

2 Indigenous vegetation and habitat

2.1 Introduction

Large areas of forest and wetland once covered the district. The dominant forest species were typically kauri in the north, podocarp in central areas and a combination of rimu and tawa in the south. Variations were seen between coastal and inland areas. The major wetland areas were northeast of Hamilton and around the lower Waikato River. Indigenous lowland vegetation was modified by Maori and then largely replaced with exotic pasture by Europeans to establish the district's social and economic foundation. Today, the main threats to forests are stock browsing and plant and animal pest infestation. Some forest vegetation clearance has occurred in recent years and clearance remains a potential threat. Drainage and riparian vegetation clearance continue to pose a threat to wetlands.

Large areas of rimu and tawa forest remain on the hill country and most of it is in public ownership and legally protected. Scrub is present in some hill country areas. It is the first stage of forest regeneration and can contain threatened plant species. Most of the internationally recognised Whangamarino Wetland is also legally protected. These areas and the lower Waikato lakes together form a semi-continuous band of indigenous habitats from the north-east (Miranda) to the south-west (Aotea Harbour). Outside of this band, indigenous vegetation and habitats have been significantly depleted, particularly in lowland areas, and in some cases only small remnants remain. Few of these remnants are formally protected. These remnant lowland areas, including forest and internationally significant wetlands, make an important contribution to biodiversity. The major aquatic features are the Waikato and Waipa rivers, the lower Waikato lakes, peat lakes near Hamilton, and the Raglan (Whaingaroa) and Aotea harbours.

Reports by Leathwick et al (1995), Clarkson and Wallace (2004) and the Waikato Regional Council (1998) provide further information on indigenous habitats.

The Waikato District Conservation Strategy (2004) presents the council's approach to fulfilling its Resource Management Act obligations and to implementing the New Zealand Biodiversity Strategy at the local level. Emphasis is placed on a lead by example approach by incorporating environmental objectives into the council's service delivery functions, improving biodiversity on council-owned land through restoration and maintenance works, and improving biodiversity on private land through education and incentives.

The council will seek to work in partnership with landowners, interest groups and other agencies to further investigate significant indigenous habitats with a view to reconsidering priorities and management methods. Information available to assist with this work includes an indigenous vegetation cover database, the Land Environments New Zealand database and geological information showing areas where mining (resulting in vegetation clearance) could potentially occur.

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2.2 Issue - Biodiversity and Habitats

Land use and development can result in the loss and degradation of ecosystems and habitats, fragmentation and isolation of habitats, and a reduction of species abundance and biodiversity.

OBJECTIVES	POLICIES
<p>2.2.1 Indigenous biodiversity and the life-supporting capacity of indigenous ecosystems are maintained or enhanced.</p>	<p>2.2.2 Areas of indigenous vegetation and habitats of indigenous fauna, and the life-supporting capacity of indigenous ecosystems should be maintained or enhanced through on-site works, and the creation of ecological buffers and linkages using eco-sourced plants.</p> <p>2.2.3 Priority should be given to protecting and restoring threatened habitats and habitats of threatened species such as coastal and lowland forest, riparian areas, wetlands, dunes and peatlands.</p> <p>2.2.4 Deleted</p> <p>2.2.5 Areas of significant indigenous vegetation and significant habitats of indigenous fauna should be managed in a way that protects their long-term ecological functioning and biodiversity through such means as:</p> <ul style="list-style-type: none"> (a) excluding stock (b) undertaking plant and animal pest control (c) retaining and enhancing vegetation cover (d) maintaining wetland hydrology (e) avoiding physical and legal fragmentation (ea) avoiding housing development close to such areas. <p>2.2.6 Subdivision, use and development should be located and designed to avoid, remedy or mitigate adverse effects on indigenous biodiversity. This will include adverse effects on the ecological functioning and values of significant indigenous vegetation and significant habitats of indigenous fauna, in-stream values, riparian margins and gullies.</p> <p>2.2.7 When avoiding, remedying or mitigating adverse effects on indigenous biodiversity, regard should be had to:</p> <ul style="list-style-type: none"> (a) the need for species to continue to have access to their required range of food sources and habitats during their life cycle (b) the need for species to have access to refuges from predators and disturbances (c) the maintenance of natural isolation

- (d) the need to prevent invasion by exotic species
- (e) the need to maintain vegetation structure, such as a continuous closed-forest canopy and under-storey, and the compactness of an area's shape to limit edge effects such as wind damage
- (f) the need to replace or restore habitats
- (g) retaining and restoring the natural character and landscape values of the area
 - (ga) maintenance and enhancement of ecological corridors and buffer areas.

2.2.8

The features and values that characterise areas of indigenous vegetation and habitats of indigenous fauna and that contribute to biodiversity should be protected from inappropriate subdivision, use and development.

2.3 Reasons and Explanations

2.3.1 Objective

Sustainable management includes safeguarding the life-supporting capacity of ecosystems, and it is a matter of national importance to recognise and provide for the protection of significant indigenous vegetation and significant habitats of indigenous fauna. Also refer to the New Zealand Biodiversity Strategy (Department of Conservation and Ministry for the Environment, 2000).

2.3.2 Enhancement Works

Maintenance and enhancement works have an important role in maintaining and restoring biodiversity, particularly for highly threatened habitat types, small remnants of all habitat types and in providing linkages between sites. Linkages can play a vital role in maintaining biodiversity.

2.3.3 Priority Areas

Habitat loss has been greatest in lowland areas. For many habitat types only small remnants remain and some have been lost completely. Furthermore these habitat types are under-represented in the network of legally protected areas and face the greatest threat of further loss. These habitats warrant greater management effort than habitat types that make up large areas of the public estate.

2.3.4 Deleted

2.3.5 Significant Areas

Significant habitats play a vital role in maintaining the district's biodiversity and therefore warrant protective management. Various methods are used to promote this protection. Areas of significant indigenous vegetation and significant habitats of indigenous fauna will be identified by assessment against the criteria listed in this plan in [Appendix Oc](#). These criteria are taken from Appendix 3 of the Waikato Regional Policy Statement. An area is significant if it meets one or more of these criteria, as determined by a suitably qualified person. Indigenous habitats are vulnerable to weed invasion and domestic pet predation on wildlife. These threats should be managed through such means as separation distances or controls on introducing vegetation and the keeping of pets.

2.3.6 Adverse Effects

The range and extent of indigenous habitats has been severely reduced in most parts of the district and only small remnants of some habitat types remain. Maintaining the significant values of an area

depends on its ecological processes continuing to occur. Disturbances to indigenous habitat areas and the fauna associated with them should be avoided, remedied or mitigated. Use and development of these areas is not precluded, but where adverse effects occur they should be remedied or mitigated at that site or offset by conservation at another site of similar ecosystem type. See section 3.11.4 of the Waikato Regional Policy Statement.

Land use intensification can affect in-stream values through changing runoff characteristics and vegetation disturbance. Subdivision and development should take account of in-stream values and protect these values as much as possible.

2.3.7 Regulations

Indigenous vegetation and habitats that face threats of clearance or destruction should be given regulatory protection to ensure biodiversity values are fully considered whenever land use changes are being contemplated. Threats include but are not limited to the clearance for building development, forestry and pasture expansion in coastal and rural areas, and clearance for peat, sand, rock and mineral extraction.

2.4 Methods of Implementation

2.4.1 Regulatory Methods

- (a) Rules to control clearance of indigenous vegetation and habitats within the Pa, Industrial, Rural, Coastal and Country Living Zones, managed in conjunction with an advisory service. When clearance is being contemplated for farming reasons the Council will meet the cost of an ecological assessment, for up to 10 hectares, where such an assessment is required by rule [22.37A](#), [22.37B](#), [24.41A](#), [25.43](#), [25.43A](#), [26.42](#), [26.42A](#), [26.42B](#), [27.40](#) or [27.40A](#). Before making a determination under these rules the Council will take into account the recommendations in an assessment report prepared by an approved ecologist as to whether the vegetation to be cleared, having regard to the criteria in [Appendix Oc](#), contains significant indigenous vegetation or significant habitat for indigenous fauna. Council will take into account the professional qualifications and experience of the prospective ecologist including experience within the Waikato region, and will consult with the landowner in agreeing on the suitability of an ecologist. Council may consult with the Department of Conservation, Waikato Regional Council and Federated Farmers about what constitutes suitable qualifications and experience for the assessment being contemplated.
- (b) Rules to control indigenous vegetation clearance in gullies in the Country Living Zone.
- (c) Deleted
- (d) Esplanade reserves created adjacent to water bodies and the coast to meet the purposes of section 229 of the Resource Management Act.
- (e) Rules to control subdivision and development to protect in-stream values.
 - (ea) Heritage orders as provided for in Part 8 of the Resource Management Act.

2.4.2 Deleted

2.4.3 Council Works and Services

- (a) Council-owned land will be managed to enhance biodiversity values through restoration planting programmes and pest control, particularly on lowland areas such as esplanade reserves.
- (b) Biodiversity objectives will be incorporated into service delivery activities such as ensuring fish

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passage through culverts in natural water courses and carrying out works in accordance with best-practice guidelines.

- (c) Service delivery and consents staff will be trained on biodiversity.
 - (ca) New reserves may be acquired to protect and enhance conservation values.

2.4.4 Information, Education and Advocacy

- (a) Assist in the distribution of pamphlets and other education material produced by other agencies, in conjunction with articles in council publications and displays in council offices and libraries.
- (b) Support such things as Enviroschools programmes, community-based projects and independent information, coordination and advisory services.
- (c) Promote the establishment of agreements and covenants on private land and develop an ongoing partnership with these landowners to ensure natural values are protected through appropriate management.
- (d) Initiate community-based workshops and projects where significant biodiversity benefits may be gained, particularly in relation to council land or service delivery.
- (e) In conjunction with other agencies and interest groups, investigate recent patterns and extent of forest clearance and assess the need for additional regulatory controls.
- (f) In conjunction with other agencies and interest groups, investigate the relative significance of indigenous habitats then assess priorities and the most appropriate management methods for these sites in consultation with the landowners, other agencies and interest groups.
- (g) Participate in community and inter-agency forums.
- (h) Support research into biodiversity management and protection.
- (i) Support and promote environment awards.

2.4.5 Economic Instruments

- (a) Financial assistance to landowners implementing measures to improve biodiversity on private land and to community conservation groups, which will be made available through a contestable fund, as specified through the Long Term Council Community Plan or Annual Plan processes.
- (b) Rate remission in accordance with the long-term council community plan.
 - (ba) Subdivision incentives for protecting areas by covenant.

2.5 Reasons for Methods

2.5.1 Regulatory Methods

Landowners generally value indigenous vegetation and habitat areas on their properties. Incentives to clear can arise through the landowner adopting an alternative land use such as mining, pasture expansion, exotic forest establishment or subdivision and housing development. The Council is introducing regulatory controls on indigenous vegetation clearance to ensure that the effects on biodiversity are recognised and provided for through the consent process. Major threats to indigenous vegetation also include pest invasion and grazing, and the Council is unable to regulate against these threats.

Esplanade reserves have a role in retaining the values of indigenous habitats in riparian areas. Subdivision and development is regulated to ensure in-stream values are protected.

Wetland threats include drainage and vegetation clearance and the Waikato Regional Council regulates these activities. District plan rules, such as setback distances and vegetation clearance rules, can support regional council rules.

2.5.2 Council Works and Services

The council is taking a lead by example approach to land management and service delivery. The council owns a considerable length of esplanade reserve and much of the council's biodiversity efforts will take place on these reserves. Council ownership of these areas coincides with them being priority areas for biodiversity restoration works. They are priority areas due to being in lowland areas and widespread lowland habitat destruction over many years.

2.5.3 Information, Education and Advocacy

Achieving conservation objectives over the long-term depends on establishing a positive relationship with landowners and the wider community. Therefore the council will:

- (a) promote a conservation ethic through consultation, education, recognition and reward
- (b) recognise the rights and needs of people
- (c) provide information and incentives to encourage and assist landowners and community groups to protect and restore areas.

National research (Parminter and Wilson 2002a, 2002b) has revealed the key reasons why landowners protect indigenous forest or wetlands. They are:

- (a) they believe family and neighbours support their efforts
- (b) they feel it is the right thing to do for various reasons including wanting to protect native species, improving landscape values, and maintaining clean water
- (c) they know what needs to be done
- (d) they believe their efforts will make a difference
- (e) they believe the benefits outweigh the costs and they are able to meet the costs. The benefits include improved marketability of the property, improved stock control and habitat improvements.

The research also revealed that unless management agency involvement results in changes in

landowner attitudes then there is no long-term benefit from management agencies becoming involved. Currently, the largest threats to indigenous forests are stock browsing and pest invasion. Successfully dealing with these threats depends on having a positive relationship with landowners and increasing their understanding and concern about conservation issues and responses.

More detailed land use and habitat information will be gathered to enable further assessment of appropriate management methods for the most significant sites. This will be done in conjunction with landowners, interest groups and other agencies to foster a cooperative effort.

2.5.4 Deleted

2.5.5 Economic Instruments

Economic instruments, including subdivision rights, are an effective way of encouraging landowners to retain and enhance significant habitats.

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2.6 Anticipated Environmental Results

ISSUE	ANTICIPATED ENVIRONMENTAL RESULTS
<p>2.6.1 Biodiversity, ecosystems and habitats</p>	<p>(a) Protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna.</p> <p>(b) Enhancement, maintenance or creation of linkages between ecological areas in the district or along the margins of lakes, rivers and the coastline, including:</p> <ul style="list-style-type: none"> • indigenous forest on hill country from Pirongia to Miranda • Waikato and Waipa rivers, and associated wetlands • Horsham Downs lakes and Lake Rotokauri • Raglan Harbour (Whaingaroa), Aotea Harbour and their tributaries. <p>(c) Improved ecosystem health, functionality and biodiversity of species representative of the original habitat types in the district.</p> <p>(d) Restoration of lowland habitats particularly riparian areas of lakes, rivers and wetlands, and coastal and lowland forests.</p> <p>(e) Avoidance or mitigation of land uses or developments resulting in removing or modifying indigenous vegetation or habitats.</p>