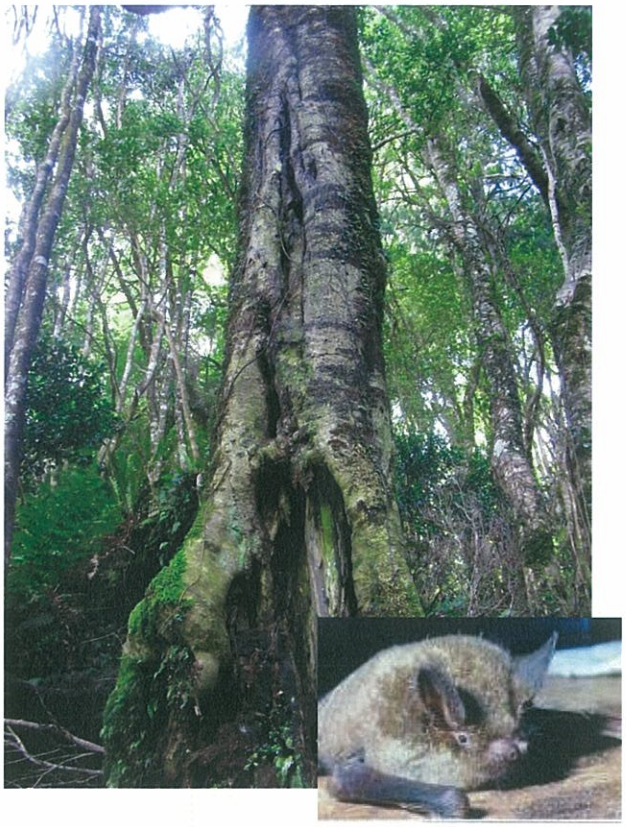
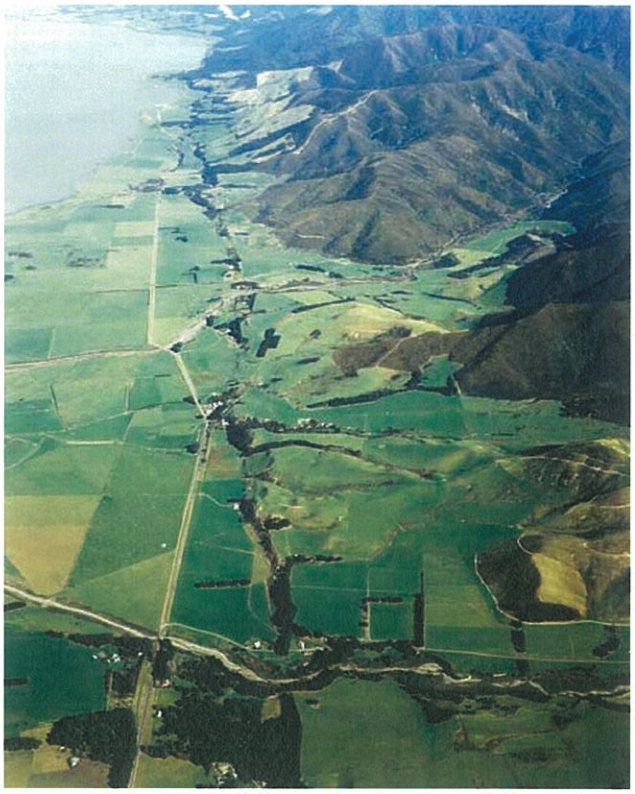
Wairarapa Biodiversity Strategy





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Wairarapa Biodiversity Strategy

Introduction

Welcome to the Wairarapa Biodiversity Strategy. This strategy recognises the importance of indigenous biodiversity to the residents of, and visitors to, the Wairarapa. It outlines the strategic approach and suggested actions needed to achieve greater protection and awareness of indigenous biodiversity on council land, privately owned land and in the community. In other words, it leads us through the improvements and changes everybody can and need to make to ensure that indigenous biodiversity, special and unique to the Wairarapa and New Zealand, is available for current and future generations to use and enjoy.

There is considerable concern about the decline that has been and still is occurring of indigenous biodiversity regionally and nationally. While, like most of New Zealand, the Wairarapa has lost much of its original vegetation cover many valuable natural areas still exist, not just in the crown estate, but also on private land due to the forethought of many landowners.

There is a legal requirement for Territorial Authorities (TAs) to protect indigenous biodiversity. The Resource Management Act 1991 (RMA) requires that TAs recognise and protect significant indigenous vegetation and significant habitats of indigenous flora and fauna.

The Wairarapa Combined District Plan (WCDP) outlines the policies, rules and methods relating to indigenous biodiversity that have been agreed upon by the community as part of the district plan development process over the past four years.

One of the methods in the WCDP, in conjunction with other key agencies, is to write and implement a biodiversity strategy. This strategy will establish a programme of action for the identification and protection of significant indigenous vegetation and significant habitats of indigenous flora and fauna in the Wairarapa, particularly on private land.

The strategy is in several parts. Part One describes indigenous biodiversity and outlines why we need to identify and protect it. Part Two outlines the strategic approach. Part Three outlines proposed actions for the Councils to take when implementing the strategy. Part Four covers biodiversity in the Wairarapa, biodiversity loss, threats to biodiversity, policy and legislation affecting biodiversity and background information about current data sources.

Within this framework there are three overarching themes to this strategy:
The first theme is the implementation of best practice indigenous biodiversity management within the Councils' infrastructure. Councils must show leadership by proactively managing public lands and ecological infrastructure to include the protection, maintenance and management of biodiversity values. Failure to adopt best practice can undermine the Council's ability to advocate for change amongst other landowners and the community.

The second theme is the identification and protection of indigenous biodiversity on private land. Statutory protection is currently achieved through the listing of Significant Natural Areas (SNAs) in the WCDP combined with a set of rules. Protection cannot be achieved through regulation alone, though it is important that some regulatory provisions remain to ensure a minimum 'bottom line', for example, the vegetation clearance rule in the WCDP. The Councils recognise that landowners are often willing to be responsible for looking after and conserving biodiversity

values, though effective and sustainable management can often require financial investments beyond their means. Thus, this strategy is based upon working together to achieve good biodiversity outcomes while respecting individual property rights and recognising a variable capacity to respond.

The third theme is to involve the community through awareness and education. The Councils need to support and inspire the community and encourage responsibility and ownership for indigenous biodiversity in their neighbourhoods.

As part of the WCDP, it has been agreed that a biodiversity survey of the Wairarapa will be completed to identify areas containing indigenous biodiversity value. It is not the intention of the Councils to require that any areas assessed through the identification process be compulsorily listed in the Significant Natural Area schedule in the Wairarapa Combined District Plan. The Wairarapa District Councils recognise that based on past experience, the listing of Significant Natural Areas and Recommended Areas for Protection in the Wairarapa Combined District Plan would create a barrier between landowners and the councils. Rather, the information collected from the survey will be used by the Councils to provide a more accurate picture of indigenous biodiversity in the Wairarapa and a basis for establishing priorities for protection. The results of any identification process may also be used to assess the level of financial or other assistance by the Councils' to landowners for the protection of identified areas. Therefore, a combination of measures has been developed in this strategy to make it easier for landowners, the community and the councils to ensure that indigenous biodiversity is identified and protected.

The Councils, in adopting this Biodiversity Strategy recognise that our combined efforts and resources can accomplish much more in partnership than as individuals or single organisations.

The Biodiversity Strategy covers land, habitats and ecosystems within the jurisdiction of the three Wairarapa District Councils. It goes to the Mean High Water Springs mark on the coast. It does not cover the marine environment, marine reserves or mataitai but it does cover the freshwater environment characterised by lakes, wetlands, rivers and streams.

This strategy is a non-statutory document but has been written with existing policy and legislation in mind.

Part One
1.1: The Councils' Vision for Biodiversity

The Wairarapa District is a community that works together to protect, maintain, restore and celebrate the value of indigenous biodiversity for the benefit of current and future generations.

1.2: Goals of the Biodiversity Strategy

The goals have been designed to align with the goals of the Wairarapa Combined District Plan and the goals of the New Zealand Biodiversity Strategy.

1. Identify, protect and maintain the best indigenous biodiversity that remains;

2. Restore the natural character of degraded indigenous habitats and ecosystems;

3. Enhance public awareness, understanding and support for indigenous biodiversity;

4. Encourage, celebrate and support further action by landowners, communities and iwi to protect, maintain and restore biodiversity;

5. Increase the use of indigenous species in modified environments;

6. Work closely with other organisations to ensure the conservation of Wairarapa's indigenous biodiversity;

7. Encourage research and ongoing monitoring.

1.3: The Importance of Indigenous Biodiversity

Biodiversity describes the variety of all biological life or living things like plants, animals, fungi, micro-organisms, and the places they live on land, or in water. Biodiversity includes everything from the genes of individual species, the ecosystems they are part of and the essential interactions between these components that maintain life for all of us. It is the diversity of all life on earth.

Rich and diverse biodiversity is essential for the healthy functioning of ecosystems. These ecosystems underpin the natural services vital for continued human existence and well-being. This includes the air we breathe, the water we drink and the soils that provide fibre, food and timber.

Indigenous biodiversity, the focus of this strategy, is biodiversity which is endemic or native to specific localities, regions, districts, islands and countries, in this case the Wairarapa and New Zealand.

New Zealand's biodiversity is the inspiration for our national icons, the kiwi, silver fern and koru. No other country can claim these icons as theirs. These iconic species along with a large portion of our biodiversity are unique (or endemic), to New Zealand, which makes them special. These endemic species have a high conservation value because of their uniqueness and because they cannot be conserved in nature anywhere else in the world.

New Zealand, with over 80,000 native animals, plants and fungi, is regarded as a significant contributor to global biodiversity. Ten percent of the worlds plant biodiversity is found in New Zealand.

Biodiversity is also New Zealand's biological wealth. Much of the production of the New Zealand economy is based on the use of biological resources. These include the production of raw materials (principally food and fibre), purifying water, decomposing waste, creating and maintaining soils, providing pollination and pest control and regulating local and global climates.

It is also important to maintain indigenous biodiversity as it provides for other 'goods and services' to be supplied in the future: a new drug or cure for diseases, or new food and fibre sources.

Historically, these ecological services and benefits have been taken for granted because they are provided free by nature. Unfortunately, due to the accepted practices of the day, this has resulted in many of our indigenous species and ecosystems being under threat. Some of New Zealand's indigenous flora and fauna are already extinct while others are acutely threatened.

However, there are some great projects already underway in the Wairarapa, on both private and public land to protect remaining areas and improve existing habitats so that native plants and animals have a chance at long term survival.

1.4: Biodiversity Related Policy, Legislation and Strategies

The Wairarapa Biodiversity Strategy sits within a framework of legislation, national strategies and guidelines and regional policies. Some, like the Resource Management Act 1991 (RMA) have a direct regulatory impact and others suggest non-regulatory methods and processes to protect and maintain our biodiversity.

Under the RMA local authorities must recognise and provide for the protection of significant indigenous vegetation and significant habitats of indigenous fauna. Policies and methods must be included in district plans. The Wairarapa District Councils therefore, have a mandate requiring them to protect significant indigenous biodiversity. Implementing this Biodiversity Strategy means the Councils are working towards achieving their legal obligations.

The key legislation, policy documents and strategies affecting this strategy are:
1. The Resource Management Act 1991;
2. The Regional Policy Statement for the Wellington Region;
3. The Wairarapa Combined District Plan 2008;
4. The New Zealand Biodiversity Strategy 2000; and
5. National Priorities for Protecting Rare and Threatened Native Biodiversity on Private Land

1.5: Role of the Wairarapa District Councils

One of the Councils' role is to act as a regulator and implement the rules in the District Plan. It is also important that the Councils act as a funder, facilitator, collaborator, partner, provider, advocator and to show leadership by taking an active role in encouraging the protection of indigenous biodiversity on private land and in the community.

Some of the actions the Councils have agreed to undertake, as indicated in the WCDP, are:

- identify significant indigenous vegetation and significant habitats of indigenous species;
- provide incentives and information to landowners and the community for the protection of indigenous biodiversity;
- support and assist others to apply for funding for indigenous biodiversity projects
- seek external funding for indigenous biodiversity projects
- implement best practice by protecting, maintaining and enhancing indigenous biodiversity on Council managed assets;
- manage the effects of land use activities upon indigenous biodiversity to ensure sustainable management;
- ensure robust monitoring of, and compliance with, any regulations affecting the protection of indigenous biodiversity;
- promote awareness of the regions indigenous biodiversity through working with the community, landowners and iwi; and
- to achieve this, provide resources and maintain a budget to implement indigenous biodiversity protection and management activities;

1.6: Role of Others

There are many and varied landowners, conservation groups, government agencies and advocacy agencies in the Wairarapa region with an interest in indigenous biodiversity. In their own way, they all have a key part to play in the protection and restoration of indigenous biodiversity. It is important that the District Councils work collaboratively with these individuals and groups, sharing ideas and resources. It is equally important the these agencies, groups and individual landowners show support for the Biodivresity Strategy and council initiaives.

Much of this strategy's success relies on the coming together, communication and support of the many individuals and agencies to achieve the common goal of protecting our indigenous biodiversity.

Part Two
2.1: The Strategic Approach

Landowners, the community, the councils and other agencies have made progress towards the protection of indigenous biodiversity in the Wairarapa. The challenge now is to build on this progress and keep the momentum going.

In response to this challenge and to meet Councils' obligations under the RMA and to satisfy community expectations as agreed in the WCDP, the Councils propose to pursue the following approach for the protection of biodiversity values:

1: Survey and identify areas in the Wairarapa with indigenous biodiversity values, not already legally protected, and work with private landowners on a voluntary and collaborative basis to protect areas of indigenous biodiversity on private land;
2: Establish an assistance package to encourage landowners to protect and manage areas of biodiversity value on private land;
3: Councils to incorporate indigenous biodiversity principles and practices into Council policies and infrastructure; and
4: Councils to support initiatives by the community to restore and maintain indigenous biodiversity.

The voluntary, collaborative approach came about when it was recognised that listing an area identified as having indigenous biodiversity values in the Significant Natural Area Schedule of the WCDP is not the only or best way to achieve the protection and maintenance of biodiversity values. The WCDP contains regulatory methods to limit activities that have the potential to adversely affect remaining indigenous fauna and flora habitats. The current rules around Significant Natural Areas (SNAs) and the listing of areas in the WCDP Schedule of SNAs, provides a layer of legal protection against a change in land use such as the clearance of forest or bush areas. The experience of other TLAs with the compulsory listing of significant indigenous biodiversity in the District plans crated a barrier between councils and landowners.

In addition, a listing in the SNA Schedule meant the land identified as Significant received recognition in the WCDP but no associated conservation management is required or implemented to ensure this value was maintained. Without fencing to control stock and vehicles, and no pest management (plants and animals) and other management techniques, in 10-15 years it is unlikely the identified area will have retained the values for which it was originally classified as Significant. The area may still be listed in the WCDP but may be degraded to a level that does not deserve the classification.

Furthermore, and more importantly, when an area is listed in the Schedule, no assistance to the landowner is provided nor is there an obligation for landowners to maintain the biodiversity values identified. The Councils recognise that to achieve meaningful protection, there must be a benefit to the landowner as well as for the area that has been recognised as having indigenous biodiversity value.

There are benefits to all sectors of the community, including landowners, in having areas of biodiversity identified, as those areas could be prioritised and used to determine the allocation of any incentives or funding assistance.

2.1.1 Biodiversity Survey

A priority in the Wairarapa is the identification of remaining significant indigenous vegetation and significant habitats of indigenous fauna particularly on private land.

Protecting the best of what remains is not only fundamental to preventing further loss of good indigenous biodiversity, it is also the most cost-efficient approach. The financial cost of protecting an area from further loss, in terms of labour and on-going management, is significantly lower than the cost and time involved in restoring or reconstructing lost or degraded habitats and ecosystems. The identification process also has to be aware of the need for natural areas which act as buffers and corridors to the better value areas. This means that areas of apparent lesser value may have greater importance in terms of their connectedness to other areas.

The Wairarapa Biodiversity Steering Group has adopted the following recommended survey approach.

To focus on existing information and groundtruthing, where necessary, the Recommended Areas for Protection (RAPs) including sites of High, Moderate High and Moderate Importance, as identified in the Protected Natural Areas Reports (PNA) (see 4.7). It is expected that this work would be contracted out. A proportion of the 'survey' can be done prior to the actual ground truthing and appointment of contractors. Confirmation of those areas which have been legally protected can be managed in house. In addition, there is information known by members of the community and staff of local agencies. It is important to tap into this knowledge prior to surveying. This information will also provide valuable updates to existing data.

The Aorangi Ecological Area was not surveyed as part of the PNA programme, so a complete survey of this area would be required. The area is smaller than the other two ecological districts and the majority is a State Forest Park, so the cost would be reasonable.

It is important to note that the implementation of this Strategy is not dependent upon completing the survey. It is envisaged that the survey could take up to two years to complete. There is enough information available currently to start liaising with willing landowners and plenty of other actions that can be implemented in the interim for the protection of indigenous biodiversity.

2.1.2 Protection Assistance for Landowners

It is envisaged that the survey results will identify two categories of indigenous biodiversity – that which reaches a certain 'significance threshold' and that which does not but which has an indigenous biodiversity value that a landowner may be interested in protecting. The overall objective of the assistance to landowners is to encourage landowners to enter into legal protection of the identified areas, mainly in the form of covenants. It is understood that some landowners may be willing to protect legally and others may not, therefore the level of benefits or assistance will be aligned with the level of protection. Landowners who protect identified area(s) with permanent legal protection will receive more assistance than those that choose other options.

There is no requirement for landowners to have identified areas listed in the WCDP Schedule of Significant Natural Areas. However, this option is still available to landowners and the councils will recommend listing in the Schedule, if it is in the interests of the wider community. Those areas that are already listed will remain in the Schedule. It is important that any assistance package applies to those Significant Natural Areas already listed.

The following options outline the type of incentives and assistance for landowners who have areas of indigenous biodiversity identified on their land. Details of each options are to be determined but should be dependant on the implementation of a Management Plan for the identified area to qualify for any council assistance.

1: Where an area is identified with significant indigenous biodiversity value and the landowner agrees to legally protect it then the councils will assist with the process to covenant the land. The council should assist with a portion of the landowners fencing costs. Rates remission should also be provided. It is likely that other benefits could be included, for example assistance with pest control and assistance to apply for funds through other agencies.

2: Where the area identified has significant indigenous biodiversity value but the landowner prefers not to protect through a legal covenant, then a Memorandum of Understanding (MoU) or Voluntary Conservation Agreement (VCA) could be entered into. The MoU / VCA would be for the term of the current tenure. There would be some benefits in terms of rates remission and assistance with other costs but to a lesser degree than if the area was protected legally. The landowner would be encouraged to undertake legal protection prior to selling, as the MoU / VCA would not extend to the next owner. Assistance should also be provided to landowners for funding applications from other agencies.

3: Where the area identified has indigenous biodiversity value which is not significant but the landowner is interested in protecting it legally, then the council will provide assistance with applications for funding from other agencies. There may also be other assistance available for e.g. reimbursements for fencing and pest control.

4: Where the area is identified as having indigenous biodiversity value which is not significant but which the landowner is interested in protecting but not legally, again an MoU can be entered into. The MoU at this level will have some benefits attached to it but at a lesser degree than if protected legally.

5: Where it is believed that the area has outstanding indigenous biodiversity value and it is paramount that it be protected in perpetuity, there is the option of a land swap, lease or purchase. These options are reliant on the biodiversity value and the willingness and ability of other agencies to be involved in the funding of the purchase or swap or lease.

6: In addition to the above incentives for landowners to protect areas with indigenous biodiversity value, the Wairarapa Councils could establish and manage a small general contestable fund to assist with pest control, fencing, site preparation or plant purchases for indigenous biodiversity maintenance and restoration projects. This fund would be open to landowners and community groups with exact details to be confirmed.

2.1.3: Inclusion of Biodiversity Principles in Council Infrastructure and Policy

The Councils are in a good position to lead by example and it is important they do so as it will strengthen their ability to promote the protection, maintenance and restoration of indigenous biodiversity in the community. It is recommended the Councils incorporate indigenous biodiversity principles and practices into Council policies, processes, management, and infrastructure. It is not expected that there will be a big cost associated with including these principles. Most of the principles and actions can be phased in as part of normal operations and when contracts come up for review.

2.1.4: Maintenance, Restoration and Community Awareness/Education

In addition to the identification and protection of Indigenous biodiversity on private land, the Councils have also undertaken to maintain and enhance indigenous biodiversity. Methods for achieving this in the WCDP are to restore areas that may have become degraded, to raise community awareness and knowledge of indigenous biodiversity and to coordinate with other agencies and groups.

2.1.4.1 Maintenance

Protecting an area of biodiversity value is more than a matter of fencing and forgetting. It is also about maintenance. Regular checking and fixing of fences, ensuring any pests, plant or animal, are eliminated or kept to a minimum are all key components of maintenance. Completing these activities will improve the likelihood that the area maintains its value. Maintaining an area once it is protected is also more cost effective than restoration. Part of the Council strategy is to support maintenance efforts where ever possible through financial and non financial assistance.

2.1.4.2 Restoration

Restoring degraded habitats and restoring connections between isolated fragments of natural ecosystems whether it is wetland, duneland or forest, is important for indigenous biodiversity in the Wairarapa. It is increasingly recognised that isolated fragments are at risk from threats like edge effects or the area may not be big enough to sustain a viable population of a species and the biodiversity slowly dies. The network of streams and rivers in the Wairarapa provide excellent corridors between sites of indigenous biodiversity. Work is already underway by landowners, through the Dairying and Clean Streams Accord, and many community groups to restore stream sides with native plantings. These plantings aim to improve water quality and the habitat of native freshwater species as well as providing corridors for the movement of plant seeds and bird species. The Councils are keen to build on progress and support further initivatives.

2.1.4.3 Community Awareness and Education

Many Wairarapa residents understand the importance of protection, maintenance and restoration of indigenous biodiversity and are working towards the sort of practical management that will make a difference. The Councils', through this strategy, want to build on this and achieve an even greater awareness and understanding of the importance of biodiversity and provide better assistance for community groups. It is recommended that the Councils' publish a flyer or brochure explaining the vegetation clearance rules, produce information on 'caring for biodiversity in your neighbourhood' and publishing information on the web about indigenous biodiversity in the Wairarapa and how to get involved.

2.2: Monitoring

It is important to monitor the Biodiversity Strategy to ensure that the required outcomes are being achieved. The WCDP lists the following as Anticipated Environmental Outcomes in the Indigenous Biodiversity Chapter.

- Permanent protection of all the Wairarapa's significant natural areas from the adverse effects of use, subdivision and development with the majority as a result of voluntary landowner initiatives
- Greater public awareness of the importance and vulnerability of the Wairarapa's natural areas and biodiversity values
- Maintenance and enhancement of the biodiversity of the Wairarapa's indigenous flora, fauna, natural habitats and ecosystems
- The sustainable management of the Wairarapa's natural areas and ecological linkages.

To establish whether these outcomes have been achieved and positive changes are occurring, a robust monitoring programme is required. Initially, the number of hectares legally protected, the number of new hectares protected, the number of MoUs / VCAs entered into, the number of plants planted, changes in the number of native birds observed and the total spend for the initial implementation period should be included as a minimum for monitoring purposes. However, it may be necessary to include other measures for example the number of RAPs legally protected and the total hectares of specific types of habitat or vegetation protected and hectares protected where <20% of indigenous cover remains. Including these measures will indicate whether the right mix of biodiversity is being protected.

2.3: Strategy Review

This strategy is made up of actions that need to be implemented to deliver the vision and achieve the stated goals and outcomes. The Biodiversity Strategy is premised on a collaborative approach with voluntary participation by landowners in an encouraging and supporting environment. For this non-regulatory approach to succeed, the Biodiversity Strategy relies heavily on landowner input and willingness. To measure the success of this approach, it is recommended the Strategy be reviewed after three years. The Technical Advisory Group should devise the criteria to measure the success of this voluntary approach through the establishment of targets. A target could be 'to have X number of hectares protected by 20XX and X number of hectares protected by 20XX.

After the strategy has been implemented for three years, if the targets and other agreed criteria have not been met, Federated Farmers have agreed that the Councils may revert to a regulatory approach. Should this happen, SNAs will be identified and listed in the WCDP Schedule. The assistance package should also be reviewed but the recommendation is that the assistance package to protect biodiversity values be retained.

2.4: Strategy Implementation

To implement this strategy four key actions need to happen:

1: A person to drive the project
As noted above, this strategy is taking a non-regulatory approach. For this approach to succeed, however, it is important that there is a Biodiversity staff member within the councils to ensure its implementation (see 3.1.1).

2: An implementation plan
This document outlines the strategic approach the councils intend to take to meet their obligations in the Wairarapa Combined District Plan. It does not contain the details of any specific programmes as these are dependant on adoption by the councils and the provision of resources through the Long Term Council Community Plan and / or Annual Plan process. Part Three of this plan contains a range of possible actions. There is a need to develop a succinct, prioritised and staged Implementation Plan to inform the councils' annual planning process and ensure the appropriate levels of funding are provided for.

3: An assistance package (financial and non financial)
The fundamental approach of this strategy relies less on regulation and more on a collaborative approach between councils and landowners. This approach has been identified as the most effective way to implement the biodiversity objectives of the Wairarapa Combined District Plan. However, for this approach to succeed it is critical that some form of assistance package is created and made known to the community. A number of assistance programmes provided by central government already exist. Supporting these agencies (rather than creating new programmes) is an effective way of implementing the strategy.

4: A survey to identify areas of biodiversity value in the Wairarapa District
Implicit in the approach taken to indigenous biodiversity by the Wairarapa Combined District Plan and this strategy, is the need to better understand the biodiversity resources of the Wairarapa. It is only then, that priorities can be determined in relation to, for example, the levels of financial support for protection. The survey process, if undertaken skilfully, has the potential to raise awareness of the area's biodiversity and engender enthusiasm for protecting and enhancing it.

It is recommended that a survey be completed to identify and prioritise the remaining areas of indigenous biodiversity. However, the survey is not the key to the strategy. There is sufficient information available already for a start to be made on protecting biodiversity. Many of these are cost effective and include applications for funding to complete the survey. See 3.1.1 and point 2 of 3.1.2

Part Three
3.1: Possible Actions for Inclusion in Implementation Plan

These are the possible actions the councils can take to implement the strategy.

3.1.1 Appointment of a person
It is important to appoint a person to drive the implementation of the strategy. Without this person, the strategy is unlikely to maintain the current impetus. This person can implement the less costly actions while applying for funding for the survey. Examples of actions that could be undertaken while applying for survey funding are: approaching landowners with RAPs who responded favourably to the 2005 WCDP letters; establishing consistent and worthwhile rates remission; initiating community awareness activities; establishing a small contestable fund for landowners; publishing the Vegetation Rules in plain English brochure; making funding applications on behalf of the councils and landowners; researching and writing the background work for Memorandums of Understanding / Voluntary Conservation Agreements and the inclusion of best practice biodiversity in the Councils' infrastructure.

3.1.2 Identification and Protection of Indigenous Biodiversity on Private Land

1: Conduct a survey to identify areas with indigenous biodiversity value in the Wairarapa based on the recommendation in the Biodiversity Strategy (see 2.1.1).

The selection criteria for identifying those areas with indigenous biodiversity value, will need to be agreed. Recommend the Technical Advisory Group coordinate this based on the criteria in the WCDP.

2: Identify and follow up those landowners who showed a favourable response to the June 2005 WCDP letters regarding the inclusion of the Recommended Areas for Protection (RAPs) in the WCDP. This can be completed prior to the main survey. Any assistance package would need to have been established so it could be offered to landowners.

3: Prioritise the areas identified in the survey and initiate discussions with landowners. The initial approach should be in the form of a report outlining the results of the survey. It is essential that this report explain why the identified area is important.

To assist in the prioritisation, it would be useful to map areas already protected with those identified. The map should include existing covenants and reserves, ecological districts, District Council boundaries, rivers, roads and railway tracks. Inclusion of RAPS including areas of High, Moderate High and Moderate importance would show areas where there is less protection than other areas and will contribute to identifying priority areas to start with. This can be done as a desktop exercise using council and other agency information.

3.1.3 Process for ground truthing

Check to make sure that a) area is still there and is complete and b) area has not been protected in the interim. Arrange a time to visit, send confirmation with a photo of person doing the survey. Arrange access to property, possible hazards and duration needed to complete survey. Explain that the District Councils will pay for the survey as part of the Biodiversity Strategy. Follow up report to include boundaries, indigenous biodiversity values, justification for indigenous biodiversity value. As this survey process is to be widely agreed and advised, if area surveyed meets the criteria for protection, it would be appropriate to include general information in the report outlining possible protection options, cost estimates, funding agencies and contacts.

3.1.4 Councils Leading by Example

As explained earlier in the strategy, it is important that the Councils lead by example as it will strengthen their ability to promote changes in the community. Listed here are some of the actions the councils can take;

- Promote the planting and conservation of threatened plants. Councils to take a lead role in the use of rare and endangered plants on council lands including roundabouts and pedestrian buffers. Use endemic / rare plants in landscape planting to showcase the unique character & form of plants and enhance council vegetation displays. Link with DOC Plant Conservation Strategy and Wellington City Council's use of rare plants on roundabouts.
- Align asset management plans and contract documentation with the Biodiversity Strategy
- Incorporate biodiversity principles into Parks and Reserves, Street Tree Policy and Waste Water, Code of Practice and other policies. Amenity planting to include 60% or greater native plants including council building plantings.

- Incorporate Principle Nine of the NZ Biodiversity Strategy into the Councils' processes. This principle is that "priority should be given to conserving indigenous biodiversity over introduced species when making management decisions." This covers protection of native trees, planting of native trees and protection of waterways.
- Councils to phase in ecosourcing of native plants in supplier contracts by a specified date. While there are already ecosourced plants available in the Wairarapa it is important to phase this requirement in so suppliers and contractors have time to prepare. This has the added benefit of supporting local businesses and the local economy.
- Review compliance mechanisms to ensure council covenants are implemented and monitored.
- Councils to review the Rates Remission process for protected land. Policies between district councils are the same but interpretation and implementation is different resulting in anomalies. In its current form rates remission is not a worthwhile incentive and not part of the consideration when covenanting.
- Strengthen consideration for indigenous biodiversity when processing resource consent applications for new developments by incorporating best practice. For example retaining streams in a natural state 'day lighting' culverts, ensuring fish passage and protecting and restoring riparian margins. Include mandatory percentage of (preferably ecosourced) native plants for amenity areas. Use 'Plant me instead' book and 'be the difference' web site as initial discussion points with developers.
- Investigate if there is any indigenous biodiversity value on the Councils holding paddocks. If there is, work to protect the value. If the paddocks have no biodiversity value identify whether the neighbouring properties do. If yes, use the holding paddocks to negotiate with neighbouring landowners for area of biodiversity to be protected. If no biodiversity value on holding paddock or on neighbouring land then sell paddocks and use some of the funds to establish budget for biodiversity incentives, assistance, restoration or awareness programmes.
- The Councils to review support of the QEII covenant scheme. Tied in with the incentives programme, it may be better to provide financial support to an agency which already has an established structure. More cost effective to support existing systems that establish new ones. Look at allocating funding for a portion of landowner fencing costs; look at providing some funding for Wairarapa district QEII covenants.
- Identify and prioritise any council-owned lands with indigenous biodiversity values that could be protected. Examine options for legal protection and management of biodiversity e.g. stand of native trees at Oxidation ponds.

3.1.5 Landowner Assistance

There is a range of existing incentives available to landowners and the community provided by other agencies, mainly QEII and Greater Wellington. To show leadership and support the councils could introduce an assistance package for landowners for the protection of biodiversityon private land. The following list shows some examples that could be implemented as part of the assistance package:

- Provide alternative means to protect indigenous biodiversity. For example, plant a shelter belt or a band of trees around areas of indigenous biodiversity so stock still have shelter. It could be advice, priority/fast track consent applications if protecting indigenous biodiversity.
- Establish a free technical assistance / advice line in partnership with Greater Wellington, Forest and Bird, Federated Farmers and DOC or consulting ecologists. There may be a charge for an ecologist or botanist to visit if area not already included in district survey.

- Arrange discounts for landowners who want to do work to restore / maintain or protect biodiversity on their land. It could be for purchase orders or discounts. The Councils to negotiate with suppliers. The council to investigate partnerships with the Greater Wellington Regional Council and possibly contribute to their incentive programmes.
- Free seminars / information sessions for landowners with protected land to get together and discuss progress, issues, results. Liaise with QEII.
- Liaise with the Greater Wellington Farm Management Plans division regarding the inclusion of indigenous biodiversity in the farm management plans. Strong support from landowners for this approach. Landowners only have to deal with one organisation.
- Arrange free / discounted eco-sourced plants under some circumstances. Landowners may prefer this assistance rather than financial or other incentives.
- Liaise with other agencies (GW, DOC, Garden Centres, Nurseries) to run workshops and information sessions on 'how to' - what to plant, where, preparation of site, plant, maintenance, restoration.
- Where landowners are willing, community recognition for the projects that have been undertaken on private land should be recognised and celebrated. This may also serve as an inspiration and encouragement to others. Options include and are not limited to: awards programme of recognition, newspaper articles, discounts, vouchers, products. Strengthen partnerships with GW, DOC, QEII, Federated Farmers and the Balance Farm awards.

3.1.6 Community Awareness

The Councils can do many simple cost effective activities that will work towards the outcome of increasing awareness of indigenous biodiversity in the community.

- Use the long fin eel to represent the Biodiversity Strategy implementation which would raise awareness of long fin eel. This eel is our largest freshwater predator. Its natural habitat spans the entire Wairarapa District in the streams, rivers, wetlands and creeks and it is threatened.
- Develop a web page with projects and information about indigenous biodiversity in the Wairarapa. Host on the Masterton District Council site initially with links from the other district council websites.
- Produce brochure outlining the biodiversity provisions and rules in the WCDP. The aim is to assist landowners and the community to understand what the rules mean to them. Disemminate information through othe media as appropriate i.e. web sites.
- Include a biodiversity section councils' newsletters to share success stories.
- Explore opportunities for community involvement in monitoring biodiversity. Link with Forest and Bird and DOC.
- Partner with other agencies education and awareness programmes. Create a flyer / pamphlet for residents living near a stream. Choose a stream that community Groups are already restoring which runs through urban areas. Model it on the Clean up Kahika stream by the North Shore City Council. Put a flyer in letter boxes explaining they live near a stream and information on that stream, link in with storm water pollution, info on stream care, planting etc.
- Use school newsletters and clubs for raising awareness of biodiversity

3.1.7 Other Opportunities

- The three Wairarapa District Councils to work together on an iconic Biodiversity project. The Ruamahunga River would be a great project which has links to other smaller tributaries community groups are restoring. This is a special river which is the backbone of the Wairarapa. It runs through all districts' jurisdictions and when restored would be a showcase. Foster community support or 'buy in' for 'ownership' of project. This is important so community is not perceived as cheap labour. See Waitakere for 'Twin Streams' project. Many options here to work in with other agencies i.e. Kiwi Rail, Transit, Enviroschools, landowners, Iwi and businesses.
- Support and assist any current and future efforts to have Lake Wairarapa recognised as a Ramsar site. Efforts have been made in the past but have been unsuccessful. The area needs some restoration to become eligible again for Ramsar. There are plans to register the area as a Regional Park. The Councils should support any efforts required to achieve this status too.
- Develop partnerships with Kahungunu ki Wairarapa and Rangitane o Wairarapa.
- Where appropriate assist a group of landowners to work on an indigenous biodiversity project together.
- Partner with others to set up an "ecological make over" or "Biodiversity Audit" service for landowners.
- Initiate discussions with Kiwi Rail and Transit to use rail corridors as wildlife corridors specifically where adjacent to other protected areas.
- Councils to encourage local nurseries to supply ecosourced plants for restoration and landscape use. Councils to assist local nurseries in identifying possible sites for seed collection on public / private land.
- Partner with other organisations to provide an ecological audit of orchards and wineries. Research the Greening Waipara project and its suitability for the Wairarapa. Discuss with Landcare Research and educational facilities like Massey or Victoria Universities.
- Liaise with iwi regarding Rongoa Maori Gardens. Assist with educating the the community about the uses of indigenous biodiversity. Use medicinal plants in council planting plans.
- Encourage partnerships with other agencies and landowners for the maintenance of protected areas on private, maori, council or DOC land. There are volunteer agencies that could assist. Some charge and others do not. Conservation Volunteers NZ run an excellent service. There is a cost associated with using Conservation Volunteers New Zealand but there are also a lot of benefits. Specifics would need to be agreed.

Part Four

4.1: Background to the WCDP

The WCDP has two main Biodiversity objectives. They are:

1: To maintain and enhance the biological diversity of indigenous species and habitats in the Wairarapa; and

2: To protect the areas of significant indigenous vegetation and significant habitats of indigenous fauna within the Wairarapa.

These objectives are supported by policies, rules and methods. The exact details are outlined in the WCDP, Chapter 11, Indigenous Biodiversity. However, the main messages are the coordination and sharing of information with other agencies and landowners, incentives for landowners and the community, the reduction of further indigenous biodiversity loss through regulatory approaches, financial contributions and support, and an increase in community awareness.

Protection through regulatory control is provided by the general vegetation clearance rules for indigenous biodiversity and the more stringent vegetation and clearance rules for areas of indigenous biodiversity clearly identified as Significant Natural Areas.

To become a Significant Natural Area, a site must fit certain criteria like rarity, distinctiveness, diversity, representativeness, continuity, ecological restoration and sustainability. These criteria are outlined in Section 11.3.7 of the WCDP. The identified sites are then included in a Schedule in the WCDP and are further protected from large scale clearance by rule 21.1.5 Significant Natural Areas.

The consultation for the WCDP agreed that the rules for Significant Natural Areas would be strict, based on a robust identification process, while the general vegetation rules would allow for the clearing of less significant indigenous vegetation, for farming purposes, with a minimum of regulation e.g. low scrub and regrowth that is already grazed. Clearance of re-growth and areas which are known to have lower biodiversity values is a permitted activity. Where a consent is required, such as clearing of vegetation along a water way, the consent is processed on a restricted discretionary and non-notified basis.

Submissions to the draft WCDP highlighted that the present state of knowledge of the significant biodiversity areas in the region was not adequate to justify the inclusion of many sites in the Schedule. They had not been adequately surveyed to assess the biodiversity values. Only areas in public ownership such as DOC lands and coastal environment sites, which have been ground truthed and where consultation with the landowners had occurred, are currently listed in the WCDP Schedule.

Subsequently the WCDP requires the Councils to identify and protect significant areas of indigenous biodiversity and to prepare and implement a Biodiversity Strategy. An outcome of this strategy would be some areas being identified as significant.

In addition to this, in June 2005, the Wairarapa District Councils sent letters to the landowners with Recommended Areas for Protection (RAPs) on their land. These areas were identified by DOC in 2000/2005 as part of the Protected Natural Areas survey programme in. The councils requested confirmation of the details, if there any covenants on the land and were the owners interested in having the boundaries surveyed. The aim was to include them in the WCDP Significant Natural Areas schedule. The responses were mixed with some supportive and some not so. Concerns included inaccurate boundaries, the inclusion of sheds, houses and barns within the RAP site, and fears about the limitations which may be imposed on their use and ownership if listed in the Schedule. As a consequence, the Councils decided to include the RAPs in the

Proposed WCDP for information purposes only until further survey work had been completed and a Biodiversity Strategy was in place.

4.2: A Profile of Wairarapa's Biodiversity

Prior to human settlement, New Zealand was characterised by indigenous biodiversity that had evolved in isolation, creating many habitats, ecosystems and species.

The Wairarapa District is no different and is made up of many different types of habitat and ecosystem. Wetlands, open spaces, tussock lands, forests and drylands were all part of the landscape to varying degrees. These habitats provided many opportunities for Wairarapa's endemic and native species to live and breed successfully contributing to a viable population.

The vegetation on the Wairarapa Plains was characterised by variety. The whole area was covered with grass, swamp, scrub and forest all combined together like patchwork. There were large areas of kahikatea and sedges or rush swamps in the wetter areas with matai and totara forest in the drier areas. The rivers were abundant with eels, kokopu, koaro and other endemic species with Lake Wairarapa and its environs forming the largest wetland systems in the Lower North Island. There were also abundant numbers of lizard and frog species spread around the region.

The dominant indigenous forest species in the Wairarapa were a range of podocarps in the hill country. The region teemed with native wildlife like kereru, huia, weka and kaka in the forest with takahe and fernbird in the lowland areas. Around the 17th century, these forests were subject to widespread fires. By the mid 19th century the remaining forest was concentrated in a large block between the Waiohine and Waingawa rivers. Smaller forests remained along parts of the Waipou and Ruamahanga Rivers, the west shore of Lake Wairarapa, on Tirohanga Hill and in a band extending south and west from the main forest block through Morrisons Bush to the Tauherenikau river. A large forest on the Western Wairarapa hill country extended into the plains along the Tauwera river. Podocarps and broadleaf species dominated the canopy with mahoe, koromiko, makomako and hebe in the under storey.

The Wairarapa also has a varied coastal environment. There are sandy beaches bordered by dunes; rugged and rocky shorelines that steeply ascend to the mountainous country immediately inland; estuaries which form a pathway through the hills behind, across the beaches and foreshore to the sea. The coastal area also has a number of special features like Castlepoint, Honeycomb Rock, Lake Onoke and Te Humenga Point.

The Wairarapa today is very different with forest cleared and wetlands drained to make way for farming, forestry, viticulture, cropping and urban development. The dominant species of the Wairarapa Plains are now pasture grasses, shelter belts of macrocarpa, pampas grass, radiata pine and riparian willows (such as crack willow). Sheep, beef, dairy farming, cropping are the main forms of agriculture with viticulture increasing.

Primary production is the mainstay of the economic prosperity of the Wairarapa and is dependent on introduced biodiversity for agriculture, horticulture, viticulture and forestry. Therefore, it is important to acknowledge the importance of introduced biodiversity while incorporating

indigenous biodiversity into the modified environment. The challenge for the Wairarapa is to find the balance between the benefits provided by introduced species and the threats some of them present to indigenous biodiversity.

4.3: Existing Protected Areas

The network of protected areas in New Zealand has historically been biased towards higher, wetter, mountainous environments where there is little perceived value or opportunity for alternative uses. Protection is greatly skewed towards these areas of low economic value. New Zealand has 31% of the total land area legally protected for conservation purposes. By international standards this percentage is high. However, as most of that land is mountainous and does not represent the full range of ecosystems that need to be protected, like wetlands, coastal areas, drylands and dune systems, if indigenous biodiversity is to continue to survive.

There are already areas of publicly owned and legally protected areas in the Wairarapa, for example, the Tararua, Aorangi and Rimutaka State Forest Parks and a number of DOC and Council reserves. The distribution patterns of vegetation types means that some are severely under represented (or not at all) in public conservation land and are reliant on private land for continued existence.

Private landowners have also made efforts to protect land and indigenous biodiversity through QEII covenants. While these areas may be representative of the type of original habitats, these protected parcels are only very small fragments in most cases.

Outside of these protected areas many of the remaining areas of remnant forest, wetlands and scrub on the more productive and drier lowland and coastal environments there is little legal protection. These lower environments contain only traces of indigenous cover due to the impact of more intensive land uses. Furthermore, these lowland and coastal environments support a disproportionate percentage of New Zealand most threatened species and habitats.

4.4: Biodiversity Loss

New Zealand has one of the worst records of indigenous biodiversity loss and one of the highest rates of threatened native species in the world. For example, 34% of plants are considered to be at some level of risk, and 37% native birds are listed as threatened by the International Union for the Conservation of Nature (IUCN).

The larger birds were lost when humans first settled, as they were easily hunted. When the moa became extinct the Haast Eagle became extinct as its main food source, the moa, no longer existed.

Using ecological theory the Department of Conservation (DOC) and Ministry for the Environment (MfE) have estimated the risk of loss to remaining indigenous biodiversity, which can be assessed by looking at species-area relationships. Figure 1 shows that as the amount of habitat reduces, the susceptibility to loss of species increases exponentially. With initial decreases in areas (upper right curve in Figure 1), the rate of loss of species is relatively small.

The first to go are the vulnerable species, which are typically large bodied, space demanding, host dependent or are slow breeders.

As habitat area is progressively reduced, the rate of species loss increases and biota in smaller size ranges, as well as more generalist species also become affected. The rate of biodiversity loss increases dramatically when the amount of available habitat drops below 20% of its original extent.

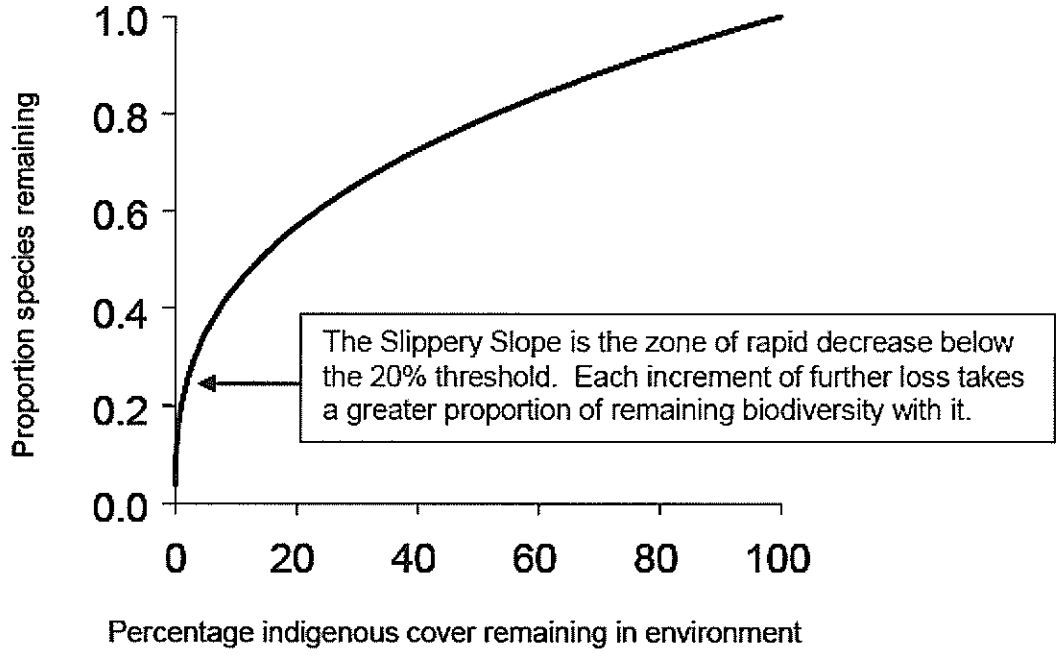

Figure 1: Species-Area relationship showing the Slippery Slope
Source: Protecting Our Places – DOC and MfE.

Protection from predation and competition from introduced animals and plants is essential to avoid any further indigenous biodiversity loss. In the Wairarapa there are large tracts of land that have less than 20% of their original indigenous cover, exposing endemic and native species to the Slippery Slope zone and further biodiversity loss.

Many of our native species are endemic or only found in New Zealand. All three species of New Zealand bat are endemic, as are all four frogs, all 60 reptiles, more than 90% of insects and a similar percentage of marine molluscs, about 80% of vascular plants, and 57% of living terrestrial and freshwater birds (the % is higher if recently extinct species are included). This level of endemism is remarkable internationally, only South Africa and Australia reach a similar level of endemism.

Endemic species are of high conservation importance as they are unique to our country and responsibility for their continued existence is entirely ours; it cannot be conserved in nature elsewhere in the world.

The LENZ map below (Figure 2) shows 6 vegetation classifications in relation to the original vegetation cover in the Wellington/Wairarapa area pre human habitation. The focus in the

Wairarapa will mainly be those areas coloured red and orange on the map. This classification is that land which has less than 20% indigenous cover left. In the Wairarapa, this is the majority of the district. Understandably, this is because it is the most productive land, which is why it will have been cleared of its original vegetation type. Where ever possible, landowners, the community and finances allowing, the councils will be focussing their protection efforts based on the prioritisation of remaining indigenous vegetation within these areas. This does not mean that other areas will not be protected just what the priority is.

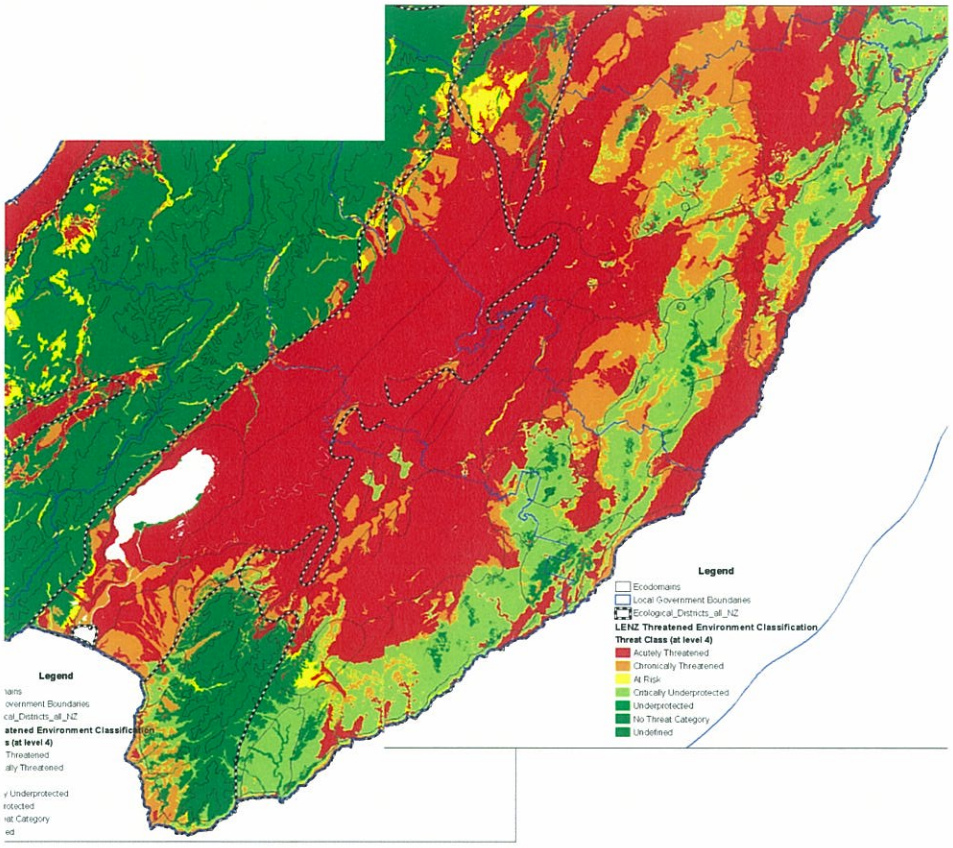

Figure 2: LENZ classifications for the Wairarapa Districts.
Source: adapted from Land Environments New Zealand.

4.5: Biodiversity Threats

New Zealand used to be a country without the problems caused by introduced species. Since humans settled in New Zealand, our biodiversity has been in decline and our arrival has disrupted or destroyed many of the natural ecosystem relationships. Species extinction, loss and disruption of ecosystems and the effects of an increasing number and variety of introduced plant and animal pests are all commonplace. This trend has continued throughout the 20th century, slowed only in part by more active conservation and natural resource management over the last 40 years. Maintaining biodiversity is more that just ensuring the survival of rare and endangered species. It is important that the whole range of ecological services is maintained.

The key threats now facing indigenous species and habitats in the Wairarapa are;

- pest plants
- pest animals
- habitat destruction and degradation
- the quality and quantity of water and
- climate change

Through the Regional Council, DOC and the Animal Health Board, steps are being taken to reduce and in some cases eliminate pests. There has been much anecdotal evidence of an increase in the number of native birds like tuis as a result of the TbVector programme.

Biodiversity in New Zealand is characterised by a high degree of endemism i.e. species which have evolved to a form found nowhere else in the world. This level of endemism is a great, but it does cause a problem. Because indigenous species have developed and evolved in isolation they are very susceptible to introduced pests and predators and their defence mechanisms are limited to endemic predators. The natural process of adapting to introduced pests and predators is extremely slow.

New Zealand now has the highest number of introduced mammals of any country in the world and the second highest number of introduced birds. Plants, mammals and invertebrates have all been introduced to New Zealand, some of which now threaten our native plants and animals.

4.5.1 Pest Plants

The arrival of Maori and Europeans brought plants, both edible and aesthetic, to New Zealand. More than 30,000 plants have been introduced into New Zealand and at least 300 of these have turned into invasive weeds destroying vast areas of bush.

Pest plants are identified as such because of their ability to change the environmental conditions in which indigenous plants grow. These changes include shading, smothering, hybridisation or preventing native species from establishing. Pest plants can also affect vegetation structure and composition, biodiversity, hydrology and nutrient regimes.
The main pest plants threatening indigenous biodiversity in the Wairarapa are, in no particular order:

- Old man's beard *Clematis vitalba.* Smothers and kills all plants up to the highest canopy and prevents the establishment of native plant seedlings;
- Tradescantia *Tradescantia fluminensis.* Smothers ground preventing the establishment of native plant seedlings. Opens up habitats enabling invasion by exotic shrubs and vines;
- Japanese honeysuckle *Lonicera japonica.* Climbs over and smothers most plants from the ground to medium canopy height. Can cause the canopy to collapse allowing invasion by exotic grasses and vines;
- Ivy spp. Including German ivy *Senecio mikanioides*, English ivy *Hedera helix* and Cape ivy *Senecio angulatus.* They are aggressive climbers which smother and kill other plants preventing the establishment of native plant seedlings;
- Banana passionfruit *Passiflora tripartita, Passiflora tarmaniana, Passiflora mixta.* An aggressive vine which smothers trees, reduces biodiversity and encourages invasive pest species like feral pigs which feed on the fruit.

However, not all introduced plants are pests. Sometimes introduced species can provide benefits for indigenous species depending on the situation. A stand of exotic forest can provide complementary shelter and food for native species that have adapted to this environment i.e.

fantail, grey warbler, tui and kaka. Also, in the short term, planting an exotic like tree lucerne will provide a source of food until the native plant food source has established.

4.5.2: Pest Animals

Almost all of the introduced animals have become pests, through competing for food and / or predating on native birds, reptiles and insects, leading to the extinction of some species and a reduction in the range and numbers of many others.

Sheep, goat, pig and cattle browsing and trampling has affected native vegetation. Cattle and deer prefer to browse the broadleaf shrubs and young trees. This has significant effect on the composition of forest areas to which they have access and can lead to a species imbalance in forests. Browsing also reduces the success rate of regeneration and degrades habitats.

Species like cats, dogs, rats, possums, mustelids, mice, pigs and hedgehogs prey on native birds (adults, chicks and incubating eggs), invertebrates and fish.

The pest animals in the Wairarapa with the most potential for adverse impacts on biodiversity and agricultural production are possums, rabbits, stoats, rats and ferrets. Wild and unwanted cats would be next. Possums and rabbit populations are suppressed in the Wairarapa at present, but will always need a lot of surveillance and are costly pests to manage.

Some introduced species, while not classed as pests can have a negative impact on indigenous biodiversity. For example, some introduced ducks have hybridised with native ducks.

The Wairarapa region is indebted to the TB (Tuberculosis) Vector Control programme which is successfully eliminating TB in many areas by trapping possums. An additional benefit from this programme is the tangible increase in birdlife and healthier bush.

4.5.3: Habitat Destruction and Degradation

Habitat fragmentation and habitat destruction are widely recognised as two of the leading threats to the continued maintenance of global biodiversity. The effects of habitat fragmentation on indigenous biodiversity are the size of the fragment area, shape and isolation and edge effects.

The boundaries of small forest fragments are vulnerable to damage from:

- Exposure to wind and sun causing temperature changes (conditions on the outer boundary of a forest are quite different to the environment in the centre of a forest).
- A change in the type of species living at the edge of the forest
- Weeds and pests invading from the edges
- Exposure to new threats from different or changes of land use on adjacent land

These elements affects species individually according to their particular biological requirements. Edge effects can cause loss of forest resulting in plant, bird, insect and reptile populations becoming isolated themselves as a result of a fragmented and isolated forest. With a reduced gene pool species become more susceptible to changes in the environment, are unable to adapt quickly enough and the species then becomes locally extinct.

Most of our forest fragments are separated from other areas of native vegetation by developed land e.g. pasture or urban settlements. This makes it harder for native plants and animals to travel between fragments. Isolated fragments may also lose their variety of plants and animals, as they can die out in areas too small to support them.

The remaining large tracts of forest in New Zealand are mainly restricted to high elevations, while the lowland forests have been fragmented into small, isolated remnants. Fragmentation of surviving forests increases their susceptibility to edge effects, altering the ecological communities they support. Forest cover in the majority of New Zealand landscapes has been reduced below the level of an expected extinction threshold of 30% forest cover in the landscape, and ongoing deforestation threatens to force more landscapes below the critical threshold.

Habitat is not just about land based species, it is also about the aquatic habitat like streams and rivers. Many of our native fish species are migratory, spending much of their lives upstream and migrating to sea to breed. The long finned eel, the only freshwater eel endemic to New Zealand, can live for over 80 years. The changes that can occur in the downstream environment over the years before migration occurs are many; dams are built; turbines, culverts and drains installed; rivers diverted; and wetlands drained. All these create barriers to passage for our indigenous freshwater species and their ability to migrate out to sea, to breed.

4.5.4: Water Quality

Many ecosystems, especially freshwater ecosystems, have become polluted because of urbanisation, industrialisation, and farming practices. The run off from the roads into the storm water means oils and pollutants entering streams and rivers. Industrialisation has led to discharges of industrial waste into rivers degrading water quality. Pastoral run off has also contributed to the degradation of water quality. All these elements have an impact on the native species that live in the water. Water has been removed from streams and rivers reducing the natural flow. Riparian vegetation has been removed in the past altering the natural water temperature by removing the shade which supports our native freshwater species. Restorative Riparian planting is becoming more common with stock being removed from waterways contributing to an improvement in water quality.

4.5.5: Climate Change

The possible impact of climate change on biodiversity in the Wairarapa is little known. An increase in temperatures would affect species like tuatara (there are currently no known tuatara in the wild in the Wairarapa). Other reptile species may be affected but research is still continuing. Increased temperatures and increased rainfall may result in the climate becoming marginal for some species but may make conditions more favourable for others. What we can be sure of however, is that diverse systems are more resilient and resilient systems can better withstand extreme weather events and adapt to changes e.g. land use or farming practice and climate changes. By protecting indigenous biodiversity we will be working towards making our ecosystems more resilient.

4.6: Biodiversity Policy, Legislation and Strategies

International Commitment
New Zealand ratified the Convention on Biological Diversity in 1993 resulting in an obligation to observe the goals of the conservation of biological diversity; i.e. the sustainable use of its components and the fair and equitable sharing of the benefits from the use of genetic resources.

Other international initiatives which New Zealand supports are the World Heritage Programme, the Ramsar Convention for the conservation and wise use of wetlands and their resources.

Our stewardship and interest in Antarctic and the Southern Ocean has led to us being a party to the Convention on the Conservation of Antarctic Marine Living Resources developed under the Antarctic Treaty.

New Zealand is also a party to CITES (the Convention on International Trade in Endangered Species), an international agreement between governments. Its aim is to ensure that international trade in specimens of wild animals and plants does not threaten their survival.

The New Zealand Biodiversity Strategy 2000 – Our Chance To Turn The Tide. As a result of the ratification of the Convention of Biological Diversity, New Zealand made a commitment to prepare strategies to establish national goals to conserve and sustainably use indigenous biodiversity. The Environment 2010 Strategy was released in 1995 setting a clear direction for the protection of indigenous biodiversity. The 1997 the "State of the Environment" report identified just how bad things had become for our biodiversity. In 1998 the Government adopted the 'halt the decline of indigenous species' as one of its ten strategic priorities and wrote a biodiversity strategy. The strategy was adopted in 2000, identifying the conservation and sustainable use of our biodiversity as a matter of national importance

Resource Management Act 1991
The Resource Management Act 1991 section 6(c) identifies the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna as matters in national importance. Section 7(d) requires particular regard to be had to the intrinsic values of ecosystems. The 2003 amendment added a definition of biodiversity and changes to sections 30 and 31 to clarify that managing biodiversity is an explicit function of both regional councils and territorial authorities and the maintenance of biodiversity must be provided for in regional and district plans. Other sections of the RMA also have a bearing on indigenous biodiversity

Biosecurity Act 1993
This Act provides for the exclusion, eradication and effective management of pests and unwanted organisms.

Conservation Act 1987
This act charges the Department of Conservation with specific roles and responsibilities for the conservation of New Zealand's natural resources including indigenous species.

Reserves Act 1977
The Reserve Act sets out the ability to purchase or acquire land for reserve purposes. Purposes include scenic, nature and scientific reserves and the protection of plant and animal species within them.

Wildlife Act 1953
The Wildlife Act protects wildlife throughout New Zealand and its exclusive economic zone. There are some specific exclusions.

Wairarapa Combined District Plan 2008
In 2008 the Draft Wairarapa Combined District Plan was circulated to the Wairarapa community. This plan contains the rules and regulations for activities which may impact on the indigenous biodiversity of the region. It has as one of its objectives the maintenance of indigenous biodiversity; and the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna within the Wairarapa.

Wairarapa Coastal Strategy 2004
A Non-statutory Document which provides a long-term vision for the Wairarapa Coast.

Draft Wellington Regional Plan 2008
To achieve the purpose of the RMA and to promote the sustainable management and use of natural and physical resources. It identifies the significant resource management issues for the region and sets out objectives, policies and methods to address these issues.

4.7: Database and Information Sources

There are several sources of data available which will be useful for the identification sites with biodiversity values. They are listed here with a brief summary.

Protected Natural Areas Survey (PNAs): This was a project set up by the Department of Conservation to identify areas of biodiversity and ecological value which should be protected. It was completed for the Wairarapa Plains and the Eastern Wairarapa ecological districts. It was not done for the Aorangi ecological district. The areas identified are the most representative of indigenous flora and fauna, distinctive ecosystems and landscapes. These surveys were carried out between 1993 and 1995 for the Eastern Wairarapa and in 1996 for the Wairarapa Plains using published and unpublished data and anecdotal information. A total of 68 sites were identified as Recommended Areas for Protection (RAP) with another 540 sites identified which would become more important if the initial 68 sites were not protected. All but one of the 68 RAPs were ground truthed. Since the reports were published there has been no follow up and little is known about how many sites have since been protected or how many sites have been degraded or do not exist any more.

Land Cover Database (LCDB): LCDB is a digital theme-based map of land cover for mainland New Zealand. Sixteen land cover classes are used for most regions with riparian willows added in some regions. The land cover classes address cultural (modified by people) and natural landscapes (such as indigenous forest).

LCDB only provides a coarse assessment of changes in indigenous habitats and ecosystems. Incremental losses of habitat and gradual trends, such as succession and habitat deterioration are unable to be detected. There are also some errors around the mapping and classification of some habitats and ecosystem types. The latest LCDB was released in 2004 based on satellite imagery gathered between September 2001 and March 2002.

The LCDB is a good starting point for identifying areas of indigenous biodiversity from the desktop. Especially if backed up with robust ground truthing and cross referencing with other information available i.e. endangered fauna.

Land Environments of New Zealand (LENZ) Classification system: LENZ is a national environment-based classification of ecosystems mapped across New Zealand's landscape. LENZ uses 15 climate, landform and soil variables likely to influence the distribution of species to classify and map areas that have similar environmental or ecosystem character.

LENZ shows historic (pre human) landcover patte
rns rather than current land cover. LENZ is also not designed to identify uncommon or rare ecosystems with limited distributions.

Threatened Environment Classification (TEC): The TEC tool integrates LENZ and LCDB and data about land protection status to overcome the complexity of trying to juggle 500 level IV land environments, 64 land cover classes and several types of land protection status. Under TEC the majority of the Wairarapa is classified as either Acutely Threatened or Chronically Threatened environments.

New Zealand Threat Classification System: This classification systems lists species according to the level of threat they face. A series of assessment criteria are used to assign taxa to their relevant threat category. The resulting lists of species is updated every three years with major changes in the risk of extinction recorded as they occur. This is a useful tool for assisting in the identification of significant habitats of endangered flora and fauna.

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Matiu Park, Hamish Wesney; Boffa Miskel

Anders Crofoot, Hilary Gubb, Mike Butterick; Federated Farmers

Jason Kerehi; Rangitane ki Wairarapa

Paora Ammunson; Kahungunu ki Wairarapa

Edita Babos, Colin Wright; Carterton District Council

Jack Dowds, Adrienne Staples, Chris Gorman; South Wairarapa District Council

Susan Walker, Grant Norbury: Landcare Research

Nicki Eade; Marlborough District Council

Braden Rowsen; formerly of Kapiti District Council

Contributors to the Biodiversity Brainstorm sessions held in July/August 2008