	Q09054	Kanuka forest	Hillslope	Kanuka forest/ shrubland	Forest	3.0	1
Lake Humuhumu, Wetland and Forest	Q09054	Kohekohe-karaka-mahoe forest	Hillslope	Puriri forest	Forest	3.5	1
Lake Humuhumu, Wetland and Forest	Q09054	Kanuka forest/shrubland	Hillslope	Kanuka forest/ shrubland	Forest	124.7	1
Lake Humuhumu, Wetland and Forest	Q09054	Open water	Dune lake	*	Wetland	123.5	1
Lake Humuhumu, Wetland and Forest	Q09054	Raupo reedland	Alluvium	Raupo reedland	Wetland	6.0	1
Lake Humuhumu, Wetland and Forest	Q09054	<i>Baumea articulata</i> -pampas reed tussockland	Alluvium	Baumea reedland	Wetland	7.6	1
Lake Kahuparere, Wetland and Shrubland	Q09060	Raupo-kuta reedland	Alluvium	Mixed raupo reedland	Wetland	1.4	1
Lake Kahuparere, Wetland and Shrubland	Q09060	Raupo reedland	Alluvium	Raupo reedland	Wetland	6.1	1
Lake Kahuparere, Wetland and Shrubland	Q09060	Kanuka shrubland	Hillslope	Kanuka forest/ shrubland	Shrubland	40.4	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Lake Kahuparere, Wetland and Shrubland	Q09060	Open water	Dune lake	*	Wetland	6.6	1
Lake Kai Iwi, Wetland and Shrubland	O07024	<i>Oioi-B.artbrophylla-B.juncea-B.articulata-Eleocharis sphacelata</i> reedland	Alluvium	Oioi rushland	Wetland	5.1	1
Lake Kai Iwi, Wetland and Shrubland	O07024	Kanuka/manuka shrubland	Hillslopes	Kanuka forest/shrubland	Shrubland	4.3	1
Lake Kai Iwi, Wetland and Shrubland	O07024	Open water	Dune lake	*	Wetland	25.7	1
Lake Kanono, Wetland and Forest	Q09058	Kanuka forest	Hillslope	Kanuka forest/shrubland	Forest	120.2	1
Lake Kanono, Wetland and Forest	Q09058	Raupo reedland	Alluvium	Mixed raupo reedland	Wetland	4.8	1
Lake Kanono, Wetland and Forest	Q09058	Open water	Dune lake	*	Wetland	72.9	1
Lake Kapoai and Wetland	P08210	<i>Kuta-Eleocharis sphacelata</i> reedland and Open water	Dune lake	<i>Eleocharis</i> reedland	Wetland	3.6	1
Lake Parawanui and Wetland	P08212	<i>Eleocharis sphacelata-raupo-Baumea articulata</i> reedland and Open water	Alluvium / Dune lake	<i>Baumea</i> reedland	Wetland	7.7	2
Lake Rehutai and Wetland	P07174a	<i>Eleocharis sphacelata</i> reedland	Alluvium	<i>Eleocharis</i> reedland	Wetland	4.6	1
Lake Rehutai and Wetland	P07174a	Open water	Dune lake	*	Wetland	0.6	1
Lake Rotokawau and Wetland	Q09057	Reedland of two types	Alluvium	<i>Eleocharis</i> reedland	Wetland	11.3	1
Lake Rotokawau and Wetland	Q09057	Open water	Dune lake	*	Wetland	24.4	1
Lake Rotootuauru, Wetland and Forest	Q09055	Raupo reedland with manuka	Alluvium	Raupo reedland	Wetland	3.3	1
Lake Rotootuauru, Wetland and Forest	Q09055	Kanuka forest	Alluvium	Kanuka forest/shrubland	Forest	1.3	1
Lake Rotootuauru, Wetland and Forest	Q09055	Raupo reedland and <i>Glossostigma elatinoides</i> herbfield	Alluvium	Raupo reedland	Wetland	0.8	1
Lake Rotootuauru, Wetland and Forest	Q09055	Open water	Lake	*	Wetland	15.5	1
Lake Rotopouua Wetland and Forest	P09014	Raupo reedland	Alluvium	Raupo reedland	Wetland	1.5	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Lake Rotopouua Wetland and Forest	P09014	Manuka- <i>Baumea arthrophylla</i> -raupo- <i>Carex secta</i> shrub reed-sedgeland	Alluvium	<i>Baumea</i> sedgeland	Wetland	21.8	1
Lake Rotopouua Wetland and Forest	P09014	Open water	Dune lake	*	Wetland	4.4	1
Lake Rotopouua Wetland and Forest	P09014	Kanuka forest	Hillslopes	Kanuka forest/shrubland	Forest	21.9	1
Lake Rototuna & Wetland	P09205	Reedland and Herbfield	Alluvium	Raupo reedland	Wetland	1.5	1
Lake Rototuna & Wetland	P09205	Open water	Dune lake	*	Wetland	7.3	1
Lake Taharoa Wetland and Shrubland	O07022	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	1.2	1
Lake Taharoa Wetland and Shrubland	O07022	Kanuka shrubland	Hillslope	Kanuka forest/shrubland	Shrubland	5.8	1
Lake Taharoa Wetland and Shrubland	O07022	Oioi- <i>Baumea juncea</i> rush/sedgeland	Alluvium	Spinifex sandfield	Wetland	8.0	1
Lake Taharoa Wetland and Shrubland	O07022	Open water	Dune lake	*	Wetland	198.2	1
Lake Waikere Wetland and Shrubland	O07018	Raupo reedland	Alluvium	Raupo reedland	Wetland	0.8	1
Lake Waikere Wetland and Shrubland	O07018	Sandfield	Alluvium	Sandfield	Dunes	3.4	1
Lake Waikere Wetland and Shrubland	O07018	Open water	Dune lake	*	Wetland	28.1	1
Lake Waikere Wetland and Shrubland	O07018	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	18.6	1
Lake Waingata	Q09204	Herbfield	Alluvium	*	Wetland	2.0	2
Lake Waingata	Q09204	Open water	Dune lake	*	Wetland	11.3	2
Lake Wainui and Wetland	P08211	Kuta reedland and Open water	Alluvium / Dune lake	<i>Baumea</i> reedland	Wetland	3.1	1
Long Gully Wetland and Shrubland	P07153	Mosaic wetland	Alluvium	<i>Baumea</i> sedgeland	Wetland	22.6	1
Long Gully Wetland and Shrubland	P07153	Manuka shrubland	Hillslopes	Manuka shrubland	Shrubland	14.9	1
Lower Kaihu River Forest Fragments	P07169	Kahikatea forest	Alluvium	Kahikatea forest	Forest	5.5	1
Lower Lake Rototuna Wetland	P09002	<i>Baumea articulata</i> -pampas reed tussockland	Lake bed	Pampas grassland	Wetland	9.6	2
Lucich Wetland	P08080	<i>Eleocharis sphacelata</i> reedland	Alluvium	<i>Eleocharis</i> reedland	Wetland	0.9	2

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Lower Kai Iwi Stream Wetland, Grassland, Shrubland and Forest	O07026	Tussockland	Dunes	Spinifex sandfield	Dunes	0.8	2
Lower Kai Iwi Stream Wetland, Grassland, Shrubland and Forest	O07026	Manuka shrub wetland	Alluvium	<i>Baumea</i> sedgeland	Shrubland	0.7	2
Lower Kai Iwi Stream Wetland, Grassland, Shrubland and Forest	O07026	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	2.7	2
Lower Kai Iwi Stream Wetland, Grassland, Shrubland and Forest	O07026	Sandfield community	Foredune	Spinifex sandfield	Dunes	0.6	2
Lower Kai Iwi Stream Wetland, Grassland, Shrubland and Forest	O07026	Hangehange-oioi shrub rushland	Coastal faces	Flaxland	Shrubland	5.7	2
Lower Kai Iwi Stream Wetland, Grassland, Shrubland and Forest	O07026	Pohutukawa forest	Hillslope	Pohutukawa forest	Forest	1.3	2
Maitahi Wetland Scientific Reserve and Surrounds	P07133	Manuka-prickly hakea shrubland	Hillslopes & ridges	Manuka shrubland	Shrubland	222.4	1
Maitahi Wetland Scientific Reserve and Surrounds	P07133	Raupo reedland	Alluvium	Raupo reedland	Wetland	22.5	1
Maitahi Wetland Scientific Reserve and Surrounds	P07133	<i>Schoenus brevifolius</i> sedgeland	Alluvium	Flaxland	Wetland	40.0	1
Maitahi Wetland Scientific Reserve and Surrounds	P07133	Manuka-harakeke-tangle fern shrubland	Alluvium	Manuka shrubland	Shrubland	38.3	1
Mangakahia Forest Shrubland	P07140	Manuka- <i>Baumea rubiginosa</i> - <i>B.tenax</i> shrub sedgeland	Alluvium	<i>Baumea</i> reedland	Shrubland	6.6	1
Mangatarata Flat Shrubland	P07177	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	3.0	2
Mapau Bush	P08094a	Kahikatea forest	Alluvium	Kahikatea forest	Forest	6.4	1
Mosquito Gully Wetland	P08099	Manuka-pampas shrub tussockland	Alluvium	Pampas grassland	Wetland	18.1	2
Newlove Airstrip Wetland	P07131	Reedland mosaic of 4 types	Alluvium	<i>Baumea</i> reedland	Wetland	6.2	1
Newsham Road North Forest	P08067a	Kahikatea forest	Alluvium	Kahikatea forest	Forest	1.4	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Newsham Road South Forest	P08067b	Kahikatea forest	Alluvium	Kahikatea forest	Forest	1.6	1
Newsham Road South Forest	P08067b	Puriri forest	Alluvium	Puriri forest	Forest	0.9	1
Ngakiriparauri Stream Shrubland and Wetland	O07015	Raupo reedland	Alluvium	Raupo reedland	Wetland	5.2	2
Ngakiriparauri Stream Shrubland and Wetland	O07015	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	3.3	2
Ngakiriparauri Stream Shrubland and Wetland	O07015	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	9.2	2
North Kai Iwi Stream Wetland and Forest	O07025	Hangehange-oioi shrub-rushland	Coastal faces	Flaxland	Shrubland	3.5	2
North Kai Iwi Stream Wetland and Forest	O07025	Undescribed wetlands	Alluvium	*	Wetland	7.8	2
North Kai Iwi Stream Wetland and Forest	O07025	Pohutukawa forest	Hillslope	Pohutukawa forest	Forest	1.1	2
North Kai Iwi Stream Wetland and Forest	O07025	Raupo reedland	Alluvium	Raupo reedland	Wetland	0.3	2
NRC Creamery Road Reserve Forest	P08068b	Kahikatea forest	Hillslope	Kahikatea forest	Forest	0.8	1
NRC Creamery Road Reserve Forest	P08068b	Puriri-kohekohe-karaka forest	Hillslope	Puriri forest	Forest	1.4	1
NRC Creamery Road Reserve Forest	P08068b	Kahikatea-ti kouka forest	Alluvium	Ti kouka-kahikatea forest	Forest	1.6	1
NRC Creamery Road Reserve Forest	P08068b	Kahikatea-kowhai-ti kouka forest	Alluvium	Ti kouka-kahikatea forest	Forest	2.1	1
NRC Opanake Road Reserve Forest	P07148	Matai forest	Hillslope	Totara forest	Forest	1.978	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Kanuka shrubland	Colluvium	Kanuka forest/ shrubland	Shrubland	14.0	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Oioi-sea rush rushland	Estuarine alluvium	Oioi rushland	Estuarine	7.9	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Mixed wetland	Alluvium	Baumea sedgeland	Wetland	16.7	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Raupo reedland	Alluvium	Raupo reedland	Wetland	20.5	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	88.6	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Spinifex sandfield	Dunes	Sandfield	Dunes	6.2	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	43.6	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Kanuka shrubland/forest	Hillslope	Kanuka forest/ shrubland	Forest Shrubland	203.5	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Kanuka shrubland and forest	Sand dunes	Kanuka forest/ shrubland	Shrubland	14.3	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Open water	Estuary	*	Estuarine	139.7	1
Okaro Creek/ Waikere Creek Duneland, Wetland and Shrubland	Q09051	Open water	Estuary	*	Estuarine	0.4	1
Omamari Government Purpose Wildlife Management Reserve and Surrounds	P07127	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	92.1	1
Omamari Gov- ernment Pur- pose Wildlife Management Reserve and Surrounds	P07127	Wetland mosaic of 4 types	Alluvium	<i>Baumea</i> sedgeland	Wetland	72.1	1
Omamari Gov- ernment Pur- pose Wildlife Management Reserve and Surrounds	P07127	Undescribed wetlands	Alluvium	*	Wetland	13.4	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Omamari Road Grassland and Wetland	P07130	Mingimangi-pampas shrub tussockland	Rear dunes	Pampas grassland	Dunes	122.1	1
Omamari Road Grassland and Wetland	P07130	<i>Eleocharis sphacelata</i> - <i>E.acuta</i> reedland	Alluvium	<i>Eleocharis</i> reedland	Wetland	0.1	1
Omamari Road Grassland and Wetland	P07130	Open water	Dune lake	*	Wetland	0.02	1
Omamari Station North Shrubland and Wetland	P07125	Kanuka/manuka treeland	Hillslope	Kanuka/manuka shrubland	Forest	19.6	2
Omamari Station North Shrubland and Wetland	P07125	Raupo reedland	Alluvium	Raupo reedland	Wetland	1.4	2
Omamari Station Wetland and Shrubland	P07132	Raupo reedland	Alluvium	Raupo reedland	Wetland	11.5	2
Omamari Station Wetland and Shrubland	P07132	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	1.7	2
Omamari Station Wetland and Shrubland	P07132	Manuka shrubland	Colluvium	Manuka shrubland	Shrubland	2.4	2
Ongange Creek Wetland, Shrubland and Forest	Q09150	Kanuka forest	Hillslope	Kanuka forest/ shrubland	Forest	38.8	1
Ongange Creek Wetland, Shrubland and Forest	Q09150	Raupo reedland	Alluvium	Raupo reedland	Wetland	7.0	1
Ongange Creek Wetland, Shrubland and Forest	Q09150	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	50.6	1
Ongange Creek Wetland, Shrubland and Forest	Q09150	Oioi rushland	Estuarine alluvium	Oioi rushland	Wetland	3.9	1
Ongange Creek Wetland, Shrubland and Forest	Q09150	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	6.0	1
Ongange Creek Wetland, Shrubland and Forest	Q09150	Open water	Estuary	*	Estuarine	19.5	1
Opanake Road Davidson Forest and Shrubland	P07150	Kahikatea forest	Alluvium	Kahikatea forest	Forest	0.3	1
Opanake Road Davidson Forest and Shrubland	P07150	Rushland	Alluvium	Oioi rushland	Wetland	0.3	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Opanake Road Davidson Forest and Shrubland	P07150	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	0.5	1
Opanake Road Davidson Forest and Shrubland	P07150	Totara-titoki forest	Hillslope	Totara forest	Forest	3.571	1
Opanake Road Forest Fragments	P07136a	Totara-kahikatea-kanuka forest and kanuka forest	Hillslope	Totara forest	Forest	6.9	2
Opanake Road Morris Forest	P07142	Kahikatea forest	Alluvium	Kahikatea forest	Forest	6.9	1
Opanake Road Morris Forest	P07142	Kauri-taraire-tawa forest	Hillslope	Totara forest	Forest	3.4	1
Opanake Road Shrubland and Forest	P07158	Totara forest	Hillslope	Totara forest	Forest	0.9	1
Opanake Road Shrubland and Forest	P07158	Kahikatea forest	Alluvium	Kahikatea forest	Forest	0.2	1
Opanake Road Shrubland and Forest	P07158	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	4.7	1
Opanake Road Shrubland and Forest	P07158	Radiata pine treeland	Hillslope	*	Forest	3.5	1
Opanake Road Swamp Forest	P07149	Kahikatea swamp forest	Alluvium	Kahikatea forest	Forest	3.8	2
Peter Kelly's Lake and Wetland	P07138	Raupo- <i>Eleocharis sphaecolata</i> reedland	Alluvium	Raupo reedland	Wetland	1.1	2
Peter Kelly's Lake and Wetland	P07138	Open water	Lake	*	Wetland	0.9	2
Phoebe's Lake and Wetland	P09011a	Raupo reedland and <i>Eleocharis sphaecolata</i> reedland	Alluvium	<i>Eleocharis</i> reedland	Wetland	0.6	2
Phoebe's Lake and Wetland	P09011a	Open water	Dune lake	*	Wetland	1.2	2
Pinaki Road South Wetland and Shrubland	P08087	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	1.4	2
Pinaki Road South Wetland and Shrubland	P08087	Raupo reedland	Alluvium	<i>Baumea</i> sedgeland	Wetland	6.1	2
Pinaki Road South Wetland and Shrubland	P08087	Kanuka/manuka shrubland	Hillslope	Kanuka/manuka shrubland	Shrubland	5.9	2
Pouto Point Wildlife Reserve Sandfield, Wetland and Shrubland	Q09063	Raupo reedland	Dune slack	Raupo reedland	Wetland	0.3	1
Pouto Point Wildlife Reserve Sandfield, Wetland and Shrubland	Q09063	Kanuka shrubland	Rear dune	Kanuka forest/shrubland	Shrubland	25.7	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Pouto Point Wildlife Reserve Sandfield, Wetland and Shrubland	Q09063	Kanuka shrubland	Cliff face	Kanuka forest/shrubland	Shrubland	57.6	1
Pouto Point Wildlife Reserve Sandfield, Wetland and Shrubland	Q09063	Paspalum grassland	Foredune	Sandfield	Dunes	7.6	1
Pretty Bush	Q09061	Kanuka forest and Narrow-leaved maire forest	Rear dune	Puriri forest	Forest	62.6	1
Pretty Bush	Q09061	Kanuka forest	Hillslope	Kanuka forest/shrubland	Forest	13.7	1
Pukemiro Wetland and Forest	P09020	Manuka-raupo shrub reedland	Alluvium	Manuka shrubland	Wetland	4.7	2
Pukemiro Wetland and Forest	P09020	Kanuka forest	Hillslope	Kanuka forest/shrubland	Forest	34.5	2
Reed's Farm Forest	P08063	Kahikatea forest	Alluvium	Kahikatea forest	Forest	2.0	2
Rehutai Road Lake and Wetland	P07124a	Open water	Lake	*	Wetland	1.0	2
Rehutai Road Lake and Wetland	P07124a	<i>Baumea articulata</i> reedland and <i>Eleocharis sphaecelata</i> reedland	Alluvium	<i>Baumea</i> reedland	Wetland	1.1	2
Rotu Stream Forest	P07141	Kahikatea-houhere-kowhai-ti kouka forest	Alluvium	Alluvium	Forest	10.1	1
Kaihu Valley West Shrubland	P07157a	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	4.7	1
Russell Wetland	P08096	Manuka-pampas shrub grassland	Peat	Pampas grassland	Shrubland	8.1	1
Scotty's Camp Road Shrubland	P07167	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	21.3	2
Scotty's Camp Road Shrubland	P07167	Manuka shrubland	Hillslope	Manuka shrubland	Shrubland	4.4	2
Shag Lake and Wetland	O07014	<i>Eleocharis sphaecelata</i> reedland	Alluvium	<i>Eleocharis</i> reedland	Wetland	1.5	1
Shag Lake and Wetland	O07014	Open water	Dune lake	*	Wetland	15.8	1
Sills Road Forest Fragments	P08060	Kahikatea forest	Alluvium	Kahikatea forest	Forest	7.6	2
Swan Egg Pond and Wetland	Q09203	Raupo reedland	Alluvium	Raupo reedland	Wetland	1.4	2
Swan Egg Pond and Wetland	Q09203	Open water	Dune lake	*	Wetland	0.7	2
Tangitiki Estuary, Wetland and Shrubland	P08101	Oioi rushland	Estuarine alluvium	Oioi rushland	Estuarine	5.9	1
Tangitiki Estuary, Wetland and Shrubland	P08101	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	18.4	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Tangitiki Estuary, Wetland and Shrubland	P08101	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	88.0	1
Tangitiki Estuary, Wetland and Shrubland	P08101	Open water	Estuary	*	Estuarine	53.8	1
Tapu Bush	P09011	Sandfield	Rear dunes	Sandfield	Dunes	13.7	1
Tapu Bush	P09011	Native conifer-broadleaved forest of 3 types	Rear dunes	Puriri forest	Forest	195.9	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Sea rush rushland	Estuarine alluvium	Oioi rushland	Estuarine	9.4	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	8.0	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Sandfield with spinifex grassland	Foredune	Spinifex sandfield	Dunes	1.0	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Manuka-mapau shrubland	Islet summit	Kanuka-manuka shrubland	Shrubland	0.04	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Kanuka forest	Hillslope	Kanuka forest/shrubland	Forest	1.8	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Kanuka shrubland and treeland	Rear dune	Kanuka forest/shrubland	Forest Shrubland	8.4	1
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09056	Open water	Estuary	*	Estuarine	6.9	1
Te Kawa Stream Forest	P07121a	Totara-puriri forest	Hillslope	Totara forest	Forest	2.9	1
The Spectacles Lakes and Wetland	Q09202	Open water	Dune lake	*	Wetland	2.3	2
The Spectacles Lakes and Wetland	Q09202	Raupo-Baumea articulata reedland	Alluvium	Raupo reedland	Wetland	2.6	2
Turiwiri Forest Fragments	P07182	Kahikatea forest	Alluvium	Kahikatea forest	Forest	2.9	2

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Upper Aratapu Creek Shrubland	P08062	Undescribed shrubland	Hillslopes	*	Shrubland	43.7	2
Upper Okaro Bush	P09008	Kauri/puriri-taraire forest	Hillslope & alluvium	Puriri forest	Forest	11.8	1
Upper Okaro Bush	P09008	Kanuka forest	Hillslope	Kanuka forest/shrubland	Forest	22.6	1
Upper Te Kawa Stream Shrubland	P07121	Kanuka/manuka shrubland	Hillslope	Kanuka forest/shrubland	Shrubland	1.3	2
Waihaupai Stream Shrubland and Forest	O07012	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	36.1	2
Waihaupai Stream Shrubland and Forest	O07012	Mingimingi-gorse shrubland	Hillslope	Manuka shrubland	Shrubland	22.3	2
Waimamaku Estuary, Shrubland & Rushland	P08213	Sea rush rushland	Estuarine alluvium	Oioi rushland	Estuarine	8.4	1
Waimamaku Estuary, Shrubland & Rushland	P08213	Manuka shrubland	Alluvium	Manuka shrubland	Estuarine	24.5	1
Waimamaku Estuary, Shrubland & Rushland	P08213	Mangrove shrubland	Estuarine alluvium	Mangrove shrubland	Estuarine	68.7	1
Western Coast A: Aranga Beach North Coastal Communities	O07011	Undescribed shrubland	Undescribed	*	Shrubland	2.5	1
Western Coast A: Aranga Beach North Coastal Communities	O07011	Pohutukawa forest	Rear dune	Pohutukawa forest	Forest	2.1	1
Western Coast A: Aranga Beach North Coastal Communities	O07011	Knobby clubrush rushland	Rear dune	*	Dunes	6.5	1
Western Coast A: Aranga Beach North Coastal Communities	O07011	Spinifex sandfield	Foredune	Sandfield	Dunes	2.8	1
Western Coast B: Aranga Beach South Coastal Communities	O07016	Harakeke-mingimingi shrub-flaxland	Coastal hillslopes	Flaxland	Shrubland	97.4	1
Western Coast B: Aranga Beach South Coastal Communities	O07016	Manuka shrubland	Coastal hillslopes	Manuka shrubland	Shrubland	70.7	1
Western Coast B: Aranga Beach South Coastal Communities	O07016	Spinifex sandfield	Foredunes	Sandfield	Dunes	11.4	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Western Coast B: Aranga Beach South Coastal Communities	O07016	Pohutukawa forest	Coastal hillslopes	Pohutukawa forest	Forest	0.9	1
Western Coast C: Glinks Gully North Grassland, Flaxland and Forest	P08061	Pohutukawa-coastal toetoe forest	Rear dunes	Pohutukawa forest	Forest	1.2	1
Western Coast C: Glinks Gully North Grassland, Flaxland and Forest	P08061	Coastal toetoe-harakeke-tussock flaxland	Coastal faces	Flaxland	Dunes	566.5	1
Western Coast C: Glinks Gully North Grassland, Flaxland and Forest	P08061	Marram grassland	Rear dunes	Spinifex sandfield	Dunes	27.1	1
Western Coast C: Glinks Gully North Grassland, Flaxland and Forest	P08061	Spinifex sandfield	Foredunes	Spinifex sandfield	Dunes	139.3	1
Western Coast C: Glinks Gully North Grassland, Flaxland and Forest	P08061	Pohuehue vineland	Rear of coastal faces		Dunes	99.3	1
Western Coast D: Glinks Gully South Grassland, Wetland and Shrubland	P08072	Manuka shrubland and shrub grassland	Coastal faces	Flaxland	Shrubland	222.1	1
Western Coast D: Glinks Gully South Grassland, Wetland and Shrubland	P08072	Pohuehue vineland	Rear dunes	Flaxland	Dunes	519.2	1
Western Coast D: Glinks Gully South Grassland, Wetland and Shrubland	P08072	Sandfield	Foredunes	Sandfield	Dunes	234.0	1
Western Coast D: Glinks Gully South Grassland, Wetland and Shrubland	P08072	Raupo reedland	Dune slacks	Raupo reedland	Wetland	60.5	1

SITE NAME	SITE NO.	VEGETATION COMPOSITION AND STRUCTURE	LANDFORM	MAJOR VEGETATION TYPE	HABITAT	AREA (HA)	LEVEL
Western Coast E: Pouto Dune System	P09001	Kanuka forest	Inland hillslope	Kanuka forest/shrubland	Forest	183.6	1
Western Coast E: Pouto Dune System	P09001	Kanuka shrub duneland including oioi rushland in dune slacks	Dune	Kanuka/manuka shrubland	Dunes	1982.4	1
Western Coast E: Pouto Dune System	P09001	Pohuehue vineland	Rear dunes	Flaxland	Dunes	47.8	1
Western Coast E: Pouto Dune System	P09001	Mixed freshwater wetland	Alluvium	Baumea sedgeland	Wetland	262.6	1
Western Coast E: Pouto Dune System	P09001	Kanuka shrubland	Rear dunes	Kanuka/manuka shrubland	Shrubland	733.9	1
Western Coast E: Pouto Dune System	P09001	Sandfield	Frontal dunes	Sandfield	Dunes	2380.8	1
Western Coast E: Pouto Dune System	P09001	Open water	Dune lakes	*	Wetland	198.6	1
Wetland East of Lake Rotopouua	Q09053	Raupo reedland	Alluvium	Raupo reedland	Wetland	9.9	1
Wetland East of Lake Rotopouua	Q09053	Manuka- <i>Baumea articulata</i> shrub reedland	Alluvium	Manuka shrubland	Wetland	9.7	1
Woodcock's Forest	P07141a	Kahikatea forest	Alluvium	Kahikatea forest	Forest	0.6	2
Woodcock's Wetland	P07157	Manuka shrubland	Alluvium	Manuka shrubland	Shrubland	1.5	2

Appendix 11

GLOSSARY OF TERMS

(after Lux & Beadel 2006)

Biodiversity

The variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

Buffer

A zone surrounding a natural area which reduces the effects of external influences on the natural area. For example, shrubland or exotic plantations surrounding an indigenous remnant provide physical protection to it by reducing changes in wind and light, reducing the chance of weed infestation and providing a corridor for the movement of wildlife into and out of it, so that it is less isolated. Vegetation is often considered a buffer to waterways - riparian vegetation and wetlands protect both water quality and habitat from influences arising on the surrounding land.

Community

An association of populations of plants and animals that occur naturally together in a common environment.

Diversity and Pattern

Diversity is the variety and range of species of biological communities, ecosystems and landforms. Pattern refers to changes in species composition, communities and ecosystems along environmental gradients.

Ecological District

A local part of New Zealand where geological, topographical, climatic and biological features and processes, including the broad cultural pattern, interrelate to produce a characteristic landscape and range of biological communities.

Ecological Region

A group of adjacent Ecological Districts that have diverse but closely related characteristics; in some cases a single, very distinctive Ecological District.

Ecological unit

Vegetation type occurring on a particular landform or soil or rock type.

Ecosystem

Any interrelated and functioning assemblage of plants, animals, and substrates (including air, water and soil) on any scale, including the processes of energy flow and productivity (Myers et al. 1987).

Endemic

Occurring naturally in, and restricted to, a particular country, region or locality.

Exotic

Introduced to New Zealand; not indigenous.

Forest

Woody vegetation in which the cover of trees and shrubs in the canopy is > 80% and in which tree cover exceeds that of shrubs. Trees are woody plants > 10 cm diameter at breast height (dbh) and shrubs are woody plants < 10 cm dbh. Tree ferns > 10 cm dbh are treated as trees (Atkinson 1985).

Habitat

The part of the environment where a plant or animal lives. It includes both the living and non-living features of the area.

Indigenous

Native to New Zealand. This includes species that occur naturally in New Zealand and other places (e.g., migratory bar-tailed godwits, which return to New Zealand from Siberia every summer). Species that only occur in New Zealand are 'endemic'.

Landform

A part of the land's surface with distinctive naturally formed physical characteristics, e.g., hillslope, gully, ridge top, etc.

Linkages/Corridors

An area of habitat that links two or more other habitat areas. Depending on the habitat type, this linkage or corridor can comprise indigenous vegetation (e.g., forest, shrubland), exotic vegetation (e.g., pine forest), aquatic habitat (e.g., a farm pond) or any other feature that assists the movement of indigenous species between habitat patches. Where a linkage exists between habitats, the opportunities for genetic exchange within a species are greater, which enhances the viability of that population. For many species, in particular mobile fauna such as birds, a corridor does not have to be continuous to be usable. Small remnants can act as stepping stones between two larger habitats.

Locally uncommon

Considered rare within the study area; in this case within Kaipara ED (Northland).

Natural area

A tract of land that supports natural landforms and predominantly native vegetation or provides habitat for indigenous species; identified as a unit for evaluation of ecological quality and representativeness and has potential to be ecologically significant.

Naturalness

The degree to which a habitat is modified and disturbed by human activity or introduced plants and animals and what natural values are retained despite these factors, i.e. to what extent native species are functioning according to natural processes.

Rarity

This is a measure of commonness and may apply to entire ecosystems through to single species. It may refer to the conservation status of a species (see Appendix 3) or habitat type in any one of the following ways: formerly common but now rare; confined to a limited geographic area; at the limit of its range; or with a contracting or fragmented range. For example, old-growth alluvial swamp forests are an extremely rare ecosystem type in Northland, and indeed nationally, even though they contain no species that are regarded as rare in themselves.

Reedland

Reedlands comprise 20-100% cover of reeds, which are tall erect herbs emergent from shallow water, having branched leaves or stems that are either hollow or have very spongy pith, e.g., raupo, *Baumea articulata* and kuta (Johnson & Gerbeaux 2004, adapted from Atkinson 1985).

Regionally significant

Assessed by DOC to be either rare or threatened within the Northland Region.

Representativeness

The extent to which an area represents or exemplifies the components of the natural diversity of a larger reference area (in this case, the reference area is the part of Kaipara ED that lies within Northland Conservancy). This implies consideration of the full range of natural ecosystems and landscapes that were originally found in the reference area and how well they are represented in today's environment. The reference period for 'original' land cover used for this study was the immediate pre-human era (late Holocene).

The identification and evaluation of the key representative natural areas in all Ecological Districts is the principal objective of the PNA Programme (Myers et al. 1987).

Riparian protection

Riparian vegetation performs important protective functions to streams such as shading, sediment control, primary production, and provision of habitat linkages/corridors. Without riparian protection water temperature can rise, depleting the available oxygen and leading to the death of aquatic life. Leaf litter and woody debris enter the nutrient cycle of the stream providing food for the first consumer in the food web, e.g., mayflies, caddisflies, and stonefly. Riparian vegetation acts as a filter for non-point source water discharges.

Rushland

Rushlands comprise 20-100% cover of rushes, which are *Juncus* spp. that have stiff, erect stems or similarly non-flattened leaves (Johnson & Gerbeaux 2004, adapted from Atkinson 1985).

Secondary vegetation

Indigenous vegetation established after destruction or disturbance of the previous vegetation and which is essentially different from the original vegetation.

Shrubland

Vegetation in which the cover of shrubs and trees in the canopy is > 50% and in which shrub cover exceeds that of trees. Trees are woody plants > 10 cm diameter at breast height (dbh) and shrubs are woody plants < 10 cm dbh. Tree ferns > 10 cm dbh are treated as trees. This definition includes both 'shrubland' and 'scrub' of Atkinson (1985).

Site

An area of habitat or habitats identified during the field survey phase of the PNAP. Some small habitats occurring in close geographical proximity, with similar characteristics and functions, have been grouped and addressed as one site, e.g., small forest remnants and farm ponds within the same catchment.

Succession

Succession is the dynamic process whereby one plant community changes into another, involving the immigration and local extinction of species, coupled with changes in the relative abundance of different plants (Crawley 1997). Change may be due to natural or human-induced factors, or both. Primary succession refers to the colonisation of a bare surface by vegetation (e.g., the greening of new volcano after it erupts out of the sea). Secondary succession refers to the process of colonisation and change after original vegetation has been destroyed, e.g., by fire, human-induced land clearance, etc.

Successional

Describes a plant community in the process of succession.

Survey no.

A sequential number given to each site (e.g., P09/001). The first letter and two figures refer to the NZMS 260 topographical map sheet that covers the site.

Treeland

Vegetation in which the cover of trees in the canopy is 20-80%, with tree cover exceeding that of any other growth form, and in which the trees form a discontinuous upper canopy above either a lower canopy of predominantly non-woody vegetation or bare ground (Atkinson 1985). Treeland is mainly induced by grazing.

Vegetation type

The most detailed vegetation descriptive name, defined by the composition of dominant canopy species, in order of abundance (e.g., taraire-puriri-kahikatea) and the structure of the vegetation, e.g., forest, treeland, shrubland, reedland, etc.

Viability

The ability of an area's natural communities to maintain themselves in the long-term in the absence of particular management efforts to achieve this. Regeneration and vigour of species within these communities and stability of communities and processes contribute to viability.

Wetland

An area of land that is permanently or intermittently waterlogged and supports flora and fauna adapted to wet conditions. Wetland is used as a broad definition for several types of aquatic systems, e.g., ponds, lakes, swamps, bogs, ephemeral wetlands, saltmarshes, mangroves, etc.

Appendix 12

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Lake Taharoa, Wetland and Shrubland	O07/022	1	66
Lake Waikere, Wetland and Shrubland	O07/018	1	63
Lake Waingata	Q09/204	2	298
Lake Wainui and Wetland	P08/211	1	145
Long Gully Wetland and Shrubland	P07/153	1	97
Lower Kai Iwi Stream Wetland, Shrubland and Forest	O07/026	2	206
Lower Kaihu River Forest Fragments	P07/169	1	105
Lower Lake Rototuna Wetland	P09/002	2	288
Lucich Wetland	P08/80	2	268
Maitahi Wetland Scientific Reserve	P07/133	1	80
Mangakahia Forest Wetland	P07/140	1	85
Mangatara Flat Shrubland	P07/177	2	254
Mapau Bush	P08/094a	1	131
Mosquito Gully Wetland	P08/099	2	282
Newlove Airstrip Wetland	P07/131	1	78
Newsham Road North Forest	P08/067a	2	119
Newsham Road South Forest	P08/067b	1	121
Ngakiriparauri Stream Shrubland and Wetland	O07/015	2	200
North Kai Iwi Stream Wetland and Forest	O07/025	2	204
NRC Creamery Road Reserve Forest	P08/068b	1	125
NRC Opanake Road Reserve Forest	P07/148	1	93
Okaro Creek/Waikere Creek Duneland, Wetland and Shrubland	Q09/051	1	167
Omamari Road Grassland and Wetland	P07/130	1	76
Omamari Station North Shrubland and Wetland	P07/125	2	219
Omamari Station Wetland and Shrubland	P07/132	2	221
Omamari Government Purpose Wildlife Reserve and Surrounds	P07/127	1	73
Ongange Creek Wetland, Shrubland and Forest	Q09/150	1	191
Opanake Road Davidson Forest and Shrubland	P07/150	1	95
Opanake Road Forest Fragments	P07/136a	2	225

SITE	SURVEY NO.	LEVEL	PAGE
Opanake Road Morris Forest	P07/142	1	89
Opanake Road Shrubland and Forest	P07/158	1	101
Opanake Road Swamp Forest	P07/149	2	231
Peter Kelly's Lake and Wetland	P07/138	2	227
Phoebe's Lake and Wetland	P09/011a	2	290
Pinaki Road South Wetland and Shrubland	P08/087	2	272
Pouto Point Wildlife Reserve Sandfield, Wetland and Shrubland	Q09/063	1	189
Pretty Bush	Q09/061	1	187
Pukemiro Wetland and Forest	P09/020	2	292
Reed's Farm Forest	P08/063	2	264
Rehutai Road Wetland	P07/124a	2	217
Rotu Stream Forest	P07/141	1	87
Russell Wetland	P08/096	1	133
Scotty's Camp Road Shrubland	P07/167	2	244
Shag Lake and Wetland	O07/014	1	58
Sills Road Forest Remnants	P08/060	2	260
Swan Egg Pond and Wetland	Q09/203	2	296
Tangitiki Estuary, Wetland and Shrubland	P08/101	1	135
Tapu Bush	P09/011	1	160
Tauhara Creek Estuary, Sandfield, Wetland and Shrubland	Q09/056	1	177
Te Kawa Stream Forest	P07/121a	1	71
The Spectacles Lakes and Wetland	Q09/202	1	294
Turiwiri Forest Remnants	P07/182	2	252
Upper Aratapu Creek Shrubland	P08/062	2	262
Upper Okaro Bush	P09/008	1	158
Upper Te Kawa Stream Shrubland	P07/121	2	215
Waihaupai Stream Shrubland and Forest	O07/012	2	198
Waimamaku Estuary, Shrubland and Rushland	P08/213	1	147
West Coast A: Aranga Beach North Coastal Communities	O07/011	1	56
West Coast B: Aranga Beach South Coastal Communities	O07/016	1	61
West Coast C: Glinks Gully North Grassland, Flaxland and Forest	P08/061	1	117
West Coast D: Glinks Gully South Grassland, Wetland and Shrubland	P08/072	1	129
West Coast E: Pouto Dune System	P09/001	1	149
Wetland East of Lake Rotopouua	Q09/053	1	170
Woodcock's Forest	P07/141a	2	229
Woodcock's Wetland	P07/157	2	233