KĀPITI COAST DISTRICT COUNCIL
me huri whakamuri, ka titiro whakamua

KĀPITI COAST DISTRICT PLAN REVIEW

DISCUSSION DOCUMENT
BIODIVERSITY

The Council is reviewing the District Plan and invites you to have your say.

Be involved and help shape Kāpiti for future generations.

CONTENTS

1 INTRODUCTION

This discussion paper is one of a set of papers which look at a range of sustainability issues that are important to consider during the District Plan Review process. The District Plan is Council's main regulatory tool for managing development, subdivision and land use.

By law, each provision of a District Plan has to be reviewed every 10 years. Much of the current District Plan hasn't been changed since it was completed in 1999.

Some of the thinking in the current Plan is now 15 years old, so it is also important to respond to new issues, opportunities and community direction.

Some of the principles underlying the Plan may remain the same but we also need to think about new pressures on the environment that have arisen or increased in the past decade.

It's also important to respond to "community vision" as expressed in the Community Plan and in Local Outcome Statements from communities such as Greater Ōtaki, Waikanae North, Otaihanga, Paraparaumu Beach, Paraparaumu Town Centre, Raumati Beach, Raumati South, and Paekākāriki.

The Review is carried out as one of Council's obligations under the Resource Management Act 1991(RMA), which has a focus on the sustainable management of natural and physical resources, and management of the effects of activities on the environment.

The intention of these papers is to ensure that the District Plan Review successfully converts a range of concerns and directions into RMA 'speak' without losing integrity.

The Council aims to have a District Plan Review that:

- Addresses implications of significant global issues (including climate change)
- Increases the ability of the community to deal with change, through resilience and innovation
- Reduces pressures on the natural environment and resources
- Increases the ability of people to work and live locally in a sustainable way
- Reduces pressure on people's day to day lives (e.g. cost of travel, noise); and
- Respects Kāpiti Coast culture

We have written this round of Discussion Papers to provide a sustainability framework for discussion and consultation on various aspects of the District Plan Review, and to stimulate discussion and feedback on some of the initial ideas being considered. Topics we have dealt with in this phase include:

1. Global Change: Issues and Pressures
2. Biodiversity
3. Natural Hazards and Managed Retreat
4. Food and Rural Productivity
5. Landscape, Character and Heritage
6. Infrastructure and Essential Systems
7. Urban Form and Transport

Readers are invited to complete the submission form at the end of the paper, supporting conclusions they agree with, as well as offering additional ideas and constructive feedback.

After feedback is received on these discussion documents the next steps in the District Plan Review process will be as follows:

- Publication of additional discussion documents including potential objectives and policies
- Production of the Draft District Plan for consultation, based on community feedback
- Notification of Proposed District Plan provisions for formal public submissions
- Submissions and Further Submissions under the RMA
- Hearings
- Council Decisions (providing some legal effect)
- Appeals to the Environment Court (if any)
- The new District Plan Provisions become Operative (with full legal effect)

For more information on the District Plan Review visit: www.kapiticoast.govt.nz, particularly www.kapiticoast.govt.nz/districtplanreview, where you can find the Scoping Discussion Document (March 2010).

2 EXECUTIVE SUMMARY

This paper discusses the importance of biodiversity for maintaining a healthy environment on the Kāpiti Coast and considers the role of the District Plan in minimising biodiversity loss in the Kāpiti Coast environment.

Biodiversity is central to what sustains us: it is the life on which our own lives depend.

Over the last 700 years 32 per cent of New Zealand's land and freshwater bird species, 18 per cent of sea bird species, and a range of frog, invertebrate, fish, bat, reptile and plant species have been made extinct and many more have been decimated. About 1000 animal, plant and fungi species are now classified as threatened, and once continuous natural habitats and ecosystems have been reduced to scattered remnants.

The loss of biodiversity in Kāpiti is typical of that seen in districts throughout the country. Both Polynesian and European settlement have had an enormous effect on our biodiversity with natural habitats and ecosystems, outside the ranges, being reduced to disconnected fragments on public and private land degraded by human activity and introduced plant and animal pests.

Pressures from settlement and development have resulted in a constant whittling away of our precious natural environment to the point that by 2001 only 300 ha, or 1.8 per cent of our coastal plains were covered in native bush.

This loss provides strong impetus for protecting what is left. What we have is unable to be conserved anywhere else on earth. Further, our biodiversity, including all native birds, plants and ecosystems, is central to Maori culture, and provides identity and a sense of place for all Kāpiti residents.

Kāpiti Island, renowned as one of the few accessible places where threatened species flourish, and where the lost natural world of the mainland can be found, is the jewel in our crown. Rooted in exceptional biodiversity, it is the nationally recognised symbol of our district.

Biodiversity underpins the New Zealand tourism industry, which is our biggest foreign exchange earner. Economists estimate the total value provided by indigenous diversity in New Zealand is double the gross domestic product.

Protecting biodiversity has profound environmental, cultural, and economic benefits that extend far beyond the welfare of native plants and animals. By promoting ourselves as 'The Nature Coast', the Kāpiti district seeks to capitalise on what remains of its indigenous biodiversity.

Nationally, both legislation and policy aim to focus district councils on the protection of vegetation and habitat.

Commitment by Kāpiti residents to recognising and enhancing our biodiversity can be evidenced in the number of community environmental restoration groups in Kāpiti, which has increased from 13 in 2005 to 20 in 2009.

The pressures of development are growing. Development has induced and continued the rapid decline in indigenous biodiversity in the district, and unless it is controlled by good planning it will be the greatest negative influence in the future, conflicting directly with community environmental aspirations, and sometimes thwarting them.

The effect people have on biodiversity can be regulated by the District Plan, because it sets the local regulatory framework for land use, guiding what can or cannot be done, stating objectives and providing policies and methods about how to achieve them.

Areas undergoing restoration should be identified and protected from the adverse effects of development. An additional objective should be to identify areas suitable for restoration that could provide buffers, habitat for protected or threatened species, or ecological services (soil conservation, water quality enhancement, carbon sequestration), or that would increase the area of under-represented ecosystem types.

3 ISSUES, CHALLENGES AND TRENDS

Biodiversity – what is it?

Biodiversity is a term used to describe the range of species in a place, and the range of communities or 'ecosystems' in which they live i.e. the diversity among and within plant and animal species in an environment. New Zealand's biodiversity is characterised by the high percentage of 'endemic' species (those found nowhere else on Earth), and by the variety and dominance of unique birds, epitomised by the iconic flightless kiwi.

Biodiversity is often used as a measure of the health of biological systems. The biodiversity found on Earth today consists of many millions of distinct biological species. "Biological diversity" or "biodiversity" can have many interpretations and it is most commonly used to replace the more clearly defined and long established terms, species diversity and species richness. Biologists most often define biodiversity as the "totality of genes, species, and ecosystems of a region".

Generally species are categorised as being endemic, native/indigenous, or introduced:

- Endemic species - native species found naturally in NZ and nowhere else in the world, e.g., kakapo
- Native/ indigenous species - found naturally in NZ (not introduced by people)
- Introduced species - have been accidentally or deliberately introduced by people. Not found naturally in New Zealand (also called exotic species)

Biodiversity is not restricted to species type (i.e. endemic or introduced), but it is common for introduced species to threaten and out compete species which have uniquely evolved in New Zealand.

It is for this reason that requirements to protect biodiversity in New Zealand primarily focus on the protection of indigenous biodiversity. However, to enable sustainable communities to be resilient and to encourage and future proof our district for potential food production, certain non-indigenous species (e.g. bees, fruit trees) also need to be considered when reviewing the District Plan.

Biodiversity – the range and status of species and ecological systems in a place

Ecosystems rely on biodiversity for their health, and we rely on ecosystems not only for our health and wellbeing, but for our existence. Therefore, ensuring that biodiversity is not jeopardised and the ecosystems are sustainable and resilient is integral to maintaining a sustainable community.

Food and the raw products that feed into commerce are all dependent on ecosystems and their health, as maintained by a wide range of biodiversity. The food, products and services we often take for granted can be categorised as ecosystem services i.e. products that come from ecosystems.

Ecosystem services are the benefits people obtain from ecosystems. For example, fresh water and productive soils.

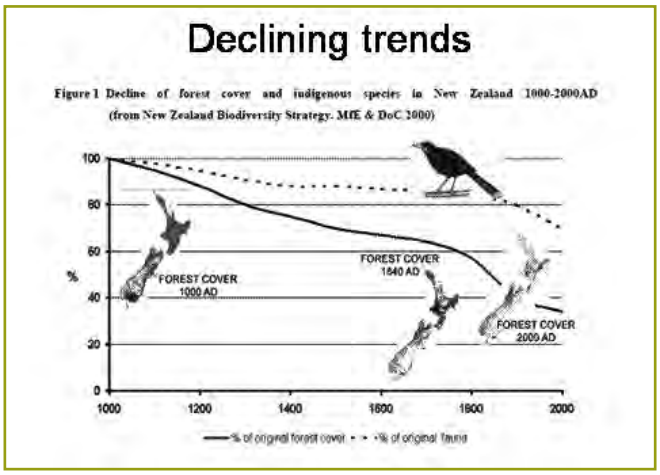
Unfortunately, biodiversity, ecosystems and the natural environment have all come under increasing pressure from both ecological threats such as pests, and development threats such as ecosystem destruction from farm land and subdivision.

How bad is it?

The most comprehensive audit of the condition of the world's ecosystem services was coordinated by the United Nations in 2005. The audit is called the Millennium Ecosystem Assessment (MA)[1], and it found that:

- Over the past 50 years human beings have changed ecosystems more rapidly and extensively than in any comparable period of time in human history
- More land was converted to cropland from 1950 to 1980 than in the 150 years between 1700 and 1850
- Water withdrawals from rivers and lakes doubled since 1960
- More than half of all the synthetic nitrogen fertilizer ever used was applied since 1985
- Over two-thirds of temperate grasslands and Mediterranean forests and over one half of tropical dry forests, temperate broadleaf forests, tropical grasslands and flooded grasslands have been converted, particularly to agriculture
- Over the past few hundred years, humans have increased the species extinction rate by as much as 1000 times over background rates typical over the planet's history
- Much of the degradation is a result of actions taken to increase the supply of specific, mostly provisioning services (food and products derived from plants for example). In particular, increasing the supply of crops, livestock, and aquaculture has led to the degradation of many regulating services (wetlands for example)

[1] The Millennium Ecosystem Assessment (MA) was called for by the United Nations Secretary-General Kofi Annan in 2000. Initiated in 2001, the objective of the MA was to assess the consequences of ecosystem change for human well-being and the scientific basis for action needed to enhance the conservation and sustainable use of those systems and their contribution to human well-being.



The state of ecosystems the world over are in decline, and unfortunately, New Zealand is not faring any better.

Biodiversity in the local context

In both geological and ecological time frames, New Zealand is a relatively 'young' country, which evolved over a long period of time without human or significant mammalian predators. This led to the evolution of unique ecosystems dominated by birds, living in a predominantly forested landscape.

A Takahe chick on Kapiti Island.

When the first wave of human settlement established in New Zealand approximately 1,000 years ago, things began to change. The rate of biodiversity loss rapidly increased after 1840 when European settlement brought more change and more threats to New Zealand.

Biodiversity cuts across all aspects of ecosystem services, which is why it is so important.

During the last 700 years in New Zealand, 32 per cent of land and freshwater bird species, 18 per cent of sea bird species, and a range of frog, invertebrate, fish, bat, reptile and plant species were made extinct. Approximately 1000 animal, plant and fungi species are now classified as threatened, and New Zealand's historically large forested areas (which provide sustainable ecosystems), have been reduced to scattered remnants.

The scale and rate of biodiversity loss in Kāpiti is typical of districts throughout the country. Following European settlement in Kāpiti, the dunelands, lowlands and foothills were rapidly cleared for farming, forestry, settlement or roads. Wetlands were drained, estuaries and riparian margins modified, and lakes and waterways polluted. Only the mountainous ranges retained large continuous tracts of native forest, and these contained a fraction of their original fauna because of introduced predators and browsers such as rats, stoats, cats, deer and possums.

32 per cent of land and freshwater bird species, 18 per cent of sea bird species, and a range of frog, invertebrate, fish, bat, reptile and plant species were made extinct.

The problem that needs to be addressed is biodiversity decline. The District Plan manages effects from land use and is somewhat limited in its ability to reverse the trend of biodiversity decline. However, there are certain things which the District Plan can do, and these are discussed below.

Risks and threats to biodiversity

In New Zealand, biodiversity has continued to decline in spite of the protection of large areas of vegetation and habitat. This is because protecting vegetation and habitat does not necessarily protect fauna, which has continued to decline and suffer extinctions in areas where vegetation and habitat were maintained. This happened to huia and other species in the 19 th century, and to kakapo and others (except on offshore islands) in the 20th century, and it is currently happening to a range of species including kiwi, kaka and weka.

This progressive loss of native fauna is primarily caused by introduced predators, some of which (stoats and cats for example) thrive in pristine habitats without any pronounced effect but the killing of native creatures.

'Edge effects', caused by exposure to the elements, have been found to reduce biodiversity for up to 50m from the edges of forest remnants. Remnants of less than 1ha are completely subject to edge effects. Many forest

A graphic example of edge effects on a native bush remnant.

birds require habitat sizes of hundreds if not thousands of hectares, meaning smaller areas cannot sustain viable populations. That is one of the reasons why the scattered remnants of indigenous vegetation and habitats on the coastal plains of Kāpiti contain little of their original diversity of fauna, particularly of the species that New Zealanders traditionally value the most - birds.

When edge effects, the small size and isolation of remnants, threats from human disturbance, adjacent land use, and animal and plant pests are considered holistically, maintaining biodiversity seems an impossible task, but one too important to give up on.

Protecting and restoring vegetation and habitat fails to maintain and enhance biodiversity if the diversity of fauna continues to decline, or if protection and restoration produce no positive effect on threatened species, or on species that the community values most highly.

Development creeping towards a valued wetland.

Protecting biodiversity has profound benefits – environmental, cultural, and economic – that extend far beyond the welfare of native plants and animals.

Though protecting significant areas of native vegetation, as required by the RMA, prevents their deliberate destruction by people, and is the necessary first step in maintaining biodiversity, it is significantly less than what is needed.

A bush remnant on a Kāpiti farm that is protected as an ecological site, but remains unfenced and continues to be grazed, will continue to degrade and lose biodiversity values, though the legal requirements for its protection are completely satisfied. If the remnant is fenced to exclude stock, but there is no pest animal control, infestations of possums, rats or rabbits will have the same effect. Indeed, there is evidence that fencing bush remnants increases rat numbers, so that the detrimental effects on biodiversity of this species actually worsen after fencing. If the remnant is fenced, and there is pest animal control but no weed control, weed infestations can also reduce biodiversity.

The District Plan is one tool which can be used to manage land use to sustain ecosystems and enhance biodiversity.

Monitoring biodiversity

The monitoring of biodiversity by central, regional and local government has been inadequate to date. The difficulty and lack of monitoring makes it impossible to gather clear evidence on the state of biodiversity in the Kāpiti Coast District today, compared to when the current District Plan was made operative in 1999.

This lack of monitoring is a national problem. For example, research[2] on the effects of post-RMA district planning in the Rodney District and in Waitakere City, found that in Rodney, indigenous forest continued to decline by 2.5% per annum, while in Waitakere the area of forest increased by 0.5% per annum. In both cases the Councils were unaware of the effects of their planning on indigenous forest cover because they had inadequate plan monitoring in place.

Greater Wellington Regional Council conducts species monitoring (birds, pest animals, and environmental weeds) to assess changes in biodiversity values, but mainly on Greater Wellington land, and not in ways that enable any detailed commentary on changes in the status of biodiversity in the Kāpiti Coast District. In Kāpiti, we are only able to assess progress from a number of "coarse indicators":

- Between 2003 and 2008 the area of land either protected or identified for protection by listing on the Heritage Register (including Ecological Sites) of the District Plan increased from 45,100 ha to 45,990 ha.
- The three management incentive schemes created in 2001 (the Heritage Fund, Rates Relief for Conservation Purposes, and the Riparian Fund) have been fully utilised
- The 2009-2010 LTCCP budgeted $48,000 for incentives to manage ecological sites to maintain or enhance biodiversity

Apart from the identification and protection of ecological sites through the District Plan, the incentives mentioned above are the most tangible positive evidence of current Council initiatives improving biodiversity for the Kāpiti Coast District.

An Eco-site listed in the Kāpiti Coast's District Plan.

On a regional scale, Greater Wellington data shows a modest upward trend in native bird numbers, and possum and rodent levels are low enough in key native ecosystem controlled areas (568ha in Kāpiti) to maintain biodiversity, and allow the slow recovery of native plant and animal species. A shift in Greater Wellington's pest animal and weed control strategy, away from focusing on agricultural pests, towards achieving biodiversity gains, should benefit Kāpiti provided the strategy is properly resourced.

Monitoring of specific 'indicator' species (e.g. a specific type of bird) can be a useful way to assess the state of biodiversity in a given area. A keystone species is a species that plays a critical role in maintaining the structure of an ecological community and whose impact on the community is greater than would be expected based on its relative abundance. Observations and bird counts of native birds ('keystone species') can be a useful method of assessing the state of an environment.

Kereru is an example of a locally significant keystone species, which was assessed by the Department of Conservation as being 'threatened' but when reassessed in 2008 was classified as 'not threatened'.

A kereru on Kāpiti Island. A local species whose threat status has changed from threatened to non-threatened, quite possibly through habitat protection and pest control.

Although there is no hard data available about changes in the kereru population in Kāpiti, anecdotal evidence suggests kereru numbers have increased in the last decade. The extent to which protection of kereru habitat in Kāpiti has contributed to this trend is unknown, but even if the contribution was minor, the policy has been valuable, because it has assisted the recovery of a threatened species.

[2] Mark Bellingham in a doctoral thesis submitted at Auckland University in 2008.

4 NATIONAL AND REGIONAL CONTEXT

National Strategy

A New Zealand Biodiversity Strategy[3] was published in 2000 with the goal to halt the decline of biodiversity loss. However, a review of the Strategy in 2005 revealed that these trends were not being reversed, and that their reversal remains a great challenge.

The 2005 review notes successes in particular contexts, such as offshore islands and community involvement in regional and district council projects, and highlighted the persistence of the following negative trends:

- Ongoing loss of rare and threatened biodiversity from private lands
- Dominance of economic drivers that favour the degradation of ecosystems (such as wetlands), rather than their active maintenance
- Adverse impacts of animal pests on threatened species and forest ecosystems
- Serious declines in the status of many acutely or chronically threatened species
- Continuing spread of pest fish, aquatic weeds and a growing number of weed species

The review also noted the lack of data to enable comparisons between 2000 and 2005, and called for the development of standardised monitoring and reporting systems, matched to a system of environmental indicators and environmental performance standards. This would allow local government agencies to assess the effectiveness of policies, plans and management. To date, no such systems or standards have been developed, and this remains a serious problem for local government agencies trying to formulate RMA plans (including district plans) and assess whether plans are working.

Resource Management Act

Section 31 of the Resource Management Act (RMA) states that territorial councils shall have the following functions for the purpose of giving effect to the RMA:

> *"(b) the control of any actual or potential effects of the use, development, or protection of land, including for the purpose of-*
>
> *(iii) the maintenance of indigenous biological diversity:"*

Proposed Regional Policy Statement

The Greater Wellington Regional Council's proposed Regional Policy Statement (RPS)[4] directs local authorities to maintain biodiversity through objectives and policies such as:

- Objective 3: Habitats and features in the coastal environment that have significant indigenous biodiversity values are protected
- Objective 16: Indigenous ecosystems and habitats with significant biodiversity values are maintained and restored to a healthy functioning state
- Policy 22: Identifying indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans
- Policy 23: Protecting indigenous ecosystems and habitats with significant indigenous biodiversity values – district and regional plans
- Policy 46: Managing effects on indigenous ecosystems and habitats with significant indigenous biodiversity values – consideration
- Policy 61: Allocation of responsibilities for land use controls for indigenous biodiversity

Kāpiti Coast: Choosing Futures – Community Outcomes (2009)

The Kāpiti Coast District promotes itself as 'The Nature Coast' and Kāpiti's Long Term Council Community Plan (LTCCP) highlights values the community seeks to protect. In particular, Outcome 1 aspires to providing: "healthy natural systems for people to enjoy".

The community intent specified in the 2008 Community Outcomes Monitoring Report[5] states:

> *"There is a very strong desire for major elements of the natural environment to fundamentally shape the future of the District."*

and

> *"The vision is more than just retaining what is left. It is about restoring bush, streams, rivers and habitat for birds and other species with Kāpiti Island at the centre."*

It is clear that the restoration of biodiversity is at the heart of the community vision and that the intention of national legislation and strategy is to arrest, and eventually reverse, the catastrophic decline of biodiversity. Through legislation and policy, central government has directed local government to play its part in making this happen.

[3] Department of Conservation http://www.biodiversity.govt.ns/picture/doing/nzbs/index.html

[4] http://www.gw/govt.nz/assets/Plans--Publications/egional-Policy-Statement/Proposed-RPS-may-2010-Incorporating-changes-from-Decision.pdf

[5] Kāpiti Coast Community Outcomes Monitoring Report, December 2008. http://www.kapiticoast.govt.nz/Planning/Community-Plan/Outcome-Monitoring-and-Progress/

5 DISTRICT PLAN CONSIDERATIONS

The national and regional policies referred to above indicate that biodiversity is one of the myriad of issues which is required to be included in the District Plan. Ensuring that the benefits of growth and the use of physical resources do not come at the expense of biodiversity is also paramount. This requires the integration of biodiversity maintenance provisions into all aspects of planning policy, and a robust monitoring and compliance programme. Integrated planning at all levels is crucial for a holistic approach to biodiversity protection. This means active engagement with other agencies such as the Regional Council, the Department of Conservation, OnTrack, NZTA and community groups.

Best practice approaches to managing biodiversity through the District Plan

In the absence of a National Policy Statement on biodiversity, individual councils have grappled with how best to fulfill their statutory responsibilities. There are a range of approaches being used across New Zealand, some of which are explored here.

Objectives

Waitakere City Council is widely regarded as a role model for best practice in maintaining biodiversity through its plan. It contains the following objectives:

Objective 2

To protect the City's native vegetation and fauna habitat, including:

- *The quality and resilience of the resource*
- *The variety and range of species and their contribution to the biodiversity of the City*
- *Their ecological integrity*
- *Their healthiness as a potential source of harvest for cultural purposes*

Objective 5

To protect processes of natural regeneration within the City, and promote and maintain links between areas of significant and outstanding native vegetation and fauna habitat, so that their resilience is protected and enhanced.

The Waitakere City Council Plan includes a set of 'anticipated environmental results' for significant native vegetation and fauna habitat, and for ecological linkage and restoration opportunities. These provide clear objectives for biodiversity maintenance, and go beyond the identification and protection of significant native vegetation as required by the RMA. All native riparian and coastal edge vegetation is to be retained, stable or increased populations of native fauna are to be achieved and native vegetation in the 'Green Network' is to be retained to ensure that fragmentation of habitat is avoided.

Strategies/structure plans

The Green Network is a strategy to link natural areas across the city. In addition to outstanding and significant native vegetation, restoration areas are identified and included, recognising existing or potential ecological linkages that could sustain and enhance ecosystems.

Waitakere is using a structure plan process to implement its Green Network. Rural subdivision into lots of less than 4ha is only permitted in areas where a structure plan exists, and the council requires the inclusion of Green Network objectives and rules in the structure plan. Waitakere is progressively preparing structure plans based on water catchments, but individual communities can advance the preparation of a plan for their area by helping to pay for one.

In urban areas 'concept plans' are used for the same strategic purpose for housing proposals, enabling Councils to plan for and secure the maintenance of biodiversity through strict and detailed rules protecting native vegetation.

District Plan rules

Thesis research undertaken at Auckland University by Mark Bellingham identified that district plan rules, combined with 'competent enforcement', are the most effective means of achieving positive biodiversity outcomes.

Transferable development rights

The Western Bay of Plenty District Council uses a system of transferable bonus development rights for native vegetation protection (including wetlands and riparian margins). Additional lots can be created in subdivisions - if native vegetation is protected. In 'lifestyle zones' subdivision is only possible if bonus development rights are obtained. These can be bought off third parties, creating an economic incentive for protecting vegetation. The current market value of a bonus development right is $33,000.

The Waipa District Council also offers transferable development rights for protecting and managing significant natural areas. The current market value of transferable rights in Waipa is $55,000.

These measures address the problem of funding biodiversity maintenance – a stumbling block for councils struggling with a relatively new responsibility.

Regulatory verses non-regulatory measures

Common to Waitakere and Western Bay of Plenty is the use of a mix of regulatory and non-regulatory measures. Coercive regulatory measures that have traditionally proved effective for conservation, such as the protection of identified areas, are balanced with compensatory incentives, and softened with education, advice and support programmes to foster understanding and gain cooperation.

These approaches are intended to balance effectiveness with acceptability. They follow best practice guidelines that recommend that if regulation is used it should be done in a way that is broadly acceptable to the community without compromising biodiversity goals.

The issue of effectiveness rather than acceptability is a crucial one, because the trend of biodiversity decline indicates that acceptability has been the overriding value, and that too often where economic or developmental pressures have been brought to bear, effective biodiversity protection has been sacrificed.

The following non-regulatory provisions support Waitakere's regulations:

- Provision of information and advice
- Assistance with costs (eg costs associated with weed removal and disposal, planting and fencing)
- A covenanting programme that includes the preparation of management plans (and assistance with management plan implementation)
- Rates relief for covenanted land
- Working with nurseries to halt the sale of invasive plants
- Developing a code of practice for eco-sourcing plants

Waitakere has also branded itself as an 'eco-city', with a theme of ecological and environmental sustainability running through its policies and expressed clearly on its website and in other communications. This provides a supportive framework for biodiversity conservation.

The Western Bay of Plenty District Council also uses the following non-regulatory measures:

- A fencing subsidy funded from rates
- A programme of education, monitoring, enhancement and other physical works funded by a dedicated financial funding contribution taken on every new lot created
- An education strategy aimed at schools and community groups

The "green network" approach, used by Waitakere, and the transferable development rights measures used by other councils, are options worth considering when reviewing Kāpiti's District Plan.

What is currently in the Kāpiti Coast District Plan

It is often unacceptable to landowners to prohibit development to protect biodiversity, so it is necessary to reach a compromise. A common compromise is to manage development to minimise damage, and to impose requirements (e.g. resource consent conditions) to mitigate or offset damage that occurs. Unfortunately, due to the fragility of New Zealand's biodiversity, attempts to minimise damage are often unsuccessful.

For example, the Kāpiti Coast District Plan has allowed subdivision and residential development of primary forest remnants. Resource consent conditions allowing only a house site and a drive way intended to protect as much forest as possible have been used, but edge effects and the impact of suburban households has caused severe degradation, and the values of the affected remnants are continuing to decline as wind, sunlight, weeds, domestic pets, noise, light glare, bird strike of windows and illegal pruning take their toll.

The risks of compromising effective protection are also evident at Andrews Pond in Milne Drive, Paraparaumu. This Department of Conservation Scientific Reserve was the best manuka-sphagnum bog in the District until part of it was filled in and adjacent subdivision was allowed that raised the water level, killing the manuka and sphagnum. Although this happened prior to the current rules and standards being applied today, this example highlights the potential effects that the District Plan can have on biodiversity.

Mitigation

Another risk to biodiversity resulting from current District Plan provisions is the common practice of accepting mitigation or "off-setting" for the adverse effects of development on biodiversity. The practice is particularly dubious when natural features that are the unique product of time and place, such as wetlands and primary forest, are sacrificed on the condition that new wetlands will be created or new areas of forest planted. Nothing can replace these features, and given what has

Looking from the Tararua foothills down the Waikanae River to Kāpiti Island – an ecological corridor.

been lost, combined with the international and national priority given to protecting what remains, this practice needs serious reconsideration.

To date, there has been no offset or mitigation for the historical destruction of forests on the coastal plain, or for draining of the vast and varied wetlands that once characterised Kāpiti. The surge in voluntary restoration effort can be seen as a desire to remedy this situation by a community well informed enough to appreciate what has happened, and to respond appropriately.

Another problem with mitigation and "off-setting" which has occurred in the Kāpiti District is the location where it occurs. Creating thin strips of vegetation along roadways, for example, or a pond bordered with native plants in a residential subdivision, does not create valuable habitat, and may result in the destruction of the native wildlife it attracts. If mitigation allows development, then mitigation should occur where it will be genuinely beneficial, and this could be away from the site of development altogether, to ensure protection or enhancement of an area with significant values.

Also, the quality of mitigation needs to be guaranteed by setting clear objectives, rules and standards, and by specifying requirements for monitoring and maintenance at the expense of the developer to ensure they are met.

Plantation forestry

Another issue threatening biodiversity in the current District Plan is the extensive plantation forests of exotic species – mainly *Pinus radiata* – that have been established in the district over recent decades. Many plantations are in the foothills, on steep slopes and in water catchments. Also, many are either adjacent to ecological sites or have areas of regenerating native forest within them.

The harvesting of these forests not only destroys the biodiversity they contain but also has the potential to degrade the biodiversity of adjacent ecological sites, regenerating native vegetation, streams, rivers and lakes, potentially degrading air, water and soil quality. The District Plan currently permits the disturbance, removal, damage or destruction of native vegetation 'where it occurs within an established production forest'.

It is important to note that complying with Council planning requirements and resource consent conditions is consistent with industry best practice, as set out in the New Zealand Forest Owners Association's[6] Environmental Code of Practice[7], but it is up to Council to ensure that requirements and consents are appropriate for the protection and maintenance of biodiversity, and that there is sufficient monitoring of compliance.

Council Staff and members of the community planting along a riparian margin.

Options to consider in the District Plan Review

The effect people have on biodiversity can be regulated by the District Plan, because it sets the local regulatory framework for land use, guiding what can or cannot be done, stating objectives and providing policies about how to achieve them.

State of the environment monitoring and reporting

In reviewing the District Plan, best practice should require a comprehensive information gathering exercise. Subject to funding and time, this could encompass the following:

- Regular surveying of all significant native vegetation in the district to determine changes in health and extent (i.e. to monitor changes over time)
- Regular surveying of native birds, invertebrates and fish in key ecosystems as a measure of ecosystem health
- Regular surveying of the level of biodiversity threats from pest plants and animals
- Analysing the effects of resource consents, permitted activities and plan changes, and the effectiveness of conditions imposed on resource consents intended to protect or enhance biodiversity
- Regular surveying of all ecological sites, and an assessment of whether rules and incentives for their protection and management are having the desired effect
- A review of community attitudes to biodiversity protection

In light of the current lack of biodiversity monitoring for the Kāpiti Coast District, this exercise should be part of the District Plan Review process.

The community objectives and values made explicit in the Long Term Council Community Plan, give a clear signal that biodiversity protection is highly valued by residents of the Kāpiti Coast. While we may lack robust monitoring data, we can be sure that biodiversity gains are tenuous, and development pressures are rising,

[6] http:/www.nzfoa.org.nz/
[7] http:/www.fitec.org.nz/COP/Preface.html

therefore we can and should strive to strengthen any methods possible to enhance biodiversity in the district.

The monitoring required to determine population levels and the methods available to control pest animals are becoming more efficient. The District Plan should ensure that the population levels and infestation rates of pest animals and plants are monitored in ecological sites, and that there is sufficient control to maintain biodiversity. Council should work with other agencies such as the Department of Conservation, Greater Wellington and the QEII Trust to provide services and support for private landowners so that monitoring and control takes place, and is recorded by Kāpiti Coast District Council.

Zoning for open space, riparian margins, ecological corridors and catchments

A landscape ecologist recently completed an assessment of open space and of the provisions for ecological needs in the Kāpiti District as part of the formulation of an Open Space Strategy.

Recommendations included promoting broad corridors to enhance wildlife habitat. Four opportunities were identified to create biodiversity corridors linking mountains, coast and Kāpiti Island. Planning to take advantage of these opportunities would include preventing further fragmentation of existing habitat within the corridors, and encouraging the filling of gaps and the enlargement of fragments.

The riparian habitat around Forest Lakes and the District's principal waterways was also identified as a priority for protection and enhancement.

These corridors and catchments, combined with other significant areas that could benefit from integrated management, such as wetland complexes and dunelands, could be identified as an ecological network in the District Plan. There could also be specific measures included to achieve biodiversity objectives.

In addition to being the conduit between the District's two great biodiversity assets, Kāpiti Island and the Tararua Ranges, the network could tie in with regional initiatives such as the Department of Conservation's Project Kaka, Greater Wellington's Key Native Ecosystem programme and Nature Wellington, a project that led to the creation of Zealandia – Karori Wildlife Sanctuary.

Monitoring of habitats. One of the less obvious but significant examples of native fauna – a common skink.

Zoning in the District Plan can be applied on many different layers and can include themes such as open space, riparian margins, ecological corridors and catchments, keystone species habitats etc. A potential outcome from applying several layers is that where the layers overlap, 'hotspots' can be identified for protection.

Waitakere City uses two layers of zoning (built and natural area zoning). A similar approach is recommended for the Kāpiti Coast to help identify areas where biodiversity should be protected.

The following measures could be considered (although not all are strictly District Plan methods):

- **Building biodiversity objectives into structure plans;**
- **Monitoring of the ecological network;**
- **Rules requiring basic management standards to maintain biodiversity, such as excluding stock from waterways/riparian margins and fencing ecological sites;**
- **Stricter rules protecting regenerating native vegetation sites that could act as a buffer or improve linkages;**
- **Greater incentives for management to enhance biodiversity, such as funding for advice, covenanting, fencing, planting and pest animal and weed control;**
- **Rates relief as an incentive for retiring land to enhance biodiversity;**
- **Transferable development rights;**
- **Strategic purchase to enlarge Council or other reserves.**

Incentives/strategies

Incentives could be developed to encourage and assist landowners to protect and enhance biodiversity on their properties. These incentives could be funded by all ratepayers or a targeted rate. This type of incentive would need to focus on filling the gaps in the ecological network which have been identified as hotspots for protection and management. A sophisticated communications strategy would be required to support the creation and development of the network.

Restored riparian margins of the Wharemauku Stream in Kaitawa Reserve.

Beyond the District Plan, the current Riparian Fund incentive scheme could be enlarged and funded by rates, or Council could collaborate with other agencies and dairy companies (Fonterra for example) to run an incentive programme.

District Plan objectives

Areas undergoing restoration should be identified and protected from the adverse effects of development. An additional objective should be added to identify areas suitable for restoration. These areas can provide buffers and ecological services (soil conservation, water quality enhancement, carbon sequestration). Areas for protection should include the following:

- All riparian vegetation, including vegetation surrounding wetlands, estuaries and lakes
- Undeveloped areas adjacent to ecological sites
- Wetlands
- Coastal dunes
- Undeveloped steep or erosion-prone land, particularly in water catchments
- Catchment vegetation for flood attenuation, soil stability and minimum flow maintenance
- Habitat for protected or threatened species
- Areas of under-represented ecosystem types
- Regenerating native vegetation and specifically ecosystems that contribute to Kyoto compliant and non-compliant carbon storage (especially regenerating plant communities larger than 1ha)
- Areas undergoing restoration
- Areas local communities value as being significant

Research has established the maximum population levels of pest animal species necessary to protect biodiversity. The Department of Conservation uses these levels as targets in high value areas such as the Hemi Matenga Reserve, and in 'mainland islands'. These levels could be included as objectives in the District Plan.

District Plan objectives could include biodiversity targets or outcomes for key habitats, species and ecosystems. Monitoring should be conducted throughout the life of the District Plan to determine whether targets or outcomes are being met, and to ensure that there is enough data about the state of biodiversity in the District for accurate reporting.

District Plan policies

In addition to policies referred to elsewhere in this paper, policies should encourage restoration of the areas discussed above, and non-regulatory incentives should be provided.

Another concept for consideration is ecosystem services budgets. This is similar to an Assessment of Effects on the Environment (AEE) as required for all resource consents but would be more detailed and therefore probably only appropriate for larger developments (for example for developments creating more than 5 lots).

District Plan rules and standards

The District Plan identifies and protects significant areas of native vegetation as ecological sites, however the level of protection is insufficient to maintain biodiversity. Ecological sites should be fenced to exclude stock, and pest animals and weeds should be controlled to a minimum standard. While specifically seeking to exclude stock from riparian margins is beyond the scope of the District Plan, methods such as ecological buffer areas are potential means of requiring land owners to keep stock away from water ways.

Many ecological sites in the District are suffering from edge effects because of their size, shape or level of exposure. Edge effects degrade biodiversity; therefore ecological sites should be protected from edge effects through the provision of adequate vegetated buffers.

There is scope within the District Plan Review to include zoning provisions or setbacks to achieve buffer areas around designated ecological sites. Provisions could be included that will lead to the provision of buffers whose dimensions and composition will vary, depending on site characteristics.

Ecological sites could be resurveyed to determine the optimal placement and width of buffers. The results could then be available to landowners and the District Plan should allow and promote the establishment of them and provide support to maintain them. Opportunities to create and protect buffers could be included in the District Plan, when there is subdivision or other development requiring resource consent.

Other issues to be considered for the District Plan Review which would be dealt with in the Rules and Standards section of the Plan include the following:

- Clustering of rural dwellings to retain large areas of undeveloped land in order to protect habitats for biodiversity and to minimise edge effects (as discussed earlier). The Waikanae North Urban Edge and Eco-Hamlets (Plan Change 79) change to the Operative (current) District Plan is an example of where this concept has been implemented. This Plan Change covers a specific area but could potentially be expanded to include all rural areas in the District
- Revising earthworks rules to reduce biodiversity loss through habitat destruction. This could include a review of the current rules around earthworks near waterways, on steep slopes and around or near trees or habitats which could be identified in the District Plan under one of the zoning provisions mentioned earlier (natural area, landscape/riparian, keystone species habitat zones etc)

Monitoring populations of species such as kaka can provide valuable information about the state of biodiversity in a given area.

- Site setback provisions for development could also be amended in the District Plan to ensure biodiversity is not jeopardised by rules not cognisant of environments of value for biodiversity. Setbacks could be determined by the zoning layers discussed earlier; for example if a development was in an area zoned 'Natural Area' then setbacks may be required to be larger than the standard setbacks for 'all zones'
- Strengthening the provisions in the District Plan to protect indigenous vegetation by revising the provisions for vegetation, including ecological sites, listed in the Heritage Register. Identification of trees which could potentially be protected in the District Plan is currently underway and will help to inform possible options for rules and standards in the District Plan
- Strengthening rules to provide for food forests, making it easier for agricultural or horticultural uses which enhance biodiversity but don't create reverse sensitivity issues. Agriculture is currently allowed in residential zones on land not developed, and there is land at various locations around the district which although in productive rural use is zoned as Residential. Therefore, while agricultural uses can be undertaken on residential land, there is potential for conflict from incompatible land uses (reverse sensitivity). For example, undeveloped residentially zoned land could be located between two built up (developed) residential areas, and issues such as spray drift, noise and smell from the agricultural or horticultural use could cause conflict between the neighbouring land owners and/or occupiers.
- The keeping of bees and large numbers of poultry in residential zones is not currently permitted under the District Plan. While factors such as reverse sensitivity need to be carefully considered (as discussed above), provisions in the District Plan should promote self sufficient and resilient communities and not impose barriers to do so.

Issues such as these will be looked at in further detail when draft Rules and Standards are consulted on for the District Plan Review.

[8] The Permanent Forest Sink Initiative (PFSI) promotes the establishment of permanent forests on previously unforested land. It offers land owners the opportunity to earn Kyoto Protocol compliant emission units (Assigned Amount Units or AAUs) for carbon sequestered in permanent forests established after 1 January 1990. http://www.maf.govt.nz/forestry/pfsi/

Forestry

The District Plan could potentially contain clear objectives and policies to ensure that plantation forestry does not have an adverse effect on biodiversity, water quality and soil conservation, and these should be the basis of resource consent conditions.

Where plantation forests (planted after 1990) are established in the foothills, on steep, erosion-prone land, in important water catchments, adjacent to ecological sites, or in areas with potential to create ecological linkages, landowners should be encouraged to enter the Permanent Forest Sink Initiative[8] as an alternative to harvesting and replanting.

Wherever there is regenerating native vegetation in this context, landowners should be encouraged to retain it as an alternative to other land uses. The regeneration of native forest in these areas could be a District Plan objective, as it would benefit biodiversity, reduce soil erosion, improve water quality and sequester carbon.

Incentives could be used such as rates relief, transferable development rights, advice and assistance with costs.

Coppicing

Coppicing is a traditional method of woodland/forest management which takes advantage of the fact that many trees reshoot from the stump or roots if cut down. In a coppiced forest young tree stems are repeatedly cut down to near ground level. In subsequent growth years, many new shoots will emerge, and after a number of years the coppiced tree is ready to be harvested, and the cycle begins again.

Typically a coppiced forest is harvested in sections or on a rotation. In this way, a crop is available each year somewhere in the forest. Coppicing has the effect of providing a rich variety of habitats, as the woodland always has a range of different-aged coppice growing in it, which is beneficial for biodiversity. The cycle length depends upon the species cut, and the use to which the product is put (e.g. firewood, pulp, paper of timber for building).

Trees (both non-native and native) play a vital role in the protection of habitats to aid the enhancement of biodiversity. Native forests and plantation forests both contribute to carbon sequestration and cleaning the air in our environment. The importance of trees for food production and their role in carbon sequestration is discussed in the Discussion Document ‘Food and Rural Productivity’.

The District Plan Review could potentially seek to include provisions for coppicing, and review the current forestry provisions to add another tool in the kit for biodiversity protection on the Kāpiti Coast.

6 BIODIVERSITY BEYOND THE DISTRICT PLAN

The Government funded Queen Elizabeth II Trust (QEII) encourages landowners to protect significant areas of native vegetation by perpetual covenant, and assists owners to do so. The Trust has been successful nationally, with more than 3,000 covenants registered. Kāpiti has 55 registered covenants protecting 307.9 ha. (the highest number of any district in the region) and QEII has approved a further 11 covenants that will protect an additional 223.6 ha (estimated) when registered.

The high number of covenants in Kāpiti can be attributed to:

- Council policies, which contribute to the survey and fencing costs of new covenants
- The provision of rates remissions for covenanted land
- The employment of a biodiversity specialist who promotes covenanting among landowners

Though the Trust's work is very positive, there are problems:

- The Trust's stewardship programme, which monitors covenants and enforces terms and conditions, is hampered by a lack of funds and only half the covenants are monitored
- Though covenanted areas are protected, they are not necessarily managed to enhance biodiversity, and assistance with good management is limited
- The costs of covenanting are a stumbling block for landowners
- Some landowners oppose covenanting, because they believe it will impinge on their property rights or devalue their properties

Paraparaumu Scenic Reserve swamp forest.

7 CONCLUSION

Biodiversity is integral to the sustainability and existence of our community. The District Plan has little scope for direct actions targeting the improvement of biodiversity, but as discussed above, it has a very important role in making sure things don't get worse, and there are various ways of achieving better biodiversity outcomes than previously.

Conserving biodiversity is everyone's responsibility

It is up to us as a community to make decisions about what we value, and to protect indigenous biodiversity. The District Plan is one tool available to help protect biodiversity.

Below is a summary of the main biodiversity-related ideas for the District Plan Review.

	1	2	3	4	5
Possible new concepts	Riparian Margin Setbacks	Landscape/ Natural Area Zoning for rural landscapes	Include concept of keystone species	Transferable Development Rights	Ecosystem services budgets
Concepts to continue and/ or Strengthen	Clustering of rural dwellings. e.g. Eco-hamlet zones	Earthworks rules	Strengthen provisions to protect indigenous vegetation and provide for Coppicing (e.g. growing trees for firewood)	Monitoring/ Reporting of biodiversity in the District	Strengthen rules to provide for food forests
Barriers to Remove	Keeping of Bees in urban areas	Remove any barriers to "carbon sequestration"			

REFERENCES

The Millennium Ecosystem Assessment (MA).

http://www.millenniumassessment.org/en/index.aspx

Mark Bellingham's doctoral thesis submitted at Auckland University in 2008.

http://researchspace.auckland.ac.nz/bitstream/handle/2292/3406/01front.pdf?sequence=6

Biodiversity and Private Land report

http://www.mfe.govt.nz/publications/biodiversity/biodiversity-and-private-land-report-aug00.html

The Greater Wellington Regional Council's proposed Regional Policy Statement

http://www.gw.govt.nz/RPS/

Kāpiti Coast Community Outcomes Monitoring Report December 2008

http://www.kapiticoast.govt.nz/Planning/Community-Plan/Outcome-Monitoring-and-Progress/

The Permanent Forest Sink Initiative

http://www.maf.govt.nz/forestry/pfsi/

New Zealand Environmental Code of Practice for Plantation Forestry

http://www.fitec.org.nz/COP/Preface.htm

7 FEEDBACK FORM

DISCUSSION DOCUMENT: BIODIVERSITY

Your details

Your Name: _____

Organisation (optional): _____

Address: _____

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E-mail: _____

Phone: _____

Please post this form to:

Kāpiti Coast District Council
Attn: District Plan Review
Private Bag 60601
175 Rimu Road
PARAPARAUMU 5254

KĀPITI COAST DISTRICT COUNCIL
me huri whakamuri, ka titiro whakamua

You can also submit your response on our website: www.kapiticoast.govt.nz, send it in an e-mail to districtplanreview@kapiticoast.govt.nz, or drop it off at Council Libraries or Service Centres.

NOTE: Please number your answers if you are not using this form.

Please do this by 5pm, Monday 15 November 2010

Please note that all submissions (including names and contact details) or a summary of submissions may be made publicly available at council offices and public libraries and on the Kāpiti Coast District Council website. Personal information will also be used for administration relating to the subject matter of the submissions, including notifying submitters of subsequent steps and decisions. All information will be held by the Kāpiti Coast District Council at 175 Rimu Road, Paraparaumu, with submitters having the right to access and correct personal information.

Questions

1. Have we summarised the issues accurately?

☐ Yes ☐ No

Comments:

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2. What do you think of the new ideas for the District Plan Review? Are we on the right track?

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3. What have we missed?

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4. Would you like to receive further updates on the District Plan Review?

☐ Yes ☐ No

Preferred method of communication

☐ Email ☐ Post ☐ Phone

_____

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5. Do you want updates on all topics or specific topics only?

☐ All ☐ Specific (Please list)

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Please attach additional pages if necessary.