

# MANAGING LAND USE CHANGE AND BIOSECURITY

The RMA is the key legislation for managing the effects of land use on biodiversity on private land. The RMA also applies to the approximately 32 per cent<sup>7</sup> of New Zealand's land area managed for conservation purposes, but biodiversity management in those areas is mainly influenced by legislation such as the Conservation Act 1987, Reserves Act 1977 and National Parks Act 1980.

Private and Māori land is also managed for conservation under covenants, such as those established as Queen Elizabeth II National Trust open space covenants (under the Queen Elizabeth the Second National Trust Act 1977) and kawenata covenants through Ngā Whenua Rāhui.

Other legislation is also important, including the Local Government Act 2002 (under which local authorities can purchase parks and reserves) and the Biosecurity Act 1993 (under which regional councils undertake pest control).

## **Legislative protection of biodiversity**

### **The Resource Management Act 1991**

The RMA is the principal legislation governing the use of New Zealand's land, air, water, ecosystems and built environment. Because almost all forms of resource use affect native biodiversity, it therefore has a key role in managing New Zealand's biodiversity. Under the Act, local government has a major part to play in environmental protection.

Biodiversity is recognised in the RMA in many ways.

- Section 5 is relevant because all plants and animals come within the definition of natural resources. Section 5(1)(b) refers to safeguarding ecosystems.
- Section 6(c) is the section most identified with the maintenance of biodiversity because it refers to the protection of areas of significant native vegetation and significant habitats of native animals. However, this section represents just one dimension of managing indigenous biodiversity.
- Section 7(d) refers to the intrinsic values of ecosystems. The definition of 'intrinsic values' includes values derived from biological and genetic diversity.
- Section 30(1)(c)(iia) provides that it is a function of regional councils to control the use of land to maintain and enhance ecosystems in water bodies and coastal waters.
- Section 30(1)(ga) provides that it is a function of regional councils to establish, implement and review objectives, policies and methods for maintaining native biodiversity.
- Section 31(b)(iii) provides that it is a function of territorial councils to control the effects of the use of land on the maintenance of native biological diversity.

In 2003, the RMA was amended to clarify that:

- both regional councils and territorial authorities have responsibilities for maintaining native biodiversity
- local authorities must consider the consequences of all effects on native biodiversity, not simply the significance of the species or habitat.

## Other legislation

### *Biosecurity Act 1993*

This Act provides for the exclusion, eradication and effective management of pests and unwanted organisms. The Biosecurity Minister is able to notify a national pest management strategy under this Act, and individual local authorities are able to prepare regional pest management strategies (RPMS). Section 76(4) of the Biosecurity Act requires these strategies not be inconsistent with any regional policy statement or regional plan prepared under the RMA.

A number of initiatives under the Biosecurity Act make a significant contribution to managing biodiversity. In particular, these include plant and animal pest control carried out in accordance with RPMSs prepared under the Biosecurity Act.

### *Conservation Act 1987*

The Conservation Act promotes the conservation of New Zealand's natural and historic resources. The Act provides the mandate for the activities of the Department of Conservation (DoC). Functions include managing the conservation estate, conservancy advocacy and education, and fostering the use of resources for recreation and tourism. The main policy documents include the Conservation General Policy 2005, conservation management strategies prepared by conservancies, and management plans for sites of particular importance. A conservation management strategy provides a plan for the integrated management of all areas administered by DoC.

DoC exercises its conservation advocacy function by, amongst other things, participating in plan making and resource consent decision-making processes under the RMA.

### *Forests Act 1949, Forests Amendment Act 1993*

The Forests Act 1949 was amended in 1993 to bring an end to unsustainable harvesting and clear felling of indigenous forest. Under the Forests Amendment Act, native timber can only be produced from forests that are managed in a way that maintains continuous forest cover and ecological balance.

### *National Parks Act 1980*

The purpose of the National Parks Act is to forever preserve for their intrinsic worth and for the benefit, use, and enjoyment of the public, those parts of New Zealand that “contain scenery of such distinctive quality, ecological systems, or natural features so beautiful, unique, or scientifically important, that their preservation is in the national interest”. DoC administers this Act. Under section 4 of the RMA, the Crown is not bound by section 9(1) of the RMA for any work or activity of the Crown within the boundaries of any area of land held or managed under the Conservation Act or other acts specified in the First Schedule to that Act. The First Schedule of the Conservation Act includes the National Parks Act.

### *Reserves Act 1977*

DoC administers this Act. Section 3(1)(b) of the Reserves Act identifies the need for the establishment of an ecologically representative, protected natural areas system in New Zealand. An objective of this legislation is:

Ensuring as far as possible, the survival of all indigenous species of flora and fauna, both rare and commonplace, in their natural communities and habitats, and the preservation of representative samples of all classes of natural ecosystems and landscapes which in their aggregate originally gave New Zealand its own recognisable character. (Section 3(1)(b), Reserves Act 1977).

An implementation method of the Reserves Act is the Protected Natural Areas Programme, which provides criteria for identifying the best examples of the full range of natural areas within defined ecological districts and/or regions. The focus of this programme has traditionally been on terrestrial and wetlands habitats. District councils use protected natural area surveys to identify significant natural areas.

### *Wildlife Act 1953*

This Act is administered by DoC and provides for the protection of certain species of wildlife, including the establishment of wildlife reserves.

## **Convention on Biological Diversity and national strategies**

### **Convention on Biological Diversity**

New Zealand ratified the international Convention on Biological Diversity in 1993. The Convention has three main goals:

- conservation of biological diversity
- sustainable use of the components of biodiversity
- sharing the benefits arising from the commercial (and other) use of genetic resources in a fair and equitable way.

Signatory nations are required to prepare national strategies or plans that set national goals to implement these goals.

### **The New Zealand Biodiversity Strategy and related initiatives**

The 2000 New Zealand Biodiversity Strategy (NZBS) establishes national goals to:

- turn the tide on the decline of the country's indigenous biodiversity
- maintain and restore a full range of remaining habitats and ecosystems, and viable populations of all native species.

The NZBS sets out a comprehensive range of actions needed to achieve the goals. Among these is the preparation of a national policy statement and related material to provide

direction to local authorities on implementing provisions of the RMA relevant to protecting and sustainably managing native biodiversity.

At about the same time the Government prepared the NZBS, it also funded a Ministerial Advisory Committee (MAC) to consult widely about biodiversity and private land. This public consultation considered whether a NPS on biodiversity was desirable and what complementary measures might be warranted. Seven core proposals were developed. These included the establishment of a biodiversity advisory service, a fund aimed at improving the condition of sites, additional funding for existing protection mechanisms (such as the QEII National Trust), a capacity building programme for local government, a NPS under the RMA and clarification of the local government's biodiversity role under the RMA (culminating in an amendment to the RMA in 2003).<sup>8</sup>

A funding package of \$187 million was provided for the period 2000–2005 towards achieving the goals of the NZBS. This incorporated the specific recommendations of the MAC.

In 2000, the Government published the New Zealand Biosecurity Strategy<sup>9</sup> with the vision that “New Zealanders, our unique natural resources, our plants and animals are all kept safe and secure from damaging pests and diseases”.

The Biosecurity Strategy is a high-level document that deals with broad biosecurity risks (not just risks to biodiversity) and more than pest management. However, it did commit to clear and effective national leadership and coordination, the Crown meeting its pest management obligations as a landowner, and other matters.

In order to make progress against these commitments, in 2009 the Government initiated the Future of Pest Management Programme to review current arrangements and improve pest management systems to meet New Zealand's needs over the next 25 years. A National Plan of Action (including legislative changes) is currently being developed.

## **Non-statutory guidance, trusts and funds**

Government funds 20 programmes to help achieve outcomes in the New Zealand Biodiversity Strategy. A Governance and Coordination Programme establishes the administrative mechanisms necessary to coordinate the Strategy's implementation, monitoring and review. It is coordinated by a secretariat within DoC. Programmes that relate to private land are outlined below.

### *Trusts and funds*

In December 2000, the Government announced a package of policy measures to enhance the management of native biodiversity outside public conservation lands. In relation to funds, the package included:

- increased funding to the QEII National Trust, Ngā Whenua Rāhui and the Nature Heritage Fund
- the establishment of a Biodiversity Condition Fund to help private landholders and community groups to protect areas, habitats and species on private land

- the establishment of a Biodiversity Advice Fund.

The package added \$40.6 million over five years to support native biodiversity protection on private land, with the bulk going into increased funding for protection via Ngā Whenua Rāhui, the Nature Heritage Fund and QEII National Trust. The money allocated to the Biodiversity Condition Fund was \$6.5 million, while \$3.6 million was allocated to the Biodiversity Advice Fund.

- **Biodiversity Advice Service Fund**

The Biodiversity Advice Fund began in the 2001/02 financial year. It provides information and advice on native biodiversity and management options available to private land managers. Local authorities, land care groups and other organisations can apply for funding to set up advisory services. The fund is administered through DoC.

- **Biodiversity Condition Fund**

This fund is for improving the condition of native biodiversity on private land through ongoing pest and weed management. It also began in 2001/02. Individuals and groups can apply for funding for projects designed to improve the condition of areas and habitats. This fund is administered through DoC.

### *Non-regulatory guidance*

- **General advice**

DoC makes some technical advice available to local government. The Ministry for the Environment (MfE) has issued good practice biodiversity protection guidance via the Quality Planning website.

- **National priorities for protecting rare and threatened native biodiversity on private land**

In 2005, Cabinet decided not to proceed with a NPS on Biodiversity. Instead, the Government developed and published a non-statutory guideline which described the national priorities for protecting rare and threatened native biodiversity on private land. This aimed to focus conservation efforts on private land where the need is greatest.

- **Enhancing capacity in local government**

A concerted effort to up skill local government followed the Biodiversity MAC process of 2000. The Action BioCommunity project was established in 2001, sponsored through Local Government New Zealand and paid for by MfE's Sustainable Management Fund. Its aim was to build local authority capacity in native biodiversity management, promoted by sharing good practice and establishing a Quality Planning website. The project came to an end in 2004.

On the whole, the level of non-regulatory guidance to local government is low.

## Efforts to protect biodiversity under the current framework

As summarised above, central government's efforts to maintain native biodiversity fall into two categories. First, conservation (including species recovery) programmes on public conservation land (under conservation legislation); and second, advocacy, financial and technical assistance to support biodiversity off public conservation land.

Central government has also contributed by funding the development of geographic information and monitoring systems and tools (such as LENZ<sup>10</sup>) that provide better information on which to base management efforts.

DoC has also committed \$15 million over the next three years to produce the system and operational work required to measure biodiversity baselines, the subsequent natural changes in species and ecosystems, and the impact future development activities will have on these.

However, in the context of the proposal for a NPS, it is the efforts of local government – regional councils and territorial authorities – that is most critical as it is the nature and level of these efforts that a NPS can influence.

### Local government efforts

Local authorities have specific legislative responsibilities under the RMA to manage native biodiversity. They also have the ability under the Biosecurity Act to prepare regional pest management strategies. These can be prepared for pests that have impacts on native biodiversity.

Local authorities use a wide range of measures to fulfil their legislative obligations and maintain the mandate given to them by their constituents, including:

- developing and implementing strategies and plans
- collecting information, including identifying areas of importance for native biodiversity
- providing financial assistance, including contestable funding for landowners
- biosecurity activity
- regulation and enforcement action.

Since 1991, most territorial authorities have expended considerable effort to identify areas and habitats in accordance with section 6(c) of the RMA, and/or to provide varying degrees of legal protection to native vegetation by way of rules in plans. This focus on native vegetation was largely absent from the 'district schemes' that pre-dated plans prepared under RMA.

As a result, it is now commonplace for territorial authorities to address biodiversity and consider the significance of vegetation in the context of resource consent applications.

Most regional councils have included criteria in regional policy statements that are to be applied through district and regional plans and/or in the context of resource consent applications. As well, on a daily basis regional councils consider impacts on ecosystems and

biodiversity when assessing a broad range of regional council-determined consent applications (such as discharge, water take/diversions and soil disturbance applications).

Despite this level of effort by local authorities, there is little uniformity in approach and the comprehensiveness of the effort is patchy across New Zealand. This is discussed further in Chapter 3.2.4.

### Voluntary efforts

In addition to the efforts of public authorities, there is a substantial voluntary effort by environmental non-government organisations, catchment groups and individuals. These tend to focus on pest management and site restoration/replanting. The extent of this contribution is not well documented. However, while there are numerous significant voluntary programmes and projects that have value at a local scale, the overall impact of this effort on the national goal of halting the decline is likely to be small.

Retrieved January 11, 2012 from [www.mfe.govt.nz/publications/biodiversity/indigenous-biodiversity/section32/html/page5.html](http://www.mfe.govt.nz/publications/biodiversity/indigenous-biodiversity/section32/html/page5.html)

## THE CURRENT STATUS OF NEW ZEALAND'S BIODIVERSITY

One of the inherent difficulties in managing native biodiversity is the absence of complete, reliable and relevant information about its current state and trends. Generally speaking, when we monitor and report on native biodiversity, we are forced to use surrogate measures – such as the extent of native vegetation remaining or legally protected – or take a case study approach. While there are many ecological surveys, they relate to highly localised areas, are patchy in their availability and often use differing methodologies. This all makes it difficult to draw generic conclusions.

Despite this, there is general acceptance that New Zealand's native biodiversity is in serious decline. Considerable work to compile various information sources and expert opinion at the time the NZBS was developed (2000) led to that conclusion and, as noted earlier, this was broadly accepted by ecological professionals and by the Government (which, as a consequence, boosted funding by \$187 million). The conclusion echoed a principal finding of the 1997 New Zealand State of the Environment report<sup>11</sup> that biodiversity loss was New Zealand's "most pervasive environmental issue".

The lack of a measurement tool that could empirically demonstrate the extent of the decline at a national scale led to the development of LENZ<sup>12</sup> as a better (though still limited) assessment tool.

The information that follows draws on LENZ and is the best available, but continues to suffer from the limitations discussed above. As in 1997 and 2000, this assessment needs to draw on multiple sources to assess the *status quo* and trends in New Zealand's native biodiversity.

## Overview

At the broad scale, out of the 33 Organisation for Economic Cooperation and Development (OECD) countries, New Zealand has the highest proportion of its land area protected for conservation purposes – 33.4 per cent of our total land area.

As of July 2009, 8,763,300 hectares of New Zealand's land was legally protected (by public ownership or covenants over private land) for the primary purpose of protecting native biodiversity. Legally protected public land (managed by DoC and regional councils) accounted for 8,525,000 hectares, and private land (protected by the QEII Trust or Ngā Whenua Rāhui) accounted for 238,300 hectares.<sup>13</sup> These figures do not account for land protected by rules prepared under the RMA.

Of the 8.763 million hectares, 8,401,500 hectares have native land cover. 'Native land cover' includes land with native vegetation as well as naturally occurring non-vegetative covers, such as permanent snow and ice, alpine gravel and rock, and waterways.

Recent trends show that protection by public acquisition and covenanting is increasing. Over the three-year period between 2006 and 2009:

- legally protected public land increased from 8,138,500 hectares to 8,525,000 – an increase of 386,500 or 4.7 per cent. About three-quarters of this increase was from land acquired and protected through high country tenure review in the South Island
- legally protected (by covenant) private land increased from 216,200 hectares to 238,300 hectares in 2009 – an increase of 22,100 hectares or 10.2 per cent.<sup>14</sup>

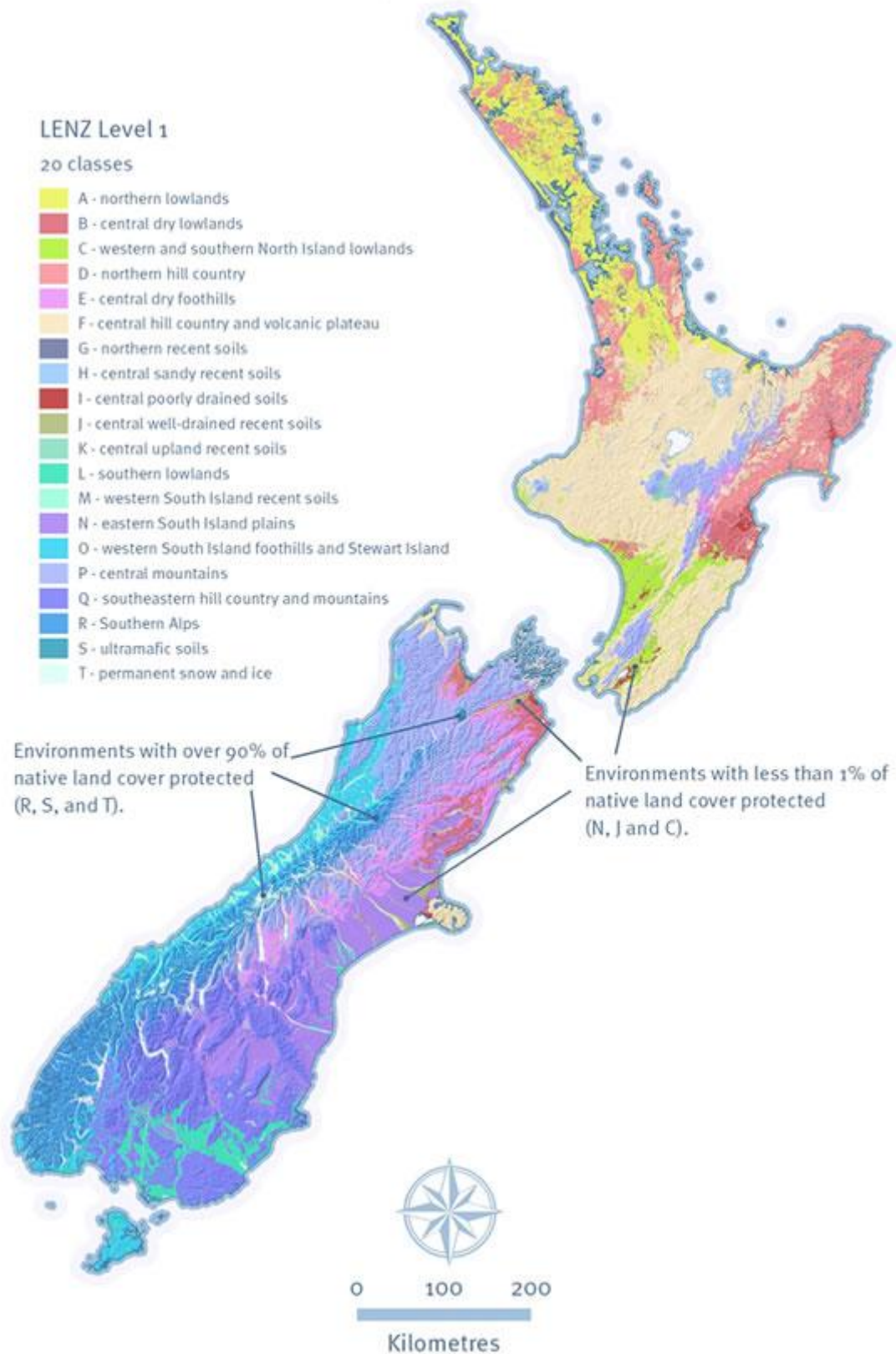
## Risks and challenges

These broad-scale figures tell us little about the real state of native biodiversity protection. This requires an understanding of what *type* of vegetation has been protected, what remains unprotected, how important for biodiversity this unprotected land is, and what the condition (and trends) of vegetation and habitat on that unprotected land might be.<sup>15</sup>

When those matters are considered, it is apparent there remain significant challenges for biodiversity protection outside public land. GIS analysis shows New Zealand has done well protecting upland areas – more than 90 per cent of three montane (mountainous) environments within the LENZ classification (permanent snow and ice, Southern Alps and ultramafic soils) are legally protected. However, there has been little progress in protecting biodiversity in lowland areas of the country where many of the principal challenges and threats arise. This is not unexpected, given that lowland areas are generally more commercially valuable and conservation therefore comes at a greater opportunity cost for landowners (and a higher price for public agencies considering land acquisition).



**Figure 1: The most seriously under-protected environments, shown by Land Environments of New Zealand (LENZ) level 1**



### *Indigenous vegetation loss*

The Ministry for the Environment's Land: Land Use Environmental Snapshot<sup>19</sup> (January 2010) provides further data on land-use change over the period 1990 to 2008. This is based on the Land Use Carbon Analysis System (LUCAS) mapping which was designed to enable New Zealand to meet its Kyoto Protocol reporting obligations.

While the snapshot information is much coarser in its classification of vegetation types than LCDB<sup>20</sup> and is less revealing of biodiversity implications, it provides a useful overview of general land-use change. Key findings are that between 1990 and 2008 New Zealand has lost:

- 50,700 hectares of natural forest – a trend attributed to the replacement of natural forest with planted forest
- 311,000 hectares of low-producing grassland (a mixture of exotic and native grassland with lower productivity vegetation)
- 125,100 hectares of scrubland (scattered scrub within or near grassland not protected or managed for regeneration)
- 100 hectares of wetland.

This clearly indicates that, notwithstanding the RMA's identification of the national importance of protecting significant native vegetation and habitat, its loss has continued.

### *Manaaki Whenua – Landcare Research*

In 2006, Manaaki Whenua – Landcare Research published research on the recent loss of native land cover in New Zealand.<sup>21</sup> That research remains the most comprehensive work on the state of, and rate of loss of, native vegetation in New Zealand that applies the LENZ categories used in the *Statement of National Priorities*.<sup>22</sup>

Key findings (from the abstract of the paper) are:

- extreme (>70 per cent) historic loss of native cover in 57 per cent of land environments
- poor protection (<20 per cent land area protected) in more than two-thirds of LENZ environments
- loss of native cover has continued, with 49 per cent of environments having lost native cover between 1996/97 and 2001/02, with the highest rates occurring where native cover was already most depleted.

The research showed that net loss of native cover in the five years between 1996/97 and 2001/02 was 17,200 hectares. Conversion to exotic forestry accounted for 65 per cent of the loss, felling for timber 11 per cent, conversion to high-producing pasture 6 per cent, and conversion to low-producing pasture 16 per cent. Further, over the same period, almost 30,000 hectares of low-producing grassland changed to non-native cover. This will also have had biodiversity loss, since much of this was a mix of native and exotic species.

The conclusion to the paper states:

Overall, the data suggest that public awareness and education, voluntary protection, Resource Management Act (1991) provisions, and formal legal protection of remaining indigenous biodiversity have not halted the removal and/or displacement of vulnerable indigenous

biodiversity in much reduced and poorly protected ecosystems and habitats. This may arise from a continuing perception that only pristine ecosystems are important or significant for biodiversity (eg, Norton and Roper-Lindsay 2005). This fails to recognise that a high proportion of New Zealand's most threatened species survive only in depleted and highly modified ecosystems in threatened environments; therefore, protection of highly modified habitats is essential to prevent the extinction of many species.<sup>23</sup>

### *Research on South Island grasslands*

The absence of a more recent LCDB has restricted the ability to update the research cited above, but its author (Susan Walker, Maanaki Whenua – Landcare Research) has more recently considered the loss of native grasslands in the South Island as part of evidence for the intensive dairy farming proposals recently considered in the Mackenzie Basin.

In her evidence, Walker made the point that neither LCDB1 nor LCDB2 identifies most land cover change in grasslands since 1990. The estimates in the 2006 report mainly represent losses to afforestation (which was assessed in the making of LCDB2) and do not include the loss of less-developed grasslands to intensive pasture development.

To get a better understanding of grassland loss since 1990 (and to bring the data as up to date as possible) Walker draws on the work of a doctorate study of the 4.3-million-hectare eastern South Island grassland zone. She reports:

The student's preliminary, unpublished estimates suggest some 80,000 ha of less-developed grasslands were converted in this zone between 1990 and summer 2007/08. Of this, the student estimates that 66 per cent (about 52,500 ha) was converted for pasture or cropland, and almost half of this conversion (c. 25,000 ha) occurred in six years between the summers of 2001/02 and 2007/08.

These unpublished estimates suggest the average rate of conversion of less-developed grasslands, shrublands and wetlands in the eastern South Island grassland zone for pasture and cropland may have recently increased from about 2,500 ha per annum between 1990 and 2001, to about 4,200 ha per annum between 2002 and 2008. These rates are consistent with accelerating livestock numbers published by MAF and Statistics New Zealand, and support the statement that New Zealand is undergoing 'record rates of agricultural intensification' (Murdoch 2009). In my opinion, this development may represent the most significant wave of direct loss and modification of habitats of indigenous species in New Zealand in modern times, and will likely exacerbate the threat status of many of its species.

In the Mackenzie Basin alone, Walker reports 12 per cent (35,000 hectares) of native grasslands have been converted since 1990<sup>24</sup> by irrigation or cultivation or over-sowing and topdressing (excluding areas in the process of conversion but not yet fully converted). Her evidence states:

This recent conversion probably represents the most rapid rate of indigenous ecosystem loss and landscape transformation within any single ecological region in New Zealand in modern times. A spatial overlay indicates that parts (>10ha) of at least twenty-nine of the 103 RAPs<sup>25</sup> identified in the Mackenzie Ecological Region Protected Natural Areas Programme survey (Espie et al 1984), and nine sites of special wildlife interest (SSWIs) have been converted. Most of this conversion has occurred since 1990.

## National information showing biodiversity decline

Further sources of information on the state of New Zealand's native biodiversity are regional council:

- state of the environment reports (SERs)
- reports on the effectiveness of policy statements and plans.

While these studies are also often limited by a lack of availability of recent LCDB data, conclusions are based on a mix of local (sub-regional) studies and local knowledge, and can be revealing.

The availability of these reports is patchy, and a review of those that are available shows mixed results. Some (such as those listed in Appendix 1) are open about the trend in biodiversity. Others either cannot, or choose not to comment on trends, except at a very general/long-term level. Greater Wellington Regional Council's SER (2005) sums up the challenge well when it says:

We don't really know if we are making a difference for biodiversity and we need to develop means of measuring change in ecosystems.

Other regional councils SERs, in particular Auckland and Waikato, also indicate a continuing decline despite efforts to date. Excerpts from the reviews of some SERs are provided below.

- **Northland State of the Environment Report 2007**

*Overall biodiversity conclusion:* "Less than 5 per cent of Northland's wetlands remain as a result of drainage and disturbance. Some wetland types are now close to being lost forever .... Overall the biodiversity of indigenous vegetation is declining with a decrease in the land area covered in indigenous vegetation from 1997 to 2002 and indigenous plant species becoming nationally or regionally threatened, with some species already extinct in Northland. Many once common habitat types, such as riverine floodplain forest and dunefields, are now critically threatened due to land development pressure."

- **Auckland State of the Environment Report 2010**

*Overall biodiversity conclusion:* "At the regional scale, native habitats and threatened species will continue to decline in unprotected or unmanaged areas due to habitat loss, fragmentation and invasive species."

The Auckland SER highlights that examples of vegetation loss are not restricted to rural New Zealand. For example, it reports a local study of vegetation loss in the highly urbanised North Shore City which shows that between 2001 and 2006, 59 hectares of significant vegetation were cleared, representing 2.63 per cent of the vegetation that had been present in 2001 (with an overall drop in vegetation in the city from 2234 hectares to 2152 hectares).

- **Progress toward achieving Environment Waikato's Regional Policy Statement objectives: Biodiversity and natural heritage (2007)**

*Overall biodiversity conclusion:* “The biodiversity and natural heritage objectives are generally not being achieved due to pests, land-use intensification, water pollution and lack of riparian protection, loss of connectivity, undervalued natural systems such as wetlands, and lack of formal protection for some ecosystem types.”

- **Taranaki Regional Council RPS review (2009)**

Taranaki’s review of its RPS notes: “Notwithstanding the above [list of regional responses] the Council’s State of the Environment Report concludes that there are continuing threats to our native forests, biodiversity and ecosystems. Many habitat types, such as coastal and lowland forests and wetlands, are poorly represented in Taranaki and are fragmented .... The issue is one of the most important facing the region...”

The Taranaki SER also provides a good example of the use of local studies. It notes, for example, that: “Changes in the extent of indigenous vegetation in Taranaki have been measured for the hill country through the Council’s sustainable land monitoring programme (see chapter 3.1). The total area of indigenous forest decreased in the monitored sites from 3,380 ha in 1994 to 3,295 ha in 2007, a decrease of 3 per cent.”

### **District plans vary in their approach to protecting biodiversity**

There have been two national reviews this decade into the adequacy of RMA plans to protect native biodiversity – an in-depth survey in 2004, and a more recent update of that survey in 2010.

The 2004 review of district plans<sup>27</sup> concluded that the quality and breadth of native biodiversity provisions varied considerably. It found that about 20 per cent of plans and regional policy statements had comprehensive and detailed provisions for identifying significant sites and habitats, backed up by a range of methods to protect them. About 20 per cent of plans had minimal (or no) means for identifying significant sites and/or a lack of adequate provisions to recognise and provide for their protection. Most plans were found to fall somewhere between these two poles, and 45 per cent did not include any criteria for identifying significant areas or significant habitats. While most district plans (61 out of 77) did have rules covering the clearance and disturbance of significant sites, the identification of these sites was sometimes inadequate and rudimentary. Also, while 41 plans had general clearance rules, these rules were not necessarily backed up with criteria for assessing applications.

In July 2010, MfE commissioned a study to update the 2004 review, with particular emphasis on establishing the extent and strength of biodiversity provisions in district plans.<sup>28</sup>

Summaries of the key findings from this review are:

- A number of councils now have biodiversity strategies in place and appear to be making good progress towards achieving statutory requirements. Selwyn, Thames-Coromandel, Christchurch, Hurunui and Nelson councils all provided good examples, although others are also making progress.
- Some councils appear to be significantly more advanced than others. At one end of the spectrum, councils such as Thames-Coromandel, Waimakiriri and Marlborough, have rigorous protection mechanisms and strategies in place. On the other hand, some councils have no or only limited provision for protection. Examples include, but are

not limited to, councils on the east coast of the North Island – eg, Hastings, Gisborne, Napier, Wairora and Whakatane councils.

- There is a significant range in plan development for biodiversity protection. While many plans have been updated since the 2004 review, there is little change in the number of plans that have rules governing the clearance and/or disturbance of significant sites of native plants and animals (ie, 61 in 2004; 63 in 2010). However, there does appear to be an increase (from 41 to 59) in the number of plans with general clearance/disturbance rules, which may (in part) be accounted for by the inclusion of riparian clearance rules in the 2004 study.
- There has been an increase in the number of district plans with stated criteria for the purpose of identifying significant natural areas (60 out of 75 plans, or 80 per cent). However, there appears to have been little change or no change in the types of criteria used – 13 plans identify significant natural areas but do not specify criteria; while two plans (Auckland City and Napier District) do not include criteria or identify sites.
- Only minor change was evident in the specificity of monitoring provisions across plans in relation to biodiversity (38 to 41).
- A wide range of techniques are used to identify significant native plants and animals, with different criteria applied. The most commonly used criteria are those relating to DoC's Protected Natural Areas Programme or a variant on these. Other plans use criteria such as those identified by Norton and Roper (1999)<sup>29</sup>, while yet others continue to use rudimentary criteria.
- 84 per cent of plans (63 out of 75) have rules targeted at protecting significant areas (including wetland and special ecological zones), and most plans (59 out of 75) contain provisions targeting the protection of biodiversity outside section 6(c) requirements. These include measures such as general clearance controls, controls on pest species, controls on certain activities (eg, deer and goat farming), controls on earthworks and controls on riparian activities.
- Non-regulatory biodiversity protection measures cited in plans include education, advocacy, financial incentives/assistance and land acquisition or swaps. Some councils are very specific about such measures – eg, Selwyn District Council has set up an annual contestable fund of \$30,000, while Banks Peninsula District Council will consider offsetting by establishing new areas of equal environmental value.

Local Government New Zealand has also recently undertaken a survey of regional councils to determine the extent to which the national priorities<sup>30</sup> influenced regional councils' biodiversity programmes. The results indicated little influence. Similarly, a MfE review of RPSs found that the priorities had little influence on policy statements and plans. It should be noted, however, that most plans/RPSs pre-dated the release of the national priorities. There was some evidence of at least one recently notified RPS reflecting the national priorities, and some others that demonstrated a degree of coincidence between regional criteria and the national priorities. Overall though, it cannot be concluded that the national priorities have been a significant influence.

### **Community attitudes towards protecting biodiversity**

Having established that there is evidence of loss of biodiversity and that the approaches used by councils to protect biodiversity vary in their effectiveness, it is important to ask whether this loss is something that really matters to New Zealanders.

In signing the international Convention on Biological Diversity in 1992 and preparing the New Zealand Biodiversity Strategy in 2000, successive Governments have resolved that native biodiversity does matter. The high level of native biodiversity that is only found in this country (endemic biodiversity) makes an important contribution to global biodiversity and places an international obligation on us to ensure its continued existence.

Maintaining a landscape with a recognisable New Zealand character requires an approach directed at maintaining the survival of native species in their natural communities and habitats, and preventing the loss of any class of natural ecosystems. Studies over the last decade have attempted to obtain an estimate of how we, as a nation, value our native biodiversity. Of particular relevance were the results of a study conducted by Massey University (2001) of 2000 over-18-year-olds,<sup>31</sup> which demonstrated:

- 49.6 per cent of people considered the loss of species was “very serious”, while another 37.7 per cent thought it was “serious”. It was unclear from the survey, however, whether that reflects people’s views about the importance of species or people’s understanding of the risk
- New Zealand’s unique plants and animals were valued “very much” by 77.3 per cent of those surveyed, “moderately” by a further 20.9 per cent, “a little” by 4.8 per cent and “not at all” by just 0.6 per cent.

Respondents to the Massey University survey were also asked their attitudes towards environmental regulation. The study found that nearly 60 per cent of New Zealanders believe the Government should pass laws to protect the environment, even if it interferes with people’s rights to make their own decisions, and more than 80 per cent believe the Government should pass laws to make businesses protect the environment.

Submissions (response cards) to the Rio +10 community programme, conducted by MfE,<sup>32</sup> back up the results of the Massey University survey – 82 per cent of respondents believed biodiversity protection should have high or medium priority.

### Likely future issues

All available evidence suggests that the biodiversity has continued to decline since the introduction of national priorities in 2007.

While it is also possible to identify many anecdotes of individual and community group projects that have successfully protected or restored particular sites (and regional reports do a great deal of this), such efforts need to be seen against a backdrop of broad-scale national decline in native vegetation on private land.

Even if this was not the case and existing planning efforts were ‘holding the tide’, it is important to look forward and determine whether they are likely continue to do so in the face of foreseeable change in economic and social pressures. The following issues are emerging as potentially significant threats to biodiversity that current plans are unlikely to be well placed to address.

- The 2008 introduction of forests into the Emissions Trading Scheme (ETS) has some potential to create incentives for land clearance in order to establish exotic forests.

There could, for example, be a risk to biodiversity if deforested land is worth more in an alternative use (eg, exotic forestry) than if left under native vegetation.

- There has been long-standing and ongoing concern about whether the process of South Island high country tenure review is producing net biodiversity benefits. Recent decisions by Cabinet (CAB Min (09)26/7C) to modify the tenure review process (and in particular remove the ‘lakeside policy’) explicitly rely on addressing gaps in district plans as the alternative means of preventing unsustainable or inappropriate development. One way identified in the Cabinet paper is for the Crown to submit on the 8 to 10 district plans as they are reviewed. A complementary way would be to have a NPS that ensures the key impacts of biodiversity are appropriately identified and managed.
- It is likely that current patterns of land-use intensification will continue to place pressure on native grassland and shrubland conversion; for example to provide for further urban development and meet the needs of a growing dairy industry.
- Regional and district councils are likely to face increasing pressure with competing priorities for financial and administrative resources. For example, the recent emphasis on water management at the regional level has led to many regions shifting their focus and resources to address complex water issues. While this is important, it is likely to divert attention from issues such as biodiversity, which many communities may perceive as of lower priority.

## Conclusions

- There is a lack of full, comprehensive data of vegetation loss (a surrogate measure for biodiversity loss). The most recent data is either broad-scale vegetative cover change or particular case studies.
- All the information we have indicates there was a decline in native biodiversity on private land until the early 2000s. Since then, we have no reason to think that decline has been arrested, and some evidence to suggest it has accelerated.
- This decline in biodiversity is occurring despite almost all district plans having RMA provisions in place designed to protect significant vegetation. This suggests that, overall, those RMA plans are not effective and need revisiting.
- There is a significant range in plan development for biodiversity protection, together with a wide range of protection measures, techniques and criteria. Consequently, some councils are well advanced in providing for biodiversity protection, while others provide little or no protection.
- Emerging land-use trends are likely to place increasing pressure on native biodiversity, which will in turn put increasing pressure on regional and district councils to provide for biodiversity protection at a time when they already face competing priorities for financial and administrative resources.
- RMA plans need to be improved to more fully address the current and future risks of biodiversity loss. This is amplified by the correlation between the biodiversity importance of places and the risk faced in those places.

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## BIODIVERSITY IN NEW ZEALAND: ISSUES AND DESIRED OUTCOMES

### ISSUES

- The task of managing resources to maintain biodiversity is *multi-faceted*. It requires biodiversity to be considered in a wide range of resource management decision-making contexts and in the exercise of a range of functions (ie, land use, soil disturbance, discharges to land and water, abstractions, etc). Because the biodiversity function was added some 12 years after the RMA was first enacted, the relationship of this function to other relevant provisions is not as clear as it might be. Currently, there is some confusion about whether the biodiversity maintenance function can be adequately exercised simply by protecting significant sites and habitats in accordance with section 6(c) of the Act.
- Maintaining biodiversity is frequently *controversial*. Inevitable tensions arise between the aspirations of private landowners for the use and development of their land and the desirability of protecting native vegetation and habitat.
- The *burden of protection* falls unevenly and inequitably across both landowners and local authorities. The reasonableness (and therefore acceptance) of land-use restrictions on landowners tends to depend on the proportion of a property affected. The existence of biodiversity values does not respect property or administrative boundaries. Often the benefit of protection is national or regional but the cost is at the individual property or local level. Paradoxically, those who are ‘penalised’ through restrictions on land use are those who have retained vegetation and maintained habitat. Those that escape the cost of restrictions do so because they (or previous owners) have already exacted the benefits from vegetation and habitat loss or modification.
- One way local authorities seek to minimise conflict and controversy is to *rigorously prioritise* what needs to be protected. However, this is itself a complex matter in which there is no established professional consensus, meaning it is debated repeatedly. Further, in order to minimise conflict (and associated cost) there is an incentive for (particular poorly resourced) local authorities to minimise the number and/or extent of areas to be protected – potentially at the expense of national priorities. There is little evidence that the non-statutory statement of national priorities has been influential.
- There is also frequent debate about what *protection* entails and the appropriate means by which protection can be assured. That debate is centred around whether the restrictive rules are essential or whether councils are entitled to rely on other methods (such as QEII covenants or incentive-based rules – such as those that provide added development rights in exchange for legal protection).
- The issues described above mean the identification of areas and habitats in plans – and their means of protection – has often been the subject of *appeal and significant cost*. The Crown itself (through DoC) has been party to many such appeals in the past. With a new round of plans likely in the near future, it is likely that these matters will be relitigated.
- Finally, section 5 of the RMA promotes the idea that the environment is to be protected while (at the same time) the social, economic and cultural well-being of people and communities is enabled. Section 6(c) on the other hand, refers to the protection of areas and habitats as being a matter of national importance. Pursued relentlessly and inflexibly, implementing section 6(c) can foreclose rather than enable well-being (when, for example, it thwarts an otherwise acceptable development

project). This can lead to a debate about whether (and in what circumstances) it is appropriate to allow vegetation or habitat to be adversely affected (thereby enabling an important development project) provided no net loss in biodiversity can be secured by the project proponent engaging in biodiversity offset activity.<sup>34</sup> The place of this approach in the RMA is currently not well established and local authorities therefore operate in an environment of some uncertainty as to the legitimacy of the approach. Without flexibility in the means of protection (through an acceptance of offsetting in appropriate situations) there is a risk that further promotion of biodiversity could have implications for some economic growth opportunities.

## DESIRED OUTCOMES

- clear central government direction to regional and district councils on their responsibilities under the RMA to maintain native biodiversity outside public conservation land. This includes clarification that protecting sites under section 6(c) is necessary but not sufficient in the exercise of the ‘maintenance of biodiversity’ function
- strong national policy support for those councils that wish to do more for biodiversity protection but may feel constrained by contentious, time-consuming and costly decision- making processes
- better specification of minimum criteria for identifying areas and habitats important to the maintenance of native biodiversity, especially for those councils that have inadequate or non-existent criteria. This would constitute a ‘bottom line’ in local government performance
- clear national policy guidance to landowners and communities about the Government’s minimum expectations for biodiversity protection, together with practical options to assist with the tradeoffs that will be required in order to achieve these expectations.

In short, the Government wants:

- a better (more uniform) level of biodiversity protection
- reduced administrative churn for local government (and participants in RMA processes relating to biodiversity)
- flexibility in the management approaches adopted at local and regional levels to ensure sensible decision-making in the overall best interests of New Zealand

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