

## 17 Indigenous Vegetation and Habitat

### 17.1 Significant Issues

Loss of biodiversity and fragmentation of significant indigenous vegetation and significant habitats of indigenous fauna arising from land clearance, pest invasions, modification of indigenous wetlands, subdivision, use and development.

Low representation of threatened and/or rare vegetation and habitat types in the protected areas network within the District.

Finding a balance between the protection of ecosystems and ecological processes, and sustainable land development and use.

Lack of public understanding of ecological processes and values leading to inappropriate land use.

### 17.2 Overview

Since first human settlement in the District, large areas of native forests and shrub lands, freshwater indigenous wetlands, mangrove forest, mudflats and coastline have been lost or modified by direct or indirect human impacts. As a result of habitat changes, the District has a high number of endangered and threatened species.

The effects on wildlife of loss of habitat vary, but for less mobile species with special habitat requirements, this can result in local extinction. More mobile species have special habitat requirements at certain stages of their life cycles, for example, the loss of breeding habitats could have serious long-term consequences for particular species.

Habitats special to the District, and which are now poorly represented as natural ecological areas, include:

- Taraire-puriri broadleaf forest remnants found on the basalt soils;
- Mineralised flax, raupo and sedge swamps;
- Acid peat bogs;
- Podsol gumlands;
- Lowland kahikatea/cabbage tree and swamp forest remnants;
- Coastal forests and shrub lands;
- Kauri and Podocarpus (rimu, matai, kahikatea, miro, kaiwaka, tanekaha forests);

All of these habitat types have been severely reduced in area, or are highly modified and now often only occur as tiny modified relics of what once occurred in the District.

Threatened indigenous species which are of particular concern include:

- North Island brown kiwi – kiwi distribution in the District has declined by half in just 20 years, and numbers continue to decline;
- The unique black mudfish, now down to just two tiny populations;
- Heart-leafed kohuhu – only one population now exists;

- King fern – only three known populations;
- Calystegia marginate – only three populations remain;
- Brown teal – the District contains the last significant mainland population of this endangered duck species;
- Fairy tern – New Zealand's sole population of this endangered subspecies, which numbers 30 individuals, with one of only three known breeding sites being located at Waipu Estuary;
- Hochstetter's frog – the only known Northland populations are found in the Brynderwyn - Mareretu-Waipu Caves forest areas;
- Kauri and flax snails – these two species continue to decline and local extinction has now occurred over many parts of the District;
- Banded rail, fernbird, bittern and spotless crake, (all secretive wetland/gumland birds), continue to decline due to loss and modification of their specialist habitat sites;
- New Zealand dotterel – the District contains nationally important populations of this species around several sandy beaches and spits;
- Long-tailed bats, kaka and red-crowned parakeets are forest species, which have disappeared from many sites, while the unique, but tiny freshwater crab is known from only two riverine sites.

As habitats are reduced in number and size, it becomes increasingly difficult to maintain viable areas for particular plant and animal species to ensure regeneration, migration, colonisation and breeding.

Without habitat suitable to its requirements, species will soon be lost, and it is for this reason the District now contains such a large number of threatened indigenous flora and fauna.

Areas near rivers provide habitats, not found elsewhere, which are important for the survival of a number of indigenous plants and animals. These riparian areas provide nesting, escape cover and food producing habitat for insects, fish and wildlife. They also function as wildlife corridors, important for providing access to water, routes for migration and a food source, particularly for those native bird species which are poor fliers.

In providing a regime for protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna, a set of criteria and a ranking system was developed by ecological scientists. The criteria are included in Schedule 17A, where vegetation and habitat are ranked as outstanding, high, moderate high, moderate and potential value. In terms of section 6(c) of the Resource Management Act 1991, 'significant' includes areas ranked as moderate [ecological] value and above. The Plan at present identifies as 'Significant Ecological Areas' on the Planning Maps all areas ranked as outstanding value, and those ranked as high value, that are owned by the Council, the Department of Conservation or which have been volunteered for protection by the landowner.

The Council is only one of a number of organisations that has an interest in the conservation of indigenous vegetation and habitats. Initiatives taken by the Council to identify and protect Significant Ecological Areas will be ongoing, and will complement the work of the other organisations. Over time, knowledge about the District's ecological areas will be improved and the area that is protected will increase. Protection can, and will be, achieved both by regulatory and non-regulatory means.

Voluntary and incentive-based methods will be an important component of the non-regulatory methods of protecting areas identified as Significant Ecological Areas.

## 17.3 Objectives

### 17.3.1

Maintenance and enhancement of the life-supporting capacity of ecosystems, and the biodiversity of the District.

### 17.3.2

Protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna from inappropriate subdivision, use and development.

*Explanation and Reasons: Indigenous vegetation and the habitats of indigenous fauna have an important role to play in the life-supporting capacity of the biosphere, and are an important component of the natural landscapes of the District. Significant modifications to such vegetation and habitats can disrupt natural cycles and the processes that sustain them, threaten their viability and reduce biodiversity. The objectives reflect obligations of all parties under section 6(e) of the Resource Management Act 1991 to recognise and provide for the protection of areas of significant vegetation and significant habitats of indigenous fauna, as well as the obligation under section 7(d) to have particular regard to the intrinsic values of ecosystems.*

## 17.4 Policies

### 17.4.1 Significant Indigenous Vegetation and Significant Habitats of Indigenous Fauna

To recognise as significant, and provide protection for, indigenous vegetation and habitats of indigenous fauna, including indigenous wetlands, which are of Moderate, Moderate-High, High and Outstanding value using the criteria set out in Schedule 17A.

*Explanation and Reasons: The system for rating significant ecological sites is explained in the Whangarei District Sites of Ecological Significance Report (Boffa Miskell, 1995). Significant ecological sites, in terms of section 6(c) of the Resource Management Act 1991, will generally contain one or more of the following attributes - threatened indigenous wildlife or plant species; viable populations of species which are of a typical habitat and retain a high degree of naturalness; representative examples of a particular habitat type; high diversity of indigenous species or habitat types of importance for indigenous migratory species.*

*These attributes have been developed by New Zealand ecologists over the last 30 years, and are based on international criteria used by the International Union for Conservation of Nature (I.U.C.N.). Biodiversity is strongly influenced by the integrity of indigenous wetlands and riparian areas. The latter provide shade and food and are often unique habitats for indigenous vegetation and fauna in their own right. The presence of riparian vegetation, in particular, can have an important influence on the ecological structure of in-stream invertebrate communities and fisheries values.*

### 17.4.2 Significant Ecological Areas

To maintain the ecological values of significant indigenous vegetation and the significant habitats of indigenous fauna in the Living 3 and Open Space Environments.

*Explanation and Reasons: These policies identify the criteria that will be used in identifying significant ecological areas and, furthermore, where within the Whangarei District the Council will focus effort in the maintenance of such ecological values.*

#### **17.4.3 Enhancement**

To promote the enhancement of areas of significant indigenous vegetation and significant habitats of indigenous fauna that have been, or may be, degraded by inappropriate subdivision, use and development.

*Explanation and Reasons: Degraded natural habitats reduce the diversity and threaten the health of plant and animal communities in the District, particularly for species already threatened. Enhancement may take the form of protecting existing indigenous plant communities through fencing, stock and pest control, planting and covenanting remnant forest and wetland habitats, or through restoration of degraded habitats, mainly through replanting. The aim of enhancement is to improve the condition of degraded ecosystems so that natural cycles and processes can occur. Such enhancement may also include off-site environmental compensatory actions when the mitigation of environmental effects on site is inadequate or not practical.*

#### **17.4.4 Effects**

To avoid, remedy or mitigate the adverse effects of land use activities on areas of indigenous vegetation and significant habitats of indigenous fauna, including areas of value to tangata whenua, as determined by Schedule 17A, so as to maintain its ecological values.

*Explanation and Reasons: This policy applies to all areas of indigenous vegetation and habitats of indigenous fauna, not just those that are significant in terms of other policies. Activities may indirectly affect vegetation and habitat through, for example, noise, vibration or the introduction of predators (e.g. cats and dogs). This policy will often be particularly relevant to the assessment of resource consent applications for activities that may impact on significant areas of indigenous vegetation or significant habitats of indigenous fauna. Specific areas of indigenous vegetation are used for the harvesting of species for cultural use.*

#### **17.4.5 Environmental Pests**

To avoid, remedy or mitigate the adverse effects of goats in areas of indigenous vegetation and habitats of indigenous fauna, particularly in areas where they have been eradicated at Mt Manaia and Bream Head.

*Explanation and Reasons: Goats are a pest in the District and can cause significant amounts of damage to indigenous vegetation and habitats of indigenous fauna. Goats have been eradicated from the areas around Mt Manaia and Bream Head. It is therefore necessary to prevent the re-infestation of these areas and allow the vegetation to regenerate.*

17.4.5A: To avoid the introduction of plant and animal pests where practicable.

17.4.5B: To encourage programmes for plant and animal pest control in areas of ecological value.

17.4.5C: To recognise that dogs, cats and mustelids are a significant threat to kiwi.

*Explanation: The role of introduced plant and animal pests in damaging native vegetation, native communities and biota is well established. Council has a role which may include regulatory, education and information mechanisms to limit adverse effects and environmental risks that may be associated with pests. Council also has a complimentary role to the Northland Regional Council's pest management functions.*

## **17.5 Methods**

### **17.5.1 Regulatory Methods**

- Rules regulating the clearance of indigenous vegetation, vegetation planting and indigenous wetland destruction (Policies 17.4.1, 17.4.2).
- Subdivision and Resource Area rules relating to the taking of esplanade reserves on land adjacent to rivers and indigenous wetlands (Policies 17.4.3 to 17.4.4).
- Resource consent conditions protecting significant indigenous vegetation and the significant habitats of indigenous fauna, including conditions requiring bush covenants and, where appropriate, fencing (Policies 17.4.2, 17.4.3, 17.4.4).
- Heritage orders in special circumstances (Policies 17.4.3 to 17.4.4).
- Identification of Goat Control Areas on the Planning Maps (Policy 17.4.5.).
- The provision of a Goat Control Area Rule Table in the Natural Features Rule table.
- Identify in a schedule, as appropriate, plants and animals of cultural significance, as determined by iwi/hapu Environmental Management Plans (policy 17.4.4).

### **17.5.2 Other Plans and Legislation**

- The Regional Policy Statement for Northland (Policies 17.4.1 to 17.4.4).
- The Northland Regional Water and Soil Plan (Policies 17.4.1 to 17.4.4).
- The New Zealand Coastal Policy Statement (Policies 17.4.1 to 17.4.4).
- The Northland Conservation Management Strategy (Policies 17.4.1 to 17.4.4).
- Iwi/Hapu Environmental Management Plans (Policies 17.4.1 to 17.4.4).

### **17.5.3 Information, Education and Advocacy**

- Liaison with government and community groups (Policies 17.4.1 to 17.4.4).
- Liaison with iwi/hapu in regard to Iwi/Hapu Environmental Management Plans and ecological issues of concern to tangata whenua (Policies 17.4.1 to 17.4.4).
- Educate and inform resource users of the need for local sourcing of plant material (Policies 17.4.3 to 17.4.4).
- Investigate with landowners and other interested parties, the recording of other areas of significant indigenous vegetation and habitats of indigenous fauna, using the criteria within Schedule 17A (Policies 17.4.1 to 17.4.2).
- Promote voluntary protection of significant indigenous vegetation or the significant habitats of indigenous fauna, through the use of protective

covenants and other mechanisms, including fencing and rates relief schemes (Policies 17.4.3 to 17.4.4).

- Promote and support appropriate voluntary, self-regulating, industry-based codes of practice and guidelines (Policies 17.4.3 to 17.4.4).
- Promote community awareness of the role of ecosystems and the importance of the protection of indigenous biodiversity, through plant and animal pest control programmes and other measures (Policies 17.4.1 to 17.4.4).
- Hold, and make available, databases recording ecological information and maps detailing ecological areas within the District.
- Promote and support programmes to exclude dogs, cats and mustellids from known high-density kiwi habitat (Policy 17.4.5C).

#### **17.5.4 Economic Instruments**

- Financial contributions under Chapter 8 (Policies 17.4.3 to 17.4.4).
- Annual Plan allocation for assisting other protection agencies (Policies 17.4.3 to 17.4.4).
- Provision of rates' relief as an incentive and method of compensation for those landowners who voluntarily covenant land, for the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna (Policies 17.4.3 to 17.4.4).
- Consideration of a waiver or reduction of subdivision consent application fees where the sole or principal purpose of the subdivision is protection of significant indigenous vegetation or significant habitats of indigenous fauna. (Policies 17.4.3 to 17.4.4).

### **17.6 Anticipated Environmental Results**

The following results are expected to be achieved by the foregoing Objectives, Policies and Methods. The means of monitoring whether the Plan achieves the expected outcomes are set out in the Whangarei District Council Monitoring Strategy.

- Areas of significant indigenous vegetation and significant habitats of indigenous fauna are protected and/or enhanced.
- Adverse effects from subdivision, use and development on areas of significant indigenous fauna are avoided, remedied or mitigated.
- The establishment of ecological corridors connecting areas of significant indigenous vegetation and significant habitats of indigenous fauna.
- Areas of indigenous vegetation and habitats of indigenous fauna of significance to Maori are protected and/or enhanced.

#### **Schedule 17A - Criteria for Ranking Significance of Areas of Indigenous Vegetation and Habitat**

##### **S17A.1 Outstanding Value**

1. All sites which meet the following criteria:
  - a. Occurrence of an endangered endemic species;
  - b. Areas important to nationally vulnerable or internationally uncommon species (breeding or migratory);
  - c. Ecosystem or example of an original habitat type which is nationally rare;

- d. Rare national example of a sequence or a mosaic.
2. All sites which contain wildlife species listed in Schedule 17B as 'Outstanding Value' - nationally endangered.
3. All sites which contain plant species listed in Schedule 17C as being of 'Outstanding Value' within the Northland context.

#### **S17A.2 High Value**

1. All sites which meet the following criteria:
  - Occurrence of a vulnerable endemic species;
  - Important habitat of a nationally rare species, or presence of rare Northland endemic species;
  - Example of a nationally uncommon habitat, sequence or mosaic;
  - Habitat type that is rare in that Ecological Region.
2. All sites which contain wildlife species listed in Schedule 17B as 'High Value' - nationally vulnerable.
3. All sites which contain plant species listed in Schedule 17C as being of 'High Value' within the Northland context.

#### **S17A.3 Moderate-High Value**

1. All sites which meet the following criteria:
  - Occurrence of a rare endemic species, or regionally threatened species, or endemic species of limited abundance throughout the country;
  - A habitat or sequence which is rare in that Ecological District;
  - Habitat which is uncommon elsewhere in that Ecological Region or District but contains all, or almost all, species typical of that habitat type (for that Region or District);
  - An area where any particular species is exceptional in terms of abundance or habit.
2. All sites which contain wildlife species listed in Schedule 17B as 'Moderate-High Value' - nationally rare or regionally threatened.
3. All sites which contain plant species listed in Schedule 17C as being of 'Moderate-High Value' within the Northland context.

#### **S17A.4 Moderate Value**

1. All sites supporting good numbers of species which are typical of a widespread habitat within an ecological region, and which have not been heavily modified by human influence.
2. All sites which contain wildlife species listed in Schedule 17B as 'Moderate Value' - restricted distribution.
3. All sites which do not contain any of the species listed in Schedule 17B or 17C, but which are viable areas of indigenous vegetation, or viable habitats of indigenous fauna.

**S17A.5 Potential Value**

1. All sites which meet the following criteria:
  - All areas of some biological significance, whose biological values are limited by heavy modification, or other factors, but which would have increased biological value if left to regenerate or if managed or developed, (may include wildlife habitat which functions as a corridor, or which is sub-optimal habitat that may be necessary for maintaining genetic diversity).
2. All sites which do not contain any of the species listed in Schedule 17B or 17C, but which are viable areas of indigenous vegetation or viable habitats of indigenous fauna.

**Note:** The application of these criteria within the Plan applies only to significant areas of indigenous vegetation and habitat rated 'Moderate' and above, as indicated in Policy 17.4.1.

**Schedule 17B - Status of Northland's Wildlife Species Applicable to the Whangarei District (Adapted from the Northland Conservation Management Strategy 1999)**

**Outstanding Value  
(Endangered Endemic Species)**

Birds	Reptiles	Mammals	Freshwater Fish	Invertebrates (Molluscs)	Invertebrates (Arthropods)
Fairy Tern	All Marine Turtles	Short-Tailed Bat	Black Mudfish	Incomplete	Incomplete
Little Spotted Kiwi			Short-Jawed Kokopu		
Ni Brown Kiwi					
Brown Teal					

**High Value  
(Vulnerable Endemic Species)**

Birds	Reptiles	Mammals	Freshwater Fish	Invertebrates (Molluscs)	Invertebrates (Arthropods)
NZ Dabchick	Robust Skink	Long-Tailed Bat	Giant Kokopu	Flax Snail	Northland Tusked Weta
Black Petrel	Macgregor's Skink		Lamprey		Freshwater Crab
Buller's Shearwater	Tuatara			Incomplete	Incomplete
NI Weka	Hochstetter's Frog				
Little Shearwater	Poor Knights Skink				
Australasian Bittern					
NZ Falcon					
NZ Dotterel					

Wrybill					
Stitchbird					
NZ Pigeon					
Royal Spoonbill					
Pycrofts Petrel					

**Moderate-High Value  
(Rare Endemic or Regionally Threatened Species)**

Birds	Reptiles	Mammals	Freshwater Fish	Invertebrates (Molluscs)	Invertebrates (Arthropods)
Reef Heron			Koaro	Incomplete	Incomplete
Banded Rail			Banded Kokopu		
Banded Dotterel			Blue-Gilled Bully		
Caspian Tern					
Cook's Petrel					
Poor Knights Bellbird					
White-Fronted Tern					
NI Saddleback					

**Moderate Value  
(Restricted Distribution)**

Birds	Reptiles	Mammals	Freshwater Fish	Invertebrates (Molluscs)	Invertebrates (Arthropods)
Australian Little Grebe				Incomplete	Incomplete
Hoary-Headed Grebe					
Variable Oystercatcher					
Greg Plover					
Sharp Tailed Sandpiper					
Curlew Sandpiper					
Knot					
Godwit					
Golden Plover					
Turnstones Far Eastern Curlew					
Siberian					

<b>Birds</b>	<b>Reptiles</b>	<b>Mammals</b>	<b>Freshwater Fish</b>	<b>Invertebrates (Molluscs)</b>	<b>Invertebrates (Arthropods)</b>
Tattler					
Red-Necked Stint					
Long Tailed Cuckoo					
Spotless Crake					
North Island Fernbird					
Red Crowned Parakeet					
Scaup					

**Schedule 17C - Threatened and Uncommon Plants of Whangarei District  
(Alphabetical List)**

<b>Outstanding Value</b>	
<b>Species</b>	<b>Distribution</b>
<i>Asplenium Pauperequitum</i>	Rare on cliffs on Poor Knights Islands
<i>Clianthus Puniceus</i> Var. <i>Puniceus</i>	Previously Whangarei, Kaipara
<i>Crassula Hunua</i>	Old record from Wairua River. Already checked
<i>Hebe</i> Aff. <i>Bishopiana</i>	Hikurangi Swamp, once more widespread but still local
<i>Isoetes</i> Aff. <i>Kirkii</i>	Gone from Wairua Falls
<i>Lepidium Oleraceum</i> Ss.	
<i>Rorippa Divaricata</i>	Poor Knights, Hen and Chicken Islands
<b>High Value</b>	
<i>Anogramma Leptophylla</i>	P J de Lange record of two patches Waiomio Caves carpark
<i>Austrofestuca Littoralis</i>	Open coast beaches around Whangarei
<i>Baumea Complanata</i>	Was near Maungatapere, shrubland/gumland
<i>Calystegia Marginata</i>	Mostly coastal sites and open ground. Gone from Maungatapere
<i>Carmichaelia Williamsii</i>	Islands and mainland – Poor Knights to Hauraki Gulf
<i>Colensoa Physaloides</i>	Unbrowsed, high fertility forests
<i>Cordylone Kaspar</i>	Poor Knights, Hen and Chicken Islands
<i>Dactylanthus Taylorii</i>	Anecdotal record – Parahaki
<i>Desmoschoenus Spiralis</i>	Occasional on open coast
<i>Euphorbia Glauca</i>	Was around Whangarei Harbour, now Hen and Chicken Islands
<i>Hebe Actiflora</i>	Old record from Wairua Falls – needs checking
<i>Hibiscus</i> Aff. <i>Trionum</i>	Whangarei Heads
<i>Hibiscus Diversifolius</i>	Bream Head
<i>Ileostylus Micranthus</i>	Populations on totara, large population in Bay of Islands on Coprosma propinqua
<i>Marattia Salicina</i>	Punaruku, Whananaki, Matapouri, Pukenui, Motatau
<i>Meryta Sinclairi</i>	Local on Hen and Chicken Islands
<i>Picris Burbidgei</i>	Offshore islands
<i>Pimelea Arenaria</i>	Whangarei Heads, Ocean Beach, major population at Pataua
<i>Pimelea Tomentosa</i>	Locally common on East Coast
<i>Pittosporum Obcordatum</i>	1000+ plants – Hikurangi
<i>Senecio Scaberulus</i>	Coastal – mainly east coast cliffs and banks – local
<i>Sicyos Australis</i>	Poor Knights, Hen and Chicken Islands

<i>Todea Barbara</i>	Poor Knights
<b>Moderate-High Value</b>	
<i>Adiantum Formosum</i>	Formerly recorded at Wairoa River
<i>Calochilus Paludosus</i>	Formerly recorded in Whangarei and Mangonui
<i>Caladenia Atradenia</i>	Shrubland in a number of localities
<i>Celmisia Adamsii Var. Rugulosa</i>	Kauri Mountain, Mt Manaia, Bream Head
<i>Doodia Aspera</i>	Formerly recorded at Waiomio
<i>Fuchsia Procumbens</i>	A number of sites from Bay of Islands to Bream Head
<i>Korthalsella Salicornioides</i>	Locally common on manuka and kanuka
<i>Mazus Pumilio</i>	Large patch in Council covenant at Whananaki
<i>Pellaea Falcate</i>	
<i>Plectranthus Parviflorus</i>	One collection from Tangihua Forest
<i>Pomaderris Paniculosa Ssp. Novae-Zelandiae</i>	Mt Manaia
<i>Rorippa Divaricata</i>	Poor Knights, Hen and Chicken Islands
<i>Tetragonia Tetragonoides</i>	

#### Schedule 17D

#### **Criteria for Ranking Significance of Areas of Indigenous Vegetation, Habitat and Restoration Potential in Relation to the Environmental Benefit Rule (73.3.2).**

Since first human settlement in the District, large areas of native forests and shrub lands, freshwater indigenous wetlands, mangrove forest, mudflats, and coastline have been lost or modified by direct or indirect human impacts (Chapter 17.2 Overview). About 26% of Northland's original forest and tall shrubland remain today, most of it in public ownership.

The preservation of privately owned land containing a "feature" such as:

- A stand of indigenous vegetation;
- An indigenous fauna habitat;
- An indigenous wetland, including ephemeral wetland; or
- An area of appropriately designed indigenous re-vegetation or enhancement,

through covenanting or other process, is available with use of the Environmental Benefit Rule (73.3.2) during subdivision.

Indigenous vegetation and habitats in the district are described in Chapter 17 of this plan. This section also contains the following schedules:

- Schedule 17A - Criteria for Ranking Significance of Areas of Indigenous Vegetation and Habitat
- Schedule 17B - Status of Northland's Wildlife Species Applicable to the Whangarei District
- Schedule 17C - Threatened and Uncommon Plants of Whangarei District

In accordance with the ranking criteria in Schedule 17A, overleaf is a table summarising the criteria for ranking the quality of a feature referred to in Rule 73.3.2 It is followed by the descriptions for all of the value categories.

**TABLE 1. Criteria for Ranking Value of Feature**

VALUE	Outstanding	High	Moderate High	Moderate	Potential Restoration
Minimum Vegetation, Dune, Fauna Habitat or Wetland Areas Required	0.5ha	1.0*	1.5ha	2.0ha	To achieve the same criteria specified in 'Moderate Value' category, as a minimum.
Minimum width of feature	50m	50m	50m	50m	
% Canopy cover (native) ***	> 75%	> 50%	> 25%	> 25%	Restoration to be completed within 4 years.
Species richness (plants**) ***	> 40	> 30	> 20	> 12	
Ecotones <sup>1</sup>	≥ 4	≥ 3	≥ 2	≤ 2	See following requirements.
Intactness (i.e. Canopy tiers) ***	Intact Ground; Mid; Canopy	Intact Ground; Mid; Canopy	Disturbed ground and Mid Canopy; Intact Canopy	Disturbed ground and Mid canopy; Intact Canopy	
Introduced flora and fauna	Minimal	Minimal	Minimal - Moderate	Moderate	
Human modification	Nil Except for walking tracks and pest control	Nil same	Grazing, selective logging	Grazing, selective logging, water course changes	
Quality: (Schedule 17A) or (Schedules 17B & 17C)	Outstanding	High	Moderate - High	17B or Northland Protection Strategy <sup>2</sup>	

\* except for peat bog, which must contain a good coverage of indigenous canopy trees and have a minimum area of 0.5ha.

\*\* not including epiphytes

\*\*\* except for dunes, which may be forested but considered to be of good quality, with a covering of spinifex or pingao (the latter considered to be High Value in Schedule 17C)

### Outstanding Value

1. Contains best quality representative examples in the Ecological District and/or Region of a particular ecological unit, or combination of units. Best quality can be measured by the presence of:
  - A mature indigenous vegetation community with a coherent, well developed canopy that comprises in excess of 75% indigenous late-successional species appropriate to the vegetation type; and
  - Intact and dense ground, mid and canopy tiers (*Intactness*); and
  - A very high level of diversity, i.e. species richness (>40 species of indigenous plant<sup>7</sup>) and/or a suite of four or more native vegetation units/community types forming an ecotone<sup>1</sup> within the proposed protected feature; and
  - The particular ecological unit, or combination of units, is unmodified by humans and introduced species of flora and fauna are absent (*Naturalness and Long-term viability*).

### OR

2. Contains a representative example of an ecological unit, or combination of units that is very poorly represented in protected areas in the Ecological District of Northland<sub>2</sub>, in particular:
  - Riverine swamp forest and flood plain forest;
  - Dune forest;
  - Broadleaf forest on alluvium and volcanic soils; or
  - Podocarp forest (other than secondary totara forest).

### OR

3. Contains plants and animals (permanent/migratory/seasonal) considered to be rare/threatened in the opinion of a qualified and experienced terrestrial ecologist with local knowledge of the District's flora and fauna and/or listed in the "Outstanding Value" categories of Schedules 17B & 17C. An explanation shall be provided regarding the long-term sustainability of these species within the habitat (e.g. potential threats and management requirements).

### **Ecological features complying with any of the above criteria must meet the following size and shape parameters:**

- The proposed area for protection is of sufficient size and shape to maintain its intrinsic ecological values. The minimum size for an area of this level of significance is 0.5 hectares of contiguous vegetation. The minimum width of the feature, at any one point, must be no less than 50 metres.
- The exception to this is where the feature comprises a strip of vegetation forming the riparian margins of a significant watercourse, or lake<sup>5</sup>. In this case the minimum area of contiguous vegetation must be 0.5 hectare, and the minimum width of the riparian strip need only be 10 metres along each bank or 20 metres along the edge of a lake or watercourse, where only one bank is owned.

- Large areas surrounded by, or adjoining protected land along >50% of its boundary will be regarded as having greater ecological value and sustainability. This will give added weight for subdivision and covenanting.

### **High Value**

1. Contains high quality representative examples in the Ecological District and/or Region of a particular ecological unit, or combination of units. High quality can be measured by the presence of:
  - A mature indigenous vegetation community with a coherent, well developed canopy that comprises in excess of 50% indigenous late-successional species appropriate to the vegetation type; and
  - Intact and moderately dense ground, mid and canopy tiers; and
  - A high level of diversity, i.e. species richness (>30 species of indigenous plant<sup>7</sup>) and/or a suite of at least three native vegetation units/community types forming an ecotone<sup>1</sup> within the proposed protected feature; and
  - The particular ecological unit, or combination of units, is unmodified by humans but some introduced species of flora and fauna may be present. Any such disturbance would be shown to have only minor impact on the long-term viability of the feature.

### **OR**

2. Contains a representative example of an ecological unit, or combination of units, that is under-represented in protected areas in the Ecological District or Northland<sup>2</sup>, in particular:
  - Peat bogs;
  - Podzol gumland;
  - Coastal indigenous wetland including saltmarsh;
  - Coastal herbfield, shrubland and forest;
  - Predator-free islands;
  - Ephemeral inland wetlands<sup>3</sup>;
  - Dunes including dune lakes;
  - Riparian margins of lower and middle-order<sup>4</sup> streams<sup>5</sup>; or
  - Buffers to, and linkages between, key areas for conservation management.

### **OR**

3. Contains plants and animals (permanent/migratory/seasonal) considered to be rare/threatened, in the opinion of a qualified and experienced terrestrial ecologist with local knowledge of the District's flora and fauna and/or listed in the "High Value" categories of Schedules 17B & 17C. An explanation shall be provided regarding the long-term sustainability of these species within the habitat (e.g. potential threats and management requirements).

**Ecological features complying with any of the above criteria must meet the following conditions:**

- The proposed area for protection is of sufficient size and shape to maintain its intrinsic ecological values. The minimum size for an area of this level of significance is 1.0 hectare of contiguous vegetation. The minimum width of the feature, at any one point must be no less than 50 metres.
- The exception to this is where the feature comprises a strip of vegetation forming the riparian margins of a significant watercourse, or lake<sup>5</sup>. In this case, the minimum area of contiguous vegetation must be 0.5 hectare and the minimum width of the riparian strip need only be 10 metres along each bank or 20 metres along the edge of a lake or watercourse, where only one bank is owned.

Areas of sufficient size and shape that adjoin protected land along part of their boundary, or that link or buffer other significant ecosystems, will be regarded as having greater ecological value and sustainability. This will give added weight for subdivision and covenanting.

**Moderate-High Value**

1. Contains moderately high quality representative examples in the Ecological District and/or Region of a particular ecological unit, or combination of units. Moderately high quality can be measured by the presence of:

- A mature indigenous vegetation community with a coherent, well developed canopy that comprises in excess of 25% indigenous late-successional species appropriate to the vegetation type; and
- An intact, dense canopy tier but mid or ground tiers may show some evidence of past disturbance, i.e. stock grazing, exotic plant material; and
- A moderately high level of diversity, i.e. species richness (>20 species of indigenous plant<sup>7</sup>) and/or a suite of at least two native vegetation units/community types forming an ecotone<sup>1</sup> within the proposed protected feature;
- The particular ecological unit, or combination of units, may show evidence of modification by humans, e.g. selective logging, hydrological manipulation, stock grazing and/or introduced species of flora and fauna that may be having a moderate impact on the long-term viability of the feature.

**OR**

2. Contains a representative example of an ecological unit, or combination of units, that is uncommon in protected areas in the Ecological District or Northland<sup>2</sup>, in particular:

- Mangrove forest
- Kauri forest
- Volcanic lakes
- Serpentine shrubland
- Broadleaf shrubland
- Upland broadleaf forest

**OR**



3. Contains plants and animals (permanent/migratory/seasonal) considered to be rare/threatened, in the opinion of a qualified and experienced terrestrial ecologist with local knowledge of the District's flora and fauna and/or listed in the "Moderate-High Value" categories of Schedules 17B & 17C. An explanation shall be provided regarding the long-term sustainability of these species within the habitat (e.g. potential threats and management requirements).

**Ecological features complying with any of the above criteria must meet the following conditions:**

- The proposed area for protection is of sufficient size and shape to maintain its intrinsic ecological values. The minimum size for an area of this level of significance is 1.5 hectares of contiguous vegetation. The minimum width of the feature, at any one point, must be no less than 50 metres.
- The exception to this is where the feature comprises a strip of vegetation forming the riparian margins of a significant watercourse, or lake<sup>5</sup>. In this case the minimum area of contiguous vegetation must also be as for the 'High Value' category, that is 1.0 hectare and the minimum width of the riparian strip need only be 10 metres along each bank or 20 metres along the edge of a lake or watercourse, where only one bank is owned.

Areas of sufficient size and shape that adjoin protected land along part of their boundary, or that link or buffer other significant ecosystems, will be regarded as having greater ecological value and sustainability. This will give added weight for subdivision and covenanting.

**Moderate Value**

1. Contains moderate quality representative examples in the Ecological District and/or Region of a particular ecological unit, or combination of units. Moderate quality can be measured by the presence of:
  - A coherent, well developed, appropriate canopy of indigenous species.
  - An intact, dense canopy tier but mid or ground tiers may show evidence of past disturbance, i.e. stock grazing, exotic plant material.
  - A mature indigenous vegetation community with a coherent, moderately developed canopy that comprises in excess of 25% indigenous late-successional species appropriate to the vegetation type. Early (primary) successional communities (e.g. kanuka-manuka shrublands), may be accepted under this value category if they have a high level of intactness and naturalness and if there is evidence of the future establishment and retention of late-successional vegetation. i.e. presence of occasional late-successional canopy species in the upper and lower tiers.
  - A moderate level of diversity, i.e. species richness (12 or more species of indigenous plant<sup>7</sup>) and/or two native vegetation units/community types which may form an ecotone<sup>1</sup> within the proposed protected feature;
  - The particular ecological unit, or combination of units, may show evidence of modification by humans, e.g. selective logging, grazing, hydrological manipulation and/or introduced species of flora and fauna that may be having a significant impact on the long-term viability of the feature.

**OR**

2. Contains a representative example of an ecological unit, or combination of units, that is adequately represented in protected areas in the Ecological District or Northland<sup>2</sup>, in particular:
  - Mixed lowland kauri-podocarp-broadleaf forest
  - Manuka-kanuka shrubland - where the level of maturity is such that at least 75% of the canopy is 3 metres or over in height.

**Ecological features complying with any of the above criteria must meet the following conditions:**

- The proposed area for protection is of sufficient size and shape to maintain its intrinsic ecological values. The minimum size for an area of this level of significance is 2.0 hectares of contiguous vegetation. The minimum width of the feature, at any one point must be no less than 50 metres.
- The exception to this rule is where the feature comprises a strip of vegetation forming the riparian margins of a significant watercourse, or lake<sup>5</sup>. In this case the minimum area of contiguous vegetation must be as for the 'High Value' and 'Moderate-High Value' categories, that is 1.0 hectare and the minimum width of the riparian strip need only be 10 metres along each bank or 20 metres along the edge of a lake or watercourse, where only one bank is owned.

Areas of sufficient size and shape that adjoin protected land along part of their boundary, or that link or buffer other significant ecosystems will be regarded as having greater ecological value and sustainability. This will give added weight for subdivision and covenanting.

**Potential / Restoration Value**

There will be some remnants within the District that do not comply with any of the criteria 'Moderate' and above, due to high levels of modification and disturbance. Where a feature is marginal under these terms, but could be improved to a significant standard within a maximum of 4 years, a feature may have Potential / Restoration Value.

This criterion could apply to any ecosystem type, but where it is critically depleted within the Ecological District or Northland, a proposed restoration project will have maximum significance value. Ecosystems to which this applies to include, in particular<sup>6</sup>:

Coastal (dune including dune lakes, shrubland and forest)

- Riverine forest, swamp forest and podocarp forest on alluvium
- Broadleaf volcanic forest
- Swamps, bogs and riparian ecotones including estuarine

An Environmental Benefit will not be offered upfront on the basis of a remnant having Potential/ Restoration value. However, if a land owner should choose to undertake restoration of a feature, providing this is done following a comprehensive rehabilitation programme designed by a suitably qualified and experienced professional accepted by the Council and achieves the criteria specified in the 'Moderate Value' category and to be completed within a maximum of 4 years, then the remnant will qualify for an Environmental Benefit.

The design of the rehabilitation programme shall ensure that the remnant can meet the assessment criteria for at least 'Moderate Value' representative vegetation (as detailed above) in the future. This will include the following requirements:

- Developing an appropriate, intact canopy, mid and ground tier of native species to ensure that weed species do not compete with natives for ground space; and
- Plant selection should bring the total species diversity present within the feature up to a moderate level, i.e. species richness (12 or more species of indigenous plant) and/or a suite of at least two native vegetation units/community types which may form an ecotone<sup>1</sup>; and
- All plants must be eco-sourced and maintained for a minimum of four years with a survival rate of at least 85% with a minimum planting density of 10,000 plants per hectare; and

All modifying activities are prohibited and any man-made structures are removed (except for those integral to the feature's management, e.g. fences, culverts, weirs etc) or naturalised and all weed and animal pest species are actively managed. This is to ensure that the feature achieves a high level of naturalness and long-term viability (see Criterion 1 of Outstanding Value category).

**Ecological features with Restoration/Potential value must also meet the following size and shape parameters once restored:**

- The total area proposed for protection is of sufficient size and shape to maintain its intrinsic ecological values. The minimum size for an area of this level of significance is 2.0 hectares and the minimum width of the feature, at any one point is no less than 50m.
- The exception to this rule is where the feature comprises a strip of vegetation forming the riparian margins of a significant watercourse, or lake<sup>5</sup>. In this case, the minimum area of contiguous vegetation must be as for the 'High Value', 'Moderate-High Value' and 'Moderate Value' categories, that is 1.0 hectare and the minimum width of the riparian strip need only be 10 metres along each bank or 20 metres along the edge of a lake or watercourse, where only one bank is owned.

Areas of sufficient size and shape that adjoin protected land along part of their boundary, or that link or buffer other significant ecosystems, will be regarded as having greater ecological value and sustainability. This will give added weight for subdivision and covenanting.

**Bonding**

Where an Environmental Benefit Lot is awarded on the basis of re-vegetation/restoration, a s224 certificate will not be issued for a proposed Environmental Benefit Lot unless/until re-vegetation/restoration has been successfully completed, consistent with performance in the Criteria or the consent holder provides a bond to the satisfaction of the Council to a value of not less than 150% of the value of the works.

Access to bonding shall not be available until one year after planting, where there is evidence to the Council's satisfaction of the successful initial implementation of an approved management plan.

The management plan is to include matters of the following type:

- Named species appropriate to the location
- Size at planting
- Density
- Seed source
- Weed clearance/release
- Pest control
- Fertiliser application
- Irrigation requirements (at Council's discretion)

Council shall retain discretion not to accept bonding where there is a potentially harsh environment or other factor(s), which represent a significant risk in its assessment to successful re-establishment. Evidence of the degree of risk should form part of any related proposal.

Council may also elect to recover related actual and reasonable costs.

#### **s.224 certificate arrangements**

Legally effective post s.224 certificate arrangements are required which:

- Secure the retention of re-planted vegetation;
- Establish responsibility for the continued execution of the management plan until its objectives (tree height, percentage canopy cover or both) and/or term are satisfied (this may require a community-owned management structure, depending on the number of subsequent owners);
- Ensures Council access to the land in the event the bond is to be executed.

These requirements may necessitate a bond to be complemented by covenants or other legal instruments.

#### **Notations:**

1. Natural vegetation sequence occurring over an environmental gradient or in relation to landform, e.g. in an estuarine environment, the ecotone might be from mangroves to saltmarsh to freshwater wetland to coastal shrubland (note that mangroves and saltmarsh may be in public ownership).
2. Information on priority for protection of indigenous ecosystems has been sourced from Section 6.3 of the Northland Protection Strategy - a report to the Nature Heritage Fund Committee. This report should also be referenced for descriptions of these ecosystem types.
3. Wetland ecosystems should function hydrologically, as naturally as possible. Artificial (i.e. man-made) ponds (used for water supply) do not qualify under this criterion, as they do not represent natural habitat or function naturally in a hydrological sense. Established indigenous wetland vegetation surrounding a man-made pond may comply but must meet the minimum size criteria. The open water of a man-made pond cannot contribute to this size requirement. Indigenous wetlands in which the water levels are controlled by a man made structure (e.g. a weir) which is expressly for the purpose of maintaining the water levels in order to maintain a viable ecology do comply with this criterion.
4. Stream order is a measure of the relative size of streams. The smallest first and second-order streams are in the upper part of a catchment and comprise the headwaters of a watercourse. A middle-order stream is further down the

catchment and will be larger in size. A middle-order stream is downstream of the confluence of at least two lower-order streams.

5. Significant watercourses – Where high instream values have been identified, i.e. a Macro invertebrate Community Index (MCI) score of 100+ or native fishery diversity and abundance data, and the upper catchment is already protected.
6. Information on restoration priorities has been sourced from Section 6.3 of the Northland Protection Strategy – a report to the Nature Heritage Fund Committee.
7. Plant species that are rooted in soil and do not include epiphytes.

**Notes:**

1. Although a minimum size for a complying feature is stated, in all cases the whole of the ecological remnant worthy of protection on the property must be made subject to legal and physical protection at the time of consent and no area of the feature can be left out or divided for the purposes of obtaining additional lots at some later date.
2. An Environmental Benefit will only be granted subject to a condition placed in the subdivision consent specifying weed and pest control management.

Revision and Sign-off Sheet

Date Approved	Editor	Paragraph	Change Reference	Decision Date	Approved By
1 May 2009	FP	17.3.1 and 17.3.2	Addition of an Heading 3 for each objectives for rule <b>17.3</b> to remain consistent throughout the chapter	1 May 2009	PW
23 September 2009	FP	Schedule 17D	Amendment of reference from 72.3 to 73.3.2 where applicable	Customer request 31/8/09	PW
23 September 2011	FP		Correction of cross reference to S16A, 16B and or 16C where applicable	RC request 23 September 2011	PW

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