

Rural Development Strategy

Biodiversity, Indigenous Vegetation and Riparian Margins: Issues and Options

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Table of contents

1	Introduction.....	3
1.1	Importance of Biodiversity, Ecosystems and Indigenous Vegetation.....	3
1.2	Biodiversity in New Zealand.....	4
1.3	The local context – Whangarei District	4
2	Policy Framework	8
2.1	International Level	8
2.2	National Level.....	8
2.2.1	The New Zealand Biodiversity Strategy.....	8
2.2.2	Statement of National Priorities for Biodiversity Protection	8
2.2.3	Legislation.....	9
2.3	Regional level.....	10
2.3.1	Operative Regional Policy Statement (RPS) and RPS Review	11
2.3.2	Regional Coastal Plan.....	11
2.3.2	Regional Water and Soil Plan.....	12
2.3.4	Regional Air Quality Plan	12
2.3.5	Regional Pest Management Strategies.....	12
2.4	District Level.....	12
2.4.1	Whangarei District Plan	12
2.4.2	Rolling Review of Operative District Plan.....	13
2.4.3	Long Term Council Community Plan 2009-2019.....	13
2.4.4	Open Spaces Strategy.....	13
2.5	Iwi Management Plans.....	14
3	Current Issues.....	15
3.1	Whangarei Growth Strategy: Sustainable Futures 30/50	15
3.2	Stakeholder Consultation.....	15
3.3	Environment Monitoring	16
3.4	Other issues.....	18
4	Best Practice.....	18
4.1	RMA Case Law Examples.....	18
5	Options for Whangarei District	19
5.1	District Plan Implementation	20
5.2	Rural Development Strategy Implementation	20
6	References.....	21
7	Appendices	22
7.1	Appendix 1 – Biodiversity Legislation	22
7.2	Appendix 2 – District Plan Objectives and Policies affecting Biodiversity	25

1 Introduction

Given the interrelated relationship between humans and the natural world, it should come as no surprise that many, if not all human activities have an impact on our environment. It is how we manage these activities that will determine whether the effects will be long-term, temporary or non-existent.

This report acknowledges the importance of biodiversity and ecosystems to life on earth, and attempts to outline the myriad of issues that arise from different activities, particularly within our rural areas, and the impacts these activities have had, or are having on our District's biodiversity values. All this is set within the legal framework of the Resource Management Act, although other legislation is also referenced.

A number of options are identified which may assist in addressing the issues that are affecting our biodiversity in the rural areas. These options are not set in concrete, nor are they an exhaustive list. They are merely intended as a starting point for discussion around how we can best address our rural biodiversity concerns.

The report has relied heavily on Whangarei District Council's recent State of the Environment Report for many of the facts, notwithstanding that some of the data is not as current as desired.

1.1 Importance of Biodiversity, Ecosystems and Indigenous Vegetation

The Convention on Biological Diversity, which is an international treaty signed by 190 countries around the world, defines biodiversity as:

The variability among living organisms from all sources, including, among other things, 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.

Diversity plays an important role in keeping species and systems healthy and functioning. A small gene pool within a species will render the species more vulnerable to disease and less able to respond to changes in its external environment. Diversity between species is what allows the formation of ecosystems, as each species carries out certain tasks within the environment.

Ecosystems perform many different functions; for example, they purify water, decompose waste, pollinate plants, and control pests. As species decline within the ecosystem, the dynamics between species is affected, potentially impacting upon the performance of the system as a whole. Ecosystem diversity refers to the variety of ecosystem types, such as forests, deserts, grasslands, streams, lakes, wetlands and oceans; and their biological communities that interact with one another and with their non-living environments (DoC, 2000).

Ecosystem services often go unrecognised and, hence, remain largely unvalued. However, they are vital to many of our economic activities such as agriculture and horticulture as these activities rely on biological processes to sustain them. Whangarei District Council's Growth Strategy Ecosystem Services Background Report is an excellent source of information, detailing the roles and functions of ecosystems.

Many of New Zealand's plant and animal species are also important for their iconic status, as they are often utilised to uniquely identify our sports teams, art, literature and so on. The silver fern, the kiwi, the pohutukawa, the cabbage tree and the inanga are all examples that contribute to our sense of national identity.

From a cultural perspective, our native plant species have been used as a source of food, medicine, implements and tools for many hundreds of years, particularly by Maori. Substantial potential exists for applications within the contemporary medical world, although little has been explored so far. Scientists insist that many species have not yet been discovered, and hence their potential to contribute towards our social, cultural and economic activities is as yet unknown.

Notwithstanding the value that biodiversity and ecosystems contribute to humans, the natural world has value in and of itself; and at an international level there is an increasing expectation to maintain a good environmental record. Furthermore, a large proportion of New Zealand's species are endemic which means that they are found nowhere else in the world.

Given the importance of our native plants and the diversity within them, it is crucial we maintain as many different species as possible, promoting large individual populations, in habitats that are, preferably, self-sustaining.

1.2 Biodiversity in New Zealand

New Zealand has a unique native biodiversity, but it is in serious decline (Doc, 2000 and MfE, 2011). The arrival of humans, first Maori, then Europeans, have had a major impact. Although New Zealand was one of the last places on earth to be settled by humans, it has one of the worst records of biodiversity loss (Ibid). This loss has been generated by the cumulative impact of a variety of activities such as land clearance, fire, overexploitation of resources and the introduction of foreign animals and plant species that have often turned into pest species.

Approximately 44% of New Zealand's land area continues to be covered by different types of native vegetation (MfE, 2007). Vegetation types to have experienced the greatest loss are broadleaved native hardwoods, mānuka and/or kānuka, tall tussock grassland, and native forest (Ibid). Between 1997 and 2002, native land cover decreased by an estimated 16,500 hectares, or 0.12 percent (Ibid). Before humans arrived, forests covered 85% of New Zealand (Doc, 2000). Today, only 23% of these forests remain. There is less native vegetation remaining in lowland areas and this has implications for species that need this type of habitat to survive (MfE, 2007).

Wetlands represent some of our most diverse ecosystems, however, over 90 % of their original areas has been lost with many of the remaining ones suffering from degradation (DoC, n.d.). However, some of the remaining wetlands are large and have internationally significant biodiversity values, as do some remaining geothermal areas.

Very few lowland river systems have any form of (legal) protection and many are ecologically degraded through biological invasions, reduced water quality, channelisation, sedimentation and removal of floodplain connections. Research comparing different sites, using the Index of Biotic Integrity (IBI), has shown clear differences in relation to land cover (Joy quoted in WDC, 2011). Scores on the Index of Biotic Integrity (IBI) are significantly higher where waterways flow through areas of native forest and scrub sites. Waterways running through exotic forest showed no significant change, whereas the biggest declines in the IBI were found in waterways surrounded by pasture, tussock and/or urban sites. The strong association between IBI scores and land use shows the influence degradation of terrestrial systems has on freshwater ecosystems.

The majority of our deep water lakes generally enjoy high water quality. However, the vast majority of our lakes are shallow, and suffer from nutrient enrichment which leads to eutrophication. A few are now no longer able to sustain any fish life.

In terms of native land-based species, New Zealand has, at a best guess, about 70,000 species, only 30,000 of which have been described so far (Doc, 2000). It is therefore impossible to say how many unknown species may have gone extinct already, or are facing extinction at the moment. However, of the known species, dozens have become extinct and nearly 1000 animals, plants and fungi are considered threatened, with this number ever increasing.

In some species groups, a large proportion of native species are threatened (MfE, 2007). For example, all native frog species are threatened because of habitat loss and predation. Five out of six New Zealand bat species are endangered because of predation and loss of large trees required as roosts. And overall, New Zealand has a greater percentage of threatened endemic birds than almost any other country (Doc, 2000).

1.3 The local context – Whangarei District

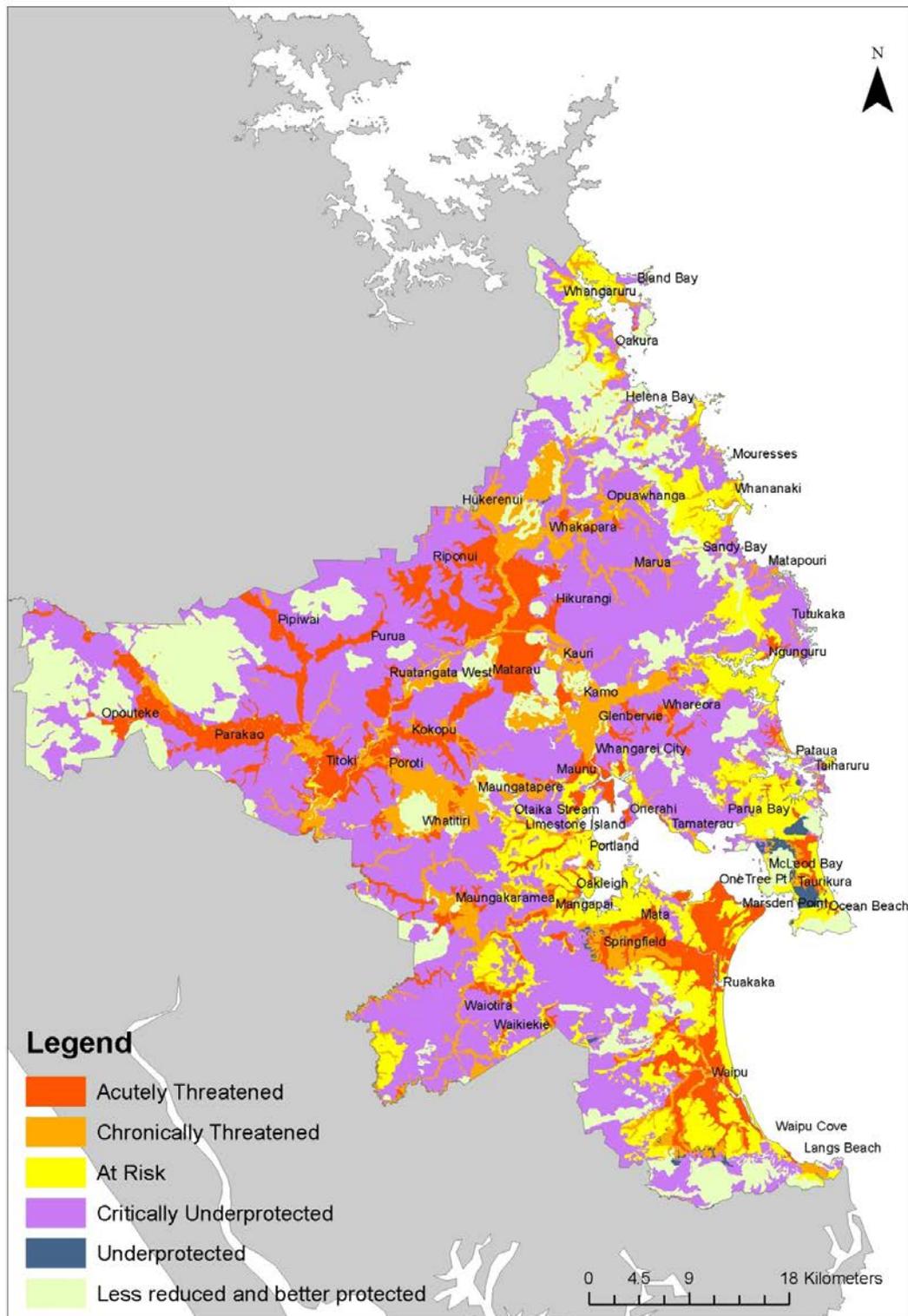
This section is intended to give a brief overview of the state of Whangarei District's biodiversity and indigenous vegetation. It draws on various information sources, predominantly from the District and Regional Councils, and highlights only the points most significant to the District.

Wherever possible, data from the recent Whangarei District Council's State of the Environment report has been used. For more detailed information, it is suggested that people refer to the documents consulted, as outlined in the reference list.

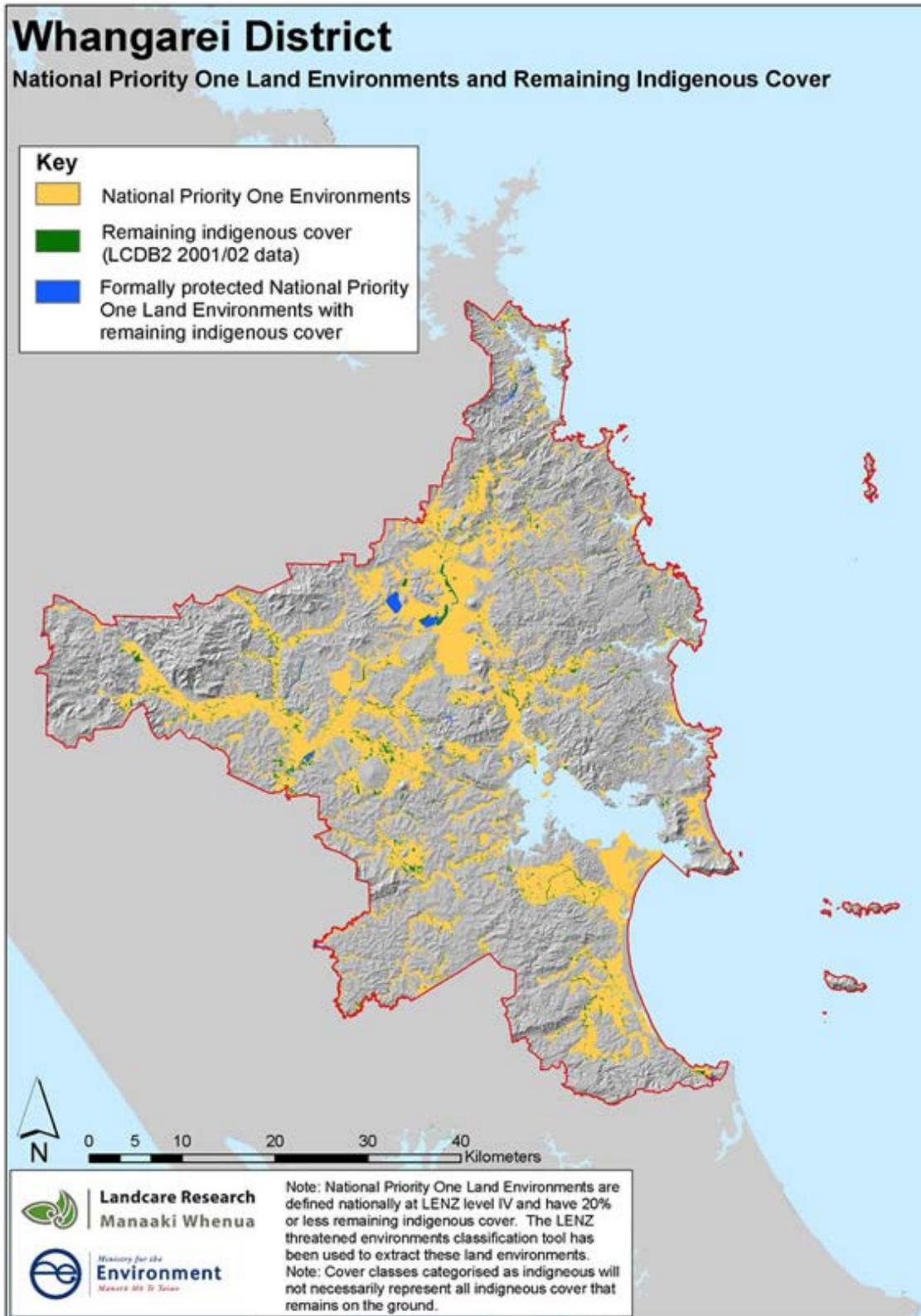
In the period between 1996 and 2001, the District as a whole lost a total of 284 ha of indigenous land cover with the greatest decline in Manuka/Kanuka and Broadleaved Indigenous Hardwoods. The Threatened Environment Classification, which is a combination of three national databases, indicates that nearly a quarter of our District is either acutely (12.2%) or chronically (10.9 %) threatened¹. Figure 1 shows the location of these environments.

¹ Acutely Threatened indicates less than 10% indigenous vegetation remaining; Chronically Threatened indicates between 10 – 20% of indigenous vegetation remaining.

Figure 1 – Threatened Environments within Whangarei District



The Statement of National Priorities for Protecting Rare and Threatened Biodiversity on Private Land released by the Ministry for the Environment in 2007, states that National Priority 1 is to protect those areas with less than 20% indigenous vegetation remaining. This priority aligns with protecting Acutely and Chronically Threatened areas. This is also taken up in the Proposed National Policy Statement on Indigenous Biodiversity.



Source: Ministry for the Environment (MfE), <http://www.mfe.govt.nz/issues/biodiversity/rare/north-island/whangarei-district.html>

Using the Protected Natural Areas reports, which reflect research carried out by the Department of Conservation, the Whangarei District has a total of 58,888ha of significant natural area, or 22% of the District's land area. The DoC estate comprises approximately 6.5% of the District's land area, with another 2.5% made up by District Council reserves. This means that the majority of significant natural areas are found on privately owned land; approximately 14% of the District's land area.

Under the Reserves Act, the District records a total of 1,179 ha of indigenous vegetation in conservation covenants on private land, with another 2,054 ha in QEII covenants. Of the WDC conservation covenants, the smallest one comprises 5m², while the largest covenant is 58ha. Although some monitoring of these covenants is undertaken, a lack of financial and other resources is preventing the robust monitoring required to establish a picture of ecological health for each of these covenants.

In general, the State of the Environment report observes that the majority of covenants do not receive the minimum standard of care², and that without due maintenance and management, these areas will deteriorate over time. Furthermore, the covenants mainly consist of fragments scattered around the District, with few, if any, connection between them. Some concentrations of covenants can be observed in coastal areas and on the outskirts of urban areas.

Although the Whangarei District Plan provides for the creation of esplanade reserves and/or strips along river margins, only a total of 22 such areas were established between the period 2002/03 and 2009/2010. These areas could provide important links between fragmented habitats.

Of interest as well, is the amount of subdivision that has taken place in the district over the 1996-2009 time period. It is worth highlighting the main statistics:

- A total of 843 lots, representing 7.2% of all lots created, were established in a threatened environment that has also been identified as being part of a protected natural area. The words 'protected natural area' are somewhat misleading in that they suggest the area already enjoys some kind of legal protection. However, this is not the case. Protected natural areas are those areas identified for their particular significance of biodiversity values be that in terms of species rarity, representativeness or other. This statistic, therefore, suggests that 843 lots have been created in areas of great biodiversity significance.
- 34% of the lots (4,035) intersected with an area with indigenous land cover as described in the Land Cover Database 2. This number is significant as development in pristine areas is less desirable, than directing development towards areas that are already compromised, depending on the specific location within already threatened environments.
- 26% of the lots (3,024) intersected with an area where North Island brown kiwi are reported to be present.
- 45% of the lots (5,318) were created in the Countryside (39%) and Coastal Countryside (6%) Environments.
- Table 1 provides an overview of all subdivision statistics in relation to key environmental variables.

Table 1: Intersection of New Lots Created as a Result of Subdivision from 1996-2009 With Key Environmental Variables

Variable	Sub-class	Number of lots	%
		11,785	
Threatened Environments		7,257	61.6
	Acutely	4,083	34.6
	Chronically	3,174	26.9
Protected Natural Areas		1,851	15.7
Threatened Environments and Protected Natural Areas		843	7.2
Indigenous Land Cover (LCDB2)		4,035	34.2
NI Brown Kiwi Habitat	Presence	3,024	25.6
Of These (NI Brown Kiwi Habitat)	High Concentration	413	13.7
Countryside		4,606	39.1
Coastal Countryside		712	6.0

In terms of individual species, using the criteria outlined in the New Zealand Threatened Species Classification System, a total of 205 species are found to be threatened in the Whangarei District. Sixty percent, or 125, of these species are animals, whereas the other 80, or 40 per cent, are plant species.

² Minimum standards of care includes: maintaining riparian vegetation, eradication/control of invasive plant and animal species which may be impacting on flora and fauna values, with consideration given to restoration planting (as described in the Wildlands Contract Report No. 1844 (2008)).

Whangarei has been able to record some successes such as among the New Zealand fairy tern, North Island brown kiwi and pateke. This is mainly due to active management of the species. Between 2004/05 and 2008/09 the number of fairy tern breeding pairs increased from 8 to 11, and the North Island brown kiwi approximately increased its population from 500 in 2001 to 845 in 2008. Although the pateke population declined by 65% between 1988 and 2001 to approximately 100 birds, the average count in 2009 was 450.

Although these signs are encouraging, it can be argued, however, that species management, to some extent, is less effective if and when indigenous vegetation, and hence habitat, is not of a size and quality that provides for the self-preservation of the species.

2 Policy Framework

2.1 International Level

International awareness of the need to protect biodiversity has been growing steadily since the first United Nations Conference on Environment and Development (UNCED) in 1992, also known as the Earth Summit (Doc, 2000). The summit, held in Rio de Janeiro, was an attempt to address the urgent problems of environmental protection and socio-economic development.

The forum produced the Rio Declaration on Environment and Development, a negotiated strategy for 'sustainable development'³. Other documents, such as the Convention on Climate Change and the Convention on Biological Diversity (CBD) were also signed, with New Zealand being one of the signatories. In order to ratify the CBD, which was undertaken in 1993, New Zealand was obliged to prepare a national biodiversity strategy.

As well as the Convention on Biological Diversity, New Zealand is a signatory to many other international conventions and processes that focus on environmental protection and species conservation. For example, New Zealand participates in international organisations such as the World Conservation Union (IUCN), and under the World Heritage Convention, New Zealand manages three **UNESCO world heritage sites**.

New Zealand is helping to prevent international trade in endangered species through its work under the **Convention on Trade in Endangered Species of Wild Flora and Fauna** (CITES). New Zealand has also played a prominent role in the **Antarctic Treaty**, providing advice on issues relating to Antarctic fisheries, seabird by-catch and minimising the impacts of tourism.

In 1999 New Zealand signed the Convention on Migratory Species of Wild Animals, which among other goals, aims to provide a coordinated international approach to the protection of migratory albatrosses and petrels from fishing practices, alien predators and loss of habitats.

New Zealand also supports biodiversity conservation in other countries, with a focus on the South Pacific region. One example is its support for the **South Pacific Regional Environmental Programme** (SPREP) in the form of assistance with species recovery programmes, animal and weed pest control, and the development of SPREP's strategic plans.

2.2 National Level

New Zealand has a wide range of legislation, regulations and other initiatives governing the management of biodiversity. These are explored below.

2.2.1 The New Zealand Biodiversity Strategy

The New Zealand Biodiversity Strategy (Ministry for the Environment, 2000) established a framework for the conservation and management of New Zealand's biodiversity. It contains a series of action plans and desired outcomes which need to be achieved by 2020.

2.2.2 Statement of National Priorities for Biodiversity Protection

In 2007, the Ministry for the Environment published the Statement of National Priorities for protecting rare and threatened native biodiversity on private land. Much of our rare and threatened native biodiversity is found on private land. The national priorities in the statement identify the types of ecosystems and habitats most in need of protection. Four national priorities have been set:

- 1 To protect indigenous vegetation associated with land environments that have **20% or less remaining in indigenous cover**.

³ The definition of sustainable development is: development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

- 2 To protect indigenous vegetation associated with **sand dunes and wetlands**; ecosystem types that have become uncommon due to human activity.
- 3 To protect indigenous vegetation associated with '**originally rare**' terrestrial ecosystem types not already covered by priorities 1 and 2.
- 4 To protect **habitats of** acutely and chronically threatened **indigenous species**.

2.2.3 Legislation

New Zealand has a wide range of laws and regulations dealing with the protection, preservation and/or conservation of biodiversity. In terms of district councils, the Resource Management Act is the most significant piece of legislation, requiring councils to consider the effects of land uses upon the natural environment. This Act is considered below. Details on all other relevant legislation may be found in Appendix 1 where they are classified under 4 different categories, as per the New Zealand Biodiversity Strategy.

Resource Management Act 1991 (RMA or the Act)

The overall purpose of the RMA, is to promote the sustainable management of natural and physical resources (s.5). Biodiversity is inherent in the definition of natural and physical resources (land, water, air, soil, minerals, and energy, *all forms of plants and animals*), and sustainable management is further defined to include: sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations, safeguarding the life-supporting capacity of air, water, soil, and ecosystems and avoiding, remedying, or mitigating any adverse effects of activities on the environment.

The Act also outlines matters of national importance in s.6, including the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development; the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development and the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna. These all include elements of biodiversity.

Part 5 of the Act makes provision for central government to issue National Environmental Standards and National Policy Statements. There are two proposed national policy statements of relevance, including the proposed National Policy Statement on Indigenous Biodiversity released on 29 January 2011. The New Zealand Coastal Policy Statement was released towards the end of 2010 and also contains direction in relation to biodiversity. Further information on these policy statements is detailed below.

Section 7 of the Act directs all persons exercising functions and powers under the Act (including territorial authorities) to have particular regard to the maintenance and enhancement of amenity values, the intrinsic values of ecosystems, the maintenance and enhancement of the quality of the environment, and any finite characteristics of natural and physical resources, among other things.

Territorial authorities have a specific function under s.31 of the RMA to establish, implement, and review objectives, policies, and methods to achieve integrated management of the effects of the use, development, or protection of land and associated natural and physical resources of the district, of which biodiversity is a part. They are also required to control any actual or potential effects of the use, development, or protection of land, including for the purpose of maintaining biological diversity.

Furthermore, section 17 of the Act charges **every person** with the duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan, a resource consent, a designation, section 10, section 10A, or section 20A.

Proposed National Policy Statement on Indigenous Biodiversity (2011)

The proposed NPS is intended to provide clearer direction to local authorities on their responsibilities for managing indigenous biodiversity under the Resource Management Act 1991. It outlines policies and decision-making frameworks for the identification and management of indigenous biodiversity found outside the public conservation estate.

The proposed NPS contains a list of criteria for identifying areas of indigenous vegetation and habitats of indigenous animals that have been recognised as being rare and/or threatened at a national level. These criteria are based on the Government's **Statement of National Priorities for Protecting Rare and**

Threatened Biodiversity on Private Land. The proposed NPS will likely require district and relevant regional plans to identify these areas of significant biodiversity within five years of the NPS taking effect.

Local authorities would be required to manage the effects of activities through district and regional plans and resource consent decisions (or be satisfied that effects are managed by other methods) to ensure there is 'no net loss'⁴ of significant indigenous biodiversity.

The proposed NPS seeks to promote the maintenance of indigenous biodiversity while recognising the rights and responsibilities of landowners and the interests of tangata whenua as kaitiaki.

Proposed National Policy Statement on Freshwater Management (2008)

The purpose of the proposed National Policy Statement for Freshwater Management is to guide decision-making on freshwater management under the Resource Management Act. It aims to improve the quality of fresh water in New Zealand. Fresh water resources contain important biodiversity, and are under severe threat from over-allocation, and contamination from discharges.

The national policy statement directs regional policy statements to identify outstanding and notable values of freshwater resources and provide for protection in regional plans, implement fresh water quality standards and environmental flows and levels, and guide regional and district plans to:

- restrict existing takes to preserve notable values,
- effectively manage land use development and contaminant discharge and manage demands for freshwater.

This response will be implemented at the regional and district level, and help to ensure fresh water is managed including for the purposes of biodiversity protection.

New Zealand Coastal Policy Statement (2010)

The 2010 New Zealand Coastal Policy Statement is the result of a review of the 1994 New Zealand Coastal Policy Statement. New provisions relating to biodiversity in the coastal environment include the identification of natural character areas, and natural features and landscapes (which include biodiversity elements) in the coastal environment, which includes coastal vegetation and the habitat of indigenous coastal species.

Policy 11 provides the philosophy for protecting indigenous biological diversity (biodiversity) in the coastal environment. This includes:

- avoiding *any* adverse effects on threatened indigenous taxa, threatened indigenous ecosystems, important habitats of indigenous species, nationally significant examples of indigenous community types, areas set aside for the protection of indigenous biological diversity
- avoiding *significant* adverse effects on other areas containing indigenous biodiversity.

Policy 13 requires the mapping, or otherwise identifying of, at least, areas of high natural character, and ensuring that regional policy statements and plans identify areas where preserving natural character requires objectives, policies and rules and include these provisions. This is in order to avoid any adverse effects on areas of outstanding natural character in the coastal environment, avoid significant adverse effects, and avoid, remedy or mitigate any other adverse effects in all other areas of the coastal environment.

Similar provisions to the ones in Policy 13 are applied in Policy 15, in relation to natural features and natural landscapes in the coastal environment. There is also some intersection with the provision of the Proposed NPS, in relation to the coastal environment.

2.3 Regional level

Regional councils typically fulfil biodiversity management functions under several pieces of legislation. As noted earlier, the Resource Management Act is one of the more important ones, requiring regional authorities to draft Regional Policy Statements (RPS), which district councils have to give effect to. In addition, councils may create different plans to assist them in carrying out their functions under the Act.

Of relevance to this report, are the Northland Regional Council's operative and proposed RPS, the Regional Coastal Plan, Regional Water and Soil Plan, and the Regional Air Quality Plan. The Northland Regional

⁴ 'No net loss' means no overall reduction in: (a) the diversity of (or within) species; (b) species' population sizes (taking into account natural fluctuation), and long-term viability; (c) area occupied and natural range inhabited by species; (d) range and ecological health and functioning of assemblages of species, community types and ecosystems.

Council also has regional pest management strategies, prepared under the Biosecurity Act 1993. All these documents are explored further below.

2.3.1 Operative Regional Policy Statement (RPS) and RPS Review

References to indigenous vegetation and biodiversity can be found throughout the RPS document. They are noted in no less than 5 of the 14 main topic areas. This pervasiveness really underscores the importance of the matter to the many human activities we undertake. A brief analysis of the issues follows.

Section 17 - Water Quality

The effects on water quality of existing land use, major land use changes, large scale water abstraction, clearance of riparian margins, and drainage.

Section 20 – Soil Conservation and Land Management

Refers to the potential for soil erosion due to vegetation clearance.

Section 21 – Natural Hazards

Highlights the potential contribution to natural hazards from the clearing of vegetation and riparian margins.

Section 22 – Coastal Management

Identifies the potential impact on ecological values from subdivision, use and development of coastal land; and highlights the issue of the modification of sand dunes and associated wildlife values as a result of land use practices.

Section 23 – Ecosystems and Biodiversity

Talks about the clearing of indigenous vegetation and shrubland, and the draining of wetlands, which leads to the modification or permanent loss of terrestrial and freshwater ecosystems. It also highlights the general public's unawareness of the potential impact of their actions on biodiversity, which may leave ecosystems more vulnerable to any future changes, especially when areas are fragmented and not linked to other areas. The lack of knowledge around the benefits derived from well-functioning ecosystems is also emphasised. The main RPS objectives for this subject matter are:

- Maintenance of the biodiversity of the Northland region.
- Protection of the life supporting capacity of ecosystems through avoiding, remedying or mitigating (in that order of priority) the adverse effects of activities, substances and introduced species on the functioning of natural ecosystems.

Protection of areas of significant indigenous vegetation and the significant habitats of indigenous fauna.

In addressing the above issues, policies are in place focusing on the management, especially the avoidance, of adverse effects on biodiversity from different land uses, identifying and evaluating areas of indigenous vegetation and habitats of indigenous fauna, protection of significant indigenous vegetation and significant habitats of indigenous fauna, the promotion of habitat restoration, the maintenance and enhancement of riparian margins, establishment of national parks and reserves, and the co-ordination and integration of various agencies working in the biodiversity/indigenous vegetation sector.

NRC has recently initiated a review of the 1999 RPS. A discussion document, released towards the end of 2010, lists many of the same biodiversity issues as the operative RPS, with the exception of the newly introduced issue of genetically modified organisms. The discussion document also initiates debate as to whether the new RPS should direct district councils on how to manage biodiversity, and whether it should require regional plans to control land use for the purposes of maintaining terrestrial biodiversity, give the 2005 amendments to the RMA. Emphasis is also placed on the cost incurred to landowners of maintaining biodiversity, such as when carrying out pest control. However, there is no examination of the potential future costs to Northland's communities and economies from a total loss of biodiversity and associated ecosystem services upon which we all rely.

2.3.2 Regional Coastal Plan

The Regional Coastal Plan covers resource management issues in the coastal marine area, dividing the coastal marine area into six separate management areas, of which Marine 1 and 2 require attention to the protection and conservation (respectively) of 'conservation' values. However, there are no specific rules relating to biodiversity. The main focus is on indigenous marine vegetation and fauna and the introduction of exotic species into the coastal marine area, which is prohibited.

With the recent changes to the New Zealand Coastal Policy Statement, the Regional Coastal Plan will have to map or otherwise identify (for the coastal marine area), areas where preserving natural character and natural features and landscapes require objectives, policies and rules, and include those provisions into the plan.

The District Plan must not be inconsistent with the Regional Coastal Plan.

2.3.3 Regional Water and Soil Plan

The Regional Water and Soil Plan places importance on wetlands and riparian margins, particularly in regard to the roles they play in flood mitigation and water purification. Policies are not specifically directed at maintaining terrestrial biodiversity, as prior to the 2005 Resource Management Act amendments, this was not a primary role for regional councils.

However, biodiversity will benefit indirectly from measures in the plan, such as restricting drainage and other disturbance activities in indigenous wetlands, controlling water takes from rivers, managing earthworks to limit sedimentation, standards for the discharge of contaminants to water and controlling earthworks and vegetation removal in Riparian Management Zones⁵. The Plan also identifies outstanding lakes and rivers, which are subject to more restrictions on activities in these areas as a result of the outstanding values.

The District Plan must not be inconsistent with the Regional Water and Soil Plan.

2.3.4 Regional Air Quality Plan

This plan also contains no provisions to specifically control activities for the purpose of protecting and maintaining biodiversity. However, in general, biodiversity will benefit from good air quality, and it would be affected adversely if pollution to air was not controlled and regulated. Also, provisions regarding spray drift will benefit areas of indigenous vegetation in and bordering horticultural areas.

2.3.5 Regional Pest Management Strategies

The effects of introduced pests are one of the main pressures affecting indigenous biodiversity in New Zealand, and pest management strategies are an important response to these. The purpose of the Pest Management Strategies is to “provide a strategic and statutory framework for the efficient and effective management of pests in Northland.

The strategies include action plans for individual pests, with objectives, management methods, and rules regarding management. Pests are grouped into plant, animal or marine pests and each identified pest is grouped according to a management class: exclusion, eradication, containment, suppression and risk assessment. Having strategies for the active management of these pests reduces the risk and adverse effects of alien species invasion on indigenous species, such as habitat competition and predation.

2.4 District Level

2.4.1 Whangarei District Plan

The Whangarei District Plan includes objectives and policies for indigenous vegetation and habitat (Chapter 17), landscape (Chapter 16), open space (Chapter 15), heritage trees (Chapter 14), water bodies (Chapter 12), riparian and coastal margins (Chapter 11), the coast (Chapter 10) and amenity values (Chapter 5), which all directly or indirectly contribute to biodiversity in the district. Relevant policies are reproduced in Appendix 2.

The methods used to implement the policies include rules in the District Plan regulating the trimming and removal of individual trees, clearance of vegetation, building setbacks from water bodies, the requirement for esplanade reserves and/or strips and the identification of esplanade priority areas. Rules governing indigenous vegetation clearance can be found in the Living 3, Countryside, & Coastal Countryside Environments, and within the Outstanding and Notable Resource Areas.

In general terms, indigenous vegetation clearance is a permitted activity in contiguous areas of bush under a certain size threshold, dependent upon the particular zone. If the area of bush is above the certain size

⁵ The Regional Water and Soil Plan defines a Riparian Management Zone as follows: a zone of varying width adjacent to a water body, which needs to be managed carefully to protect the water body from the adverse effects of the associated land use. The width depends on a number of site specific factors, including: Soil type (geology), slope, length of slope, the wetness or drainage characteristics of the adjoining land, width of the stream, existing erosion features, the reason for riparian management (shading, prevention of nutrients or sediment entering the water, stream bank or channel stability). The maximum setback distance for any Riparian Management Zone is 20 metres.

threshold (often 1ha but depends on the rules for the environment), then indigenous vegetation clearance can still be permitted if it meets certain criteria, otherwise resource consent is required.

Subdivision rules in the Countryside and Coastal Countryside provide for the creation of an extra lot, when permanently protecting a natural feature of a specified size and significance. To this end, schedules are used listing criteria for ranking the significance of an area.

Other methods include the identification of Goat Control Areas on the Planning Maps and the use of a schedule identifying plants and animals of cultural significance, as determined by iwi/hapu Environmental Management Plans. Education and the promotion of voluntary protection measures and exclusion of cats, dogs and mustelids around known high-density kiwi habitat areas, are also advocated.

2.4.2 Rolling Review of Operative District Plan

Under the RMA, Council is required to monitor the effectiveness of the District Plan and complete a review of all District Plan provisions within any 10 year time period. Monitoring of the Whangarei District Plan has identified areas of inconsistency and ineffectiveness. In addition, new issues have emerged since the District Plan was first devised.

To complete this review of the District Plan, Council has resolved to undertake a 'rolling review', re-assessing the plan chapter-by-chapter, over the next three years. The rolling review will examine whether the current objectives, policies and methods in the plan are consistent with legislation, and are working the way the community needs and wants them to. Plan changes will be instigated where required, as dictated by the outcomes of the review. This way, the District Plan will become a 'live' document.

The rolling review programme will also incorporate the priorities set out in Council's various business plans, asset management plans, the Long Term Council Community Plan (LTCCP) and the Whangarei District Growth Strategy: Sustainable Futures 30/50. It will recognise the role different areas will play in the District's future, given the forecast population changes and estimated economic growth over the next 10 years.

2.4.3 Long Term Council Community Plan 2009-2019

The Long Term Council Community Plan sets out a plan for decision-making and co-ordination of council resources, and provides a long-term focus for the decisions and activities of Council, taking into account the aspirations of the community. A number of community outcomes are identified, including that Whangarei District is: "A sustainable, environmentally responsible District which values its natural uniqueness."

Indicators of progress on this outcome include:

- Consumer waste diversion choices
- area under active management for kiwi recovery
- weed management in DoC reserves
- number and area of conservation covenants
- compliance with land use consent conditions
- annual kiwi call count in Whangarei District
- number of users of the City of Whangarei contracted bus service,
- number of public health warnings issued (recreational and shellfish gathering) for the upper harbour
- Levels of service, i.e. actions to achieve this outcome in the 2009-2019 Plan include:
 - monitoring and reporting on the environment
 - planning initiatives to protect the environment
 - monitoring land use consents
 - processing land use consents
 - getting the number of residents using alternative transport to be >6%
 - tonnage of refuse sent to landfill will reduce (on a per head of population basis)
 - manage at least 145ha of natural areas as weed free.

2.4.4 Open Spaces Strategy

The beauty of the natural environment in the Whangarei District is, in part, due to large areas of open space with a high degree of naturalness. These areas generally also contain and provide habitat for important biodiversity.

Cumulative effects of development pressure can contribute to the transition of a predominantly natural environment into one that is dominated by people. Even if vegetation clearance is minimal, the introduction of pets and possible plant pests in gardens has the potential to threaten surrounding indigenous biodiversity.

The open spaces strategy provides a direction for the acquisition and management of council reserves for the purposes of conservation, landscape, recreation and cultural values. The objective relating to biodiversity is to: “protect and enhance the areas of significant native vegetation and wildlife habitats”.

2.5 Iwi Management Plans

Ngāti Hine iwi environmental management plan 2008

This iwi management plan is permeated with issues, objectives and policies relating to biodiversity. This is clearly a reflection of the fact that indigenous fauna and flora is integral to Maori culture. Policies with most relevance have been replicated below.

Kaitiakitanga – Policies

- Ngāti Hine are recognised as the kaitiaki of all resources, including water bodies, soils, minerals, air, flora, fauna, and heritage, in our rohe.
- Relevant Ngāti Hine traditional environmental knowledge and practice will be applied in decision-making associated with all resources, including water bodies, soils, minerals, air, flora, fauna and heritage. The intellectual property rights associated with that knowledge will be respected and protected.

Rāhui - Policies

Recognition of and respect for rāhui as a viable tool for managing resources.

Water -Policies

(The term ‘water body’ refers to all types, including creeks, streams, wet areas, wetlands, swamps, springs, lakes, aquifers, thermal waters, estuarine waters and coastal waters.)

No hierarchical values will be placed on water bodies within any agency’s planning documents in terms of protection.

The right of access to clean water is a basic human right and should be available to all members of our community

To discharge human effluent, treated or untreated, directly to water is culturally repugnant to Ngāti Hine. All discharges of pollutants or contaminants to natural waterways should be avoided.

Soils and Minerals – Policies

Earthworks provided for as a permitted activity in council plans must meet stringent environmental performance standards

Integrated earthworks management plans detailing how erosion, sediment control, possible archaeological or cultural sites and revegetation are to be managed, and how risks will be identified and minimised are mandatory for any earthworks consent application.

Indigenous Flora – Policies

All proposed land-based activities which result in the modification of existing indigenous flora will be preceded by a comprehensive biological audit to identify indigenous species in that areas. This includes permitted activities for which certificates of compliance have been applied for.

All statutory agencies will adhere to the 1992 United Nations Convention on Biological Diversity adopted at the Earth Summit in Rio de Janeiro and ratified by the New Zealand Government.

All statutory agencies will adhere to and implement the New Zealand Biodiversity Strategy.

Only after appropriate effective engagement and adequate remediation or mitigation, or for safety or security reasons, will Ngāti Hine support any negative or destructive impacts on our indigenous flora.

No subdivision, use or development will result in damage to or destruction of any indigenous trees without an appropriate assessment being made of how those trees are impacted by a proposed development and where applicable, outcomes of consultation with Ngāti Hine

Bio-prospecting will only be carried out within our rohe with the appropriate agreement from Ngāti Hine.

Indigenous Fauna – Policies

All proposed land-based activities which result in the modification of existing habitats of indigenous fauna will be preceded by a comprehensive biological audit to identify indigenous species in that area. This includes permitted activities for which certificates of compliance have been applied for.

No hierarchical values will be placed on indigenous fauna within any agency's planning documents in terms of protection.

All statutory agencies will adhere to the 1992 United Nations Convention on Biological Diversity adopted at the Earth Summit in Rio de Janeiro and ratified by the New Zealand Government.

All statutory agencies will adhere to and implement the New Zealand Biodiversity Strategy.

Only after appropriate effective engagement and adequate remediation or mitigation, or for safety or security reasons, will Ngāti Hine support any negative or destructive impacts on our indigenous

Tuna (Eel) – Policies

To recognise the importance of restoring and maintaining our tuna resources in our awa, repo and moana. Ngāti Hine are kaitiaki of our tuna and their habitat.

The objectives and policies in this plan should be taken into account in the Rural Development Strategy.

Patuharakeke Te Iwi Trust Board (Inc.) Environmental Plan

The history and stories portrayed in this Environmental Plan clearly capture the importance of the natural environment to the iwi. The resources inherent in the natural environment form an integral part of Maori culture and cannot be separated from the Maori identity. This should be recognised in the formulation of the Rural Development Strategy.

Te Iwi o Ngatiwai – Iwi Environmental Policy Document

The issues, objectives and policies outlined in this document largely resemble those listed in the Ngati Hine iwi environmental management plan 2008. It, again, shows the integral nature of the natural environment to the Maori culture and identity and the significance of maintaining the well-being of this important resource.

3 Current Issues

3.1 Whangarei Growth Strategy: Sustainable Futures 30/50

The recently adopted Whangarei Growth Strategy identifies the scale and spatial distribution of recent development as significantly impacting upon biodiversity values in the District. These impacts are difficult to manage given the dispersed nature of the development.

Discharges from farm activities in rural areas, as well as stormwater discharges from urban development have contributed to poor water quality conditions in our fresh water resources such as rivers and lakes, ultimately affecting our coastal waters as well.

3.2 Stakeholder Consultation

Initial consultation was held with the Northland Regional Council, the Department of Conservation and the Ministry of Agriculture and Forestry. The following issues in relation to biodiversity were raised:

- Development within 600m of public land is directly related to the number of weeds introduced on public land
- The introduction of pets also poses an issue for species management on public land and around areas of intensive kiwi or pateke populations
- Development in close proximity to public land requires pro-active fire safety measures such as wider driveways for fire engine access. Wider driveways typically require more vegetation clearance, while often detracting from visual amenity
- Better consideration required of the effects of development on water quality and the use of riparian management

- The District Plan Environmental Benefit rule uses outdated criteria and has not been successful
- ‘Protection’ of native vegetation/biodiversity should include the management of the areas. The legal mechanism of creating covenants only has limited benefits without pest management. Covenants need to be more outcome-based and targeted, and require better monitoring
- A perceived ‘scattergun’ approach to development and the approval of high numbers of non-complying activities
- Biodiversity is under-valued by the public
- District Plan rules should provide for landowners to sustainably manage their indigenous forest land, as per MAF’s sustainable Forest Management Plan and Permit provisions.

3.3 Environment Monitoring

The recent State of the Environment report on biodiversity outlines the following as issues for the District:

Historic habitat loss and fragmentation

Habitat damage, especially the conversion of forested land or wetland areas to agriculture (and urban areas), has had a profound impact on the District’s biodiversity and on the ability of ecosystems to sustain themselves. Habitat fragmentation divides populations into isolated groups that become more vulnerable to change and catastrophic events.

- **Invasive species**

Over the years, the introduction of exotic species has often meant these species, both animals and weeds, have turned into invaders given the absence of natural predators, parasites, pathogens, and competition. There are now more introduced plant species growing wild in New Zealand than native plant species.

Weeds threaten the long-term survival of some native animals by changing or destroying their habitat, reducing the availability of food or breeding sites, or influencing the way native and introduced animals behave. The smaller the remaining fragments of native vegetation are, the more vulnerable they are to the invasion of weeds.

Animal pests are also a major threat to New Zealand’s biodiversity. They act as predators, browsers, and competitors of native species. Examples of predators include: possums, goats, deer, wild pigs, mustelids, rats, mice, hedgehogs and so on.

- **Over-exploitation**

The over-harvesting of species, whether for consumption, illegal trade, or other (financial) gain, carries with it the risk of lowering genetic diversity and leaving populations vulnerable to environmental changes and diseases.

Pollution

Pollution can, potentially, have detrimental effects on biodiversity, including disruption to the food web, increase in abundance and distribution of invasive species, eutrophication of waterways, spread of disease, and direct death of threatened species such as poisoning. The different types of pollution and their causes are listed below:

- Water pollution Sewage, fertilizer, toxic chemicals, oil
- Soil pollution Pesticides, waste, herbicides, heavy metals, toxic chemicals
- Air pollution Smoke i.e. fires, gas i.e. vehicles and industry, chemical particulates i.e. spraying
- Noise pollution Road ways, aircraft, factories
- Light pollution Over illumination
- Visual pollution Structures i.e. billboards, power lines, scarred landforms, open storage of waste
- Thermal pollution Temperature change in natural water bodies caused by human influence

Climate Change

As the prevailing climate exerts major influences over the distribution of species, any change to ‘normal’ climatic conditions will have an influence on local species survival, whether opportunities increase or decrease. This, in turn, can affect the functioning of local ecosystems.

There is a general recognition that, in some locations, benefits may accrue for agricultural species. However, more often than not, climate change is seen as having a negative impact on global biodiversity. This is possibly due, in part, to the notion that biodiversity is already in decline in many parts of the world, and climate change is likely to exacerbate this decline (Whangarei District Council, 2010).

Spread of Disease

Wildlife diseases and parasites pose a substantial threat to the conservation of biodiversity. They have the potential to cause catastrophic rapid population decline, and initial declines may be followed by chronic population depression, giving rise to potential local extinction. The impact of pathogen pollution may be increased by secondary or “knock-on” effects that are difficult to predict such as a decrease in populations of other species in the food chain, prey switching, and vegetation/habitat changes.

Diseases and parasites can be contracted from domestic animals living in proximity, directly as a result of human intervention i.e. host or parasite translocations, and even without obvious human or domestic animal involvement.

Environmental Perturbations

Environmental perturbations, such as fire, drought, floods, cyclones, landslides, earthquakes and associated tsunamis, can affect individual species and whole ecosystems. Several factors can occur simultaneously or in succession, and the impact on biodiversity values can be temporary or permanent.

Small Population Size and Restricted Distribution

When the wild population of a threatened species is reduced to low numbers, or restricted in its distribution, it becomes vulnerable to localised natural disasters. Changes in the environment (i.e. fire, disease, predator increases, climate change) mean that local extinction can occur. The loss of genetic diversity associated with a decrease in population can result in in-breeding depression, which further weakens the population. Also, when there is limited capability to disperse, a population’s ability to reproduce successfully is reduced.

Activity Specific Threats

As outlined above in the Sustainable Futures 30/50 section, development and its size and spatial distribution can have significant effects on biodiversity values. The recent State of the Environment report details examples of such impacts:

Subdivision/Urban Expansion

The concentration of settlement in specific areas can significantly affect the conservation of biodiversity as threats are amplified by increasing human population and consumption. Freshwater and coastal ecosystems are particularly sensitive to development. The following factors determine the severity of impact on biodiversity associated with development: location, ecosystem type, land cover, spatial and temporal pattern of subdivision, number of lots, existing and future land use, and the attitudes and values of landowners.

Even though the impact of a subdivision may appear minor, consideration needs to be given to the cumulative long-term effect. Major risks include:

- Habitat loss and degradation, including fragmentation. Indigenous vegetation clearance can result in death of individuals and local extinctions. Loss and degradation of habitat threatens more terrestrial species than any other process (Kingsford et al. 2009)
- A negative impact on hydrology such as the quality and quantity of ground and surface water due to storm water run off, sediment generation, and waste water disposal
- Modification of freshwater ecosystems through use of culverts, drains, dams, and bridges, and diversion of water from rivers. Most natural lowland biotic communities on floodplains and wetlands in New Zealand have been lost
- Increased soil erosion, and decline in soil health
- Increase in invasive species diversity, spread and impact
- Increased human disturbance associated with recreational activities i.e. horse riding, quad bike riding, walking/tramping, wind surfing, and use of jet skies.

Land Use Development

The impact of land use development is similar to subdivision as it also intensifies use of the land. Similar variables determine the level of impact on biodiversity, i.e. location, ecosystem type, land cover, existing and future land use, and the attitudes and values of the land owners. Serious consideration needs to be given to the cumulative long-term effects. Kingsford et al. (2009) identified the following land use activities as primary threats: agriculture, commercial logging, and intensification of cultivation. Major risks include:

- Habitat loss and degradation, including fragmentation
- Trampling and grazing by stock
- A negative impact on hydrology such as the quality and quantity of ground and surface water due to run-off; fertiliser, animal waste, herbicides, pesticides, stormwater, point source discharge, and run-off of: fertiliser, animal waste, herbicides, pesticides, storm water, point source discharge, and waste water disposal. Excessive nutrients result in eutrophication of freshwater lakes
- Modification of freshwater ecosystems through water extraction, drainage of wetlands, flood control programmes, diversion of water from rivers, and the use of culverts, weirs, drains, dams and bridges
- Increased soil erosion, and decline in soil health as well as loss of versatile soils, and sedimentation of waterways
- Increase in invasive species diversity, spread.

3.4 Other issues

Given the data in the current State of the Environment Report, the provisions in the Operative District Plan appear to have made little, if any, progress in improving the state of biodiversity within the District, as per the objectives of the RMA. This begs the question whether the current rules are effective. As an example, Appendix 5 of the District Plan contains a reasonably extensive list of esplanade priority areas, however, few (approximately 22) esplanade reserves or strips have been created between 2002/03 and 2009/10.

The lack of recent data on native land cover inhibiting informed/targeted decision-making.

The absence of monitoring of the clearing of trees and indigenous vegetation as a permitted activity prevents Council from forming an accurate picture in terms of the effects of that clearance on biodiversity values.

Certain activities allowed by existing use rights may result in ongoing adverse effects on indigenous biodiversity.

The absence of a pro-active biodiversity strategy.

Often conflict arises between landowners' private property rights and the regulation of biodiversity protection.

The cost of maintaining biodiversity and who should carry this cost.

Managing ecosystems and/or habitats that exist across district/regional council boundaries.

4 Best Practice

The New Zealand Quality Planning website details a substantial list of council practices, both regulatory and non-regulatory that are applied by different councils around the country. Overall, the Waitakere City District Plan and the Horizon's Proposed One Plan stand out as best practice examples as biodiversity and threatened native habitats, respectively, form (one of) the major tenets in the Plans.

The large variety in documents is likely to be an outcome of the differences in biodiversity across districts, and community preferences for addressing the issues.

4.1 RMA Case Law Examples

Relationship of section 6(c) to section 5 of the Resource Management Act 1991

In *Minister of Conservation v Gisborne District Council* (A16/2000), the Environment Court held that individual economic wellbeing and private ownership rights to clear indigenous vegetation were outweighed by the national importance of the protection of such an area of indigenous biodiversity.

What aspects of biodiversity are addressed in section 6(a)

In *Gill v Rotorua District Council* (W29/93) the Environment Court found that natural character includes ecosystems and ecological processes, and that succession and regeneration are a part of natural character.

A series of decisions collectively identify the following elements as part of natural character: landforms and coastal features, seabed, terrestrial and aquatic biota and ecosystems, water, natural tidal movements, natural sedimentation, natural lake levels, animal migrations/movements.

The relevant decisions include:

- Freda Pene Reweti Whanau Trust v Auckland Regional Council (A166/2004)
- Golden Bay Marine Farmers v Tasman District Council (W42/2001)
- Trio Holdings v Marlborough District Council (W103/96)
- Golden Bay Marine Farmers v Tasman District Council (W42/2001)
- The Matukituki Trust v Queenstown Lakes District Council (W10/2006).

Addressing section 6(c)

In the decision *Minister of Conservation v Western Bay of Plenty District Council* (A71/2001) the Environment Court determined that for a district council the context of 'significant' is the district. In the case of Western Bay of Plenty there was an incomplete schedule of significant areas. The Judge concluded that the most appropriate way to address s6(c) was to expand that schedule. The schedule was to be part of a suite of provisions including incentives already introduced by Council.

In *Royal Forest and Bird Protection Society Inc and others v Central Otago District Council* (A128/2004) the Environment Court observed that a non-regulatory approach had not been effective, especially in lowland and montane areas. Decline was continuing. While council had a schedule this was primarily of areas already protected. As it seemed unlikely that there would be a survey to develop a more complete schedule a rule would be needed to address s6(c). Incentives should be pursued but on their own they would be inadequate.

Environmental compensation and biodiversity offsets

In *JF Investments Limited v Queenstown Lakes District Council* (C48/2006) the Environment Court conducted a detailed analysis of the legal basis by which environmental compensation or biodiversity offset is envisaged by the Act.

The Judge stated in paragraph 42: "We conclude that off-site work or service or covenant, if offered as environmental compensation or biodiversity offset, will often be relevant and reasonably necessary under section 104(1)(i), if it meets most of the following desiderata:

- It should preferably be of the same kind and scale as work on-site or should remedy the effects caused at least in part by activities on site
- It should be as close as possible to the site (with a principle of benefit diminishing with distance) so that it is in the same area, landscape or environment as the proposed activity
- It must be effective; usually there should be conditions (a condition precedent or a bond) to ensure that it is completed or supplied
- There should have been public consultation or at least the opportunity for public participation in the process by which the environmental compensation is set
- It should be transparent in that it is assessed under a standard methodology, preferably one that is specified under a regional or district plan or other public document."

In *Director-General of Conservation v Wairoa District Council* (W081/2007) the Environment Court considered a proposal whereby an East Coast farm would clear 354 hectares of grazed kanuka for the purpose of increasing stock numbers. The offset or environmental compensation would be legal protection and fencing of 799 hectares of native vegetation on the same property from stock. There would also be pest control in this area. The Court considered that the proposed offset would produce a better outcome in that the life-supporting capacity (including ecological integrity) of the remaining forest area would be enhanced and assured.

5 Options for Whangarei District

Given the long list of biodiversity issues observed within the District, it seems unlikely that regulatory methods in the District Plan alone will turn the tide. If we view biodiversity as an important matter for Whangarei, some meaningful discussion will need to be had on how we can bring back these natural values. Below are a number of options that may be worthy of deliberation. However, there may be many other options which, in an appropriate mix, may just make all the difference.

5.1 District Plan Implementation

Review the effectiveness of current District Plan policies and rules and adjust as necessary. Changes in the National policy framework are likely to drive future Plan changes.

5.2 Rural Development Strategy Implementation

Other methods

- Initiate, fund and implement a pro-active biodiversity strategy, including riparian management.
- Actively engage in the maintenance and protection of biodiversity through, for instance, the co-ordination of community efforts.
- Explore opportunities for innovative economic initiatives/activities based on the properties of native vegetation, such as food products, medicine, (manuka) honey, biofuels and so on.
- (Financial) Incentives to encourage the maintenance and protection of biodiversity values.
- Undertake research on the value of biodiversity to the local (agricultural) economy.
- Offering of free advice to the public.
- Education.

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7 Appendices

7.1 Appendix 1 – Biodiversity Legislation

Protected Lands and Waters

Legally protected areas, such as national parks and marine reserves, are administered under the following laws:

Conservation Act 1987

The Conservation Act was developed to promote the conservation of New Zealand's natural and historic resources. To achieve this, the Act established the Department of Conservation, bringing together under one department the conservation functions formerly managed by five different government agencies (Doc, n.d.).

Under the Act the Department of Conservation has a number of functions, including:

- The management for conservation purposes of all land and natural and historic resources held under the Conservation Act
- The preservation of indigenous freshwater fisheries (so far as is practicable)
- The protection of recreational freshwater fisheries and freshwater fish habitats
- Conservation advocacy
- Promotion of the benefits of international co-operation on conservation matters
- Promotion of the benefits of the conservation of natural and historic resources in New Zealand, the subantarctic islands, the Ross Dependency and Antarctica
- The provision of educational and promotional conservation information
- Fostering recreation and allowing tourism on conservation land, providing the use is consistent with the conservation of the resource
- Provision of advice to the Minister.

Marine Reserves Act 1971

National Parks Act 1980

The New Zealand national parks system aims to preserve in perpetuity for their intrinsic worth and for the benefit use and enjoyment of the public those parts of the country that "contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important that their preservation is in the national interest" (Doc, n.d.). The first ten national parks established in New Zealand protected some of the most scenically spectacular parts of the country. There is a strong emphasis in these first parks on mountain scenery.

While beautiful, these national parks are not representative of the range of New Zealand ecosystems, particularly lowland. Therefore, since the 1980s, the emphasis has been on developing a more representative national park system. Hence the establishment of Whanganui (includes a major river system), Paparoa (includes lowland forest and geological features) and Kahurangi (includes a wide diversity of landforms and geology) national parks.

Reserves Act 1977

The Reserves Act provides for the acquisition of land for reserves, and the classification and management of reserves (including leases and licences) (DoC, n.d.). It has three main functions:

- To provide for the preservation and management, for the benefit and enjoyment of the public, areas possessing some special feature or values such as recreational use, wildlife, landscape amenity or scenic value. For example, the reserve may have value for recreation, education, as wildlife habitat or as an interesting landscape.
- To ensure, as far as practicable, the preservation of representative natural ecosystems or landscapes and the survival of indigenous species of flora and fauna, both rare and commonplace.

- To ensure, as far as practicable, the preservation of access for the public to the coastline, islands, lakeshore and riverbanks and to encourage the protection and preservation of the natural character of these areas.

Reserves may be administered by the Department of Conservation, or by other ministers, boards, trustees, local authorities, societies and other organisations appointed to control and manage the reserve, or in whom reserves are vested.

Protected Species

Legally protected plant and animal species are administered under the following laws:

Marine Mammals Protection Act 1978

The Department of Conservation administers the Marine Mammals Protection Act 1978, which provides for the conservation, protection and management of marine mammals (DoC, n.d.). The Act provides for the establishment of marine mammal sanctuaries, within which activities known to harm particular marine mammal species can be restricted and strictly controlled by the Minister of Conservation.

There are six marine mammal sanctuaries in New Zealand: Five to protect Hector's dolphin; West Coast North Island, Clifford and Cloudy Bay, Banks Peninsula, Catlins Coast and Te Waewae Bay, and one at the Auckland Islands to protect the main breeding areas of the New Zealand sea lion and the southern right whale.

The Act also provides for the implementation of population management plans to limit the level of fishing-related mortality for any marine mammal species.

Native Plants Protection Act 1934

This Act provides for the protection of native plants by bestowing upon the Governor-General the power to declare any native plant species protected, either in the whole of New Zealand, or in a specified part of the country (Parliamentary Counsel Office [PCO], 2011). Conversely, the Governor-General may also revoke any protection orders.

Trade in Endangered Species Act 1989

The object of this Act is to enable New Zealand to fulfil its obligations under the Convention on International Trade in Endangered Species of Wild Fauna and Flora and to promote the management, conservation, and protection of endangered, threatened, and exploited species to further enhance the survival of those species (Parliamentary Counsel Office, 2011).

Wildlife Act 1953

The Wildlife Act deals with the protection and control of wild animals and birds and the management of game (DoC, n.d.). Permits are necessary to deal with certain wildlife. Most species of wildlife (including mammals, birds, reptiles and amphibians), native or introduced, are absolutely protected under the Act. No-one may kill or have in their possession any such bird or animal, unless they have a permit.

To find what protection a particular species has, it is necessary to consult the schedules to the Act to see which, if any, schedule the species is listed on.

Most native bird, bat, reptile and frog species are absolutely protected, and many common introduced bird and animal species are not protected. Some native and some introduced bird species have limited protection to maintain their numbers while allowing for some harvest or control.

Part I also sets out the provisions relating to wildlife sanctuaries, wildlife refuges, wildlife management reserves and wildlife districts.

Dog Control Act 1996

One of the objects of the Act is to impose obligations on dog owners to ensure dogs do not injure, endanger, or cause distress to any protected wildlife (PCO, 2011).

Sustainable Management

The sustainable management of New Zealand's physical and natural resources, indigenous forests and fisheries is governed by the following laws:

Forests Act 1949

Find the Act on the New Zealand Statutes database. **More information**

Fisheries Act 1996

The essential purpose of the Fisheries Act 1996 is to provide for the **utilisation** of fisheries resources, while ensuring **sustainability**. A number of regulations exist alongside the Act. These include: Customary Fisheries Regulations, Fisheries (South Island Customary Fishing) Regulations 1998, Kaimoana Customary Fishing Regulations 1998, Regulation 27 of the Fisheries (Amateur Fishing) Regulations 1986 and the Recreational Fisheries Regulations.

Resource Management Act 1991 (RMA)

The relevance of this Act is explained in Section 2.3 of this report.

Wild Animal Control Act 1977

The main purpose of this Act is to facilitate the control of wild animals generally, and the eradication of wild animals locally where necessary and practicable, as dictated by proper land use.

Other laws and regulations

Crown Pastoral Land Act 1998

Biosecurity Act 1993

This Act was established to restate and reform the law relating to the exclusion, eradication, and effective management of pests and unwanted organisms. Pests and unwanted organisms have a significant adverse impact upon New Zealand's native biodiversity.

Environment Act 1986

The Environment Act 1986 established the Ministry for the Environment and the Office of the Parliamentary Commissioner for the Environment. The Commissioner is an officer of Parliament appointed for a five-year term to provide an independent check on the system of environmental management and the performance of public authorities on environmental matters. The Act furthermore tries to ensure that, in the management of natural and physical resources, full and balanced account is taken of:

The intrinsic values of ecosystems; and

- i All values which are placed by individuals and groups on the quality of the environment; and
- ii The principles of the **Treaty of Waitangi**; and
- iii The sustainability of natural and physical resources; and
- iv The needs of future generations

Hazardous Substances and New Organisms Act 1996 (HSNO)

Te Ture Whenua Maori Act 1993

7.2 Appendix 2 – District Plan Objectives and Policies affecting Biodiversity

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.

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

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.

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.

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.

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

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

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

To encourage development in the Coastal-Countryside Environment not to have adverse effects on the amenity values of the environment. The visual amenity and natural character, in particular, has to be protected from subdivisions, use or development that is sporadic or otherwise inappropriate in character, intensity, scale or location.

To retain trees and vegetation (other than trees or vegetation grown for commercial production purposes) that contribute to the amenity values of an environment, unless the effects of removal are adequately remedied or mitigated.

To ensure that the adverse effects of subdivision, use and development adjoining water bodies or the coastal marine area, or activities on the surface of water bodies or the coastal marine area, on water quality and quantity (including ground water), natural character, and cultural and ecological values of water bodies and the coastal marine area, are avoided, remedied or mitigated.

To ensure that land use activities avoid, remedy or mitigate more than minor adverse effects on water quality, by means which may include separating land use activities from water bodies and coastal waters and by encouraging the retention and enhancement of riparian vegetation as buffer areas.

To ensure that activities on the surface of water do not result in adverse effects on the natural character, ecological and amenity values of the surrounding environment, or on other users.

To ensure that no subdivision, use or development should result in destruction of, or adverse effects on, Heritage Trees, in particular adverse effects on the:

- long term life of the tree
- heritage and amenity values of the tree.

To administer the heritage tree protection provisions in a manner which recognises that works may be required at times to avoid significant loss of daylight to adjoining properties, and/or damage through falling branches and root growth; provided that the amenity value and health of the tree is not compromised.

To establish open space linkages between significant ecological sites and between public recreation areas in order to enhance biodiversity, physical ecosystem connections and recreational opportunities.

To ensure that subdivision, use and development does not adversely affect the natural character of the coastal environment (particularly coastal headlands and promontories), and lakes and rivers and their margins.

To ensure that subdivision of land in Outstanding Landscape Areas, or land containing Outstanding Natural Features or Geological Sites is of a scale, design and location that maintains and protects the landscape values and natural character of the environment.

To protect indigenous vegetation, which contributes to the character and visual quality of landscapes from inappropriate subdivision, use and development.