

**New Zealand's Fourth National Report to the
United Nations Convention on Biological Diversity**

**Reporting period:
May 2005 – March 2009**

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New Zealand's Fourth National Report to the United Nations Convention on Biological Diversity

This Fourth National Report provides a summary of the New Zealand Government's implementation of the United Nations Convention on Biological Diversity for the reporting period of May 2005 – March 2009.

Executive summary

New Zealand is an island state with unique indigenous biodiversity. Typical of an island, much of New Zealand's indigenous biodiversity is highly endemic, with small, self-sustaining, site-specific populations. Due to these characteristics, populations are susceptible to extinction as a result of catastrophic one-off events or ongoing pressures, which include predation by introduced pests and diseases.

Almost one-third of New Zealand's land area is protected for conservation purposes and 7 percent of its extensive marine environment is protected by strict 'no take' marine reserves. There are also a number of other mechanisms in place that offer protection to the marine environment against particular types of impacts; for example:

- 30 percent of New Zealand's marine environment is closed off to mobile bottom fishing through Benthic Protected Areas, to protect seabed biodiversity
- Under the Fisheries Act 1996, fisheries closures are in place for sensitive habitats such as seamounts
- Customary restrictions and closures also play an integral part in fisheries management; this includes the use of mātaimai reserves¹ and taiāpure²

Legislation, policy and planning

A range of legal mechanisms assist with biodiversity protection in New Zealand. The Resource Management Act (RMA), for example, provides the statutory framework for environmental and resource management. The RMA guides the sustainable use of natural resources including air, water, soil and biodiversity through a range of planning tools, all the while ensuring full public participation. The RMA has requirements for consultation with local and indigenous communities, and affected stakeholders and interest groups. Examples of specific planning mechanisms within this legal framework include:

- The development of a National Coastal Policy Statement to guide management of these areas under the RMA (the purview of the RMA extends 12 nautical miles into the coastal marine area)
- The development of a National Policy Statement on Freshwater, which is currently underway
- A National Policy Statement on Biodiversity, which has been proposed

¹ www.doc.govt.nz/conservation/marine-and-coastal/marine-protected-areas/other-protected-areas/mataimai/

² www.doc.govt.nz/conservation/marine-and-coastal/marine-protected-areas/other-protected-areas/taiapure/

To facilitate more effective cross-agency interaction, the Chief Executive Officers (CEOs) of government agencies responsible for the management of New Zealand's natural resources have established a committee to ensure that a strategic, integrated and aligned approach is taken to natural resources development and management across government agencies.

Other key legal mechanisms include the Conservation Act 1987 and the National Parks Act 1980. Planning instruments that have been developed to help inform the implementation of these Acts include:

- Conservation General Policy and
- General Policy Statement for National Parks

National Biodiversity Strategy

The New Zealand National Biodiversity Strategy Action Plan (NBSAP) is the main vehicle for implementing New Zealand's obligations under the Convention on Biological Diversity (CBD or 'the Convention'). This was released in 2000, and its implementation was enabled by a funding package of \$187 million over the first 5 years. In 2006, the New Zealand Government agreed to retain this funding on an ongoing basis and baseline it within relevant government agencies' funding allocations, equating to \$55 million per annum. Additional specific funding was also allocated, which includes \$2 million over 4 years for work on identifying potential Marine Reserves; and \$3.9 million for biodiversity and biosecurity research.

Domestic Bioprospecting Policy

The Ministry of Economic Development is leading the development of New Zealand's overarching domestic policy for bioprospecting.

The development of domestic bioprospecting policy is set against the backdrop of contested rights to New Zealand's biological resources. In 1991, the Treaty of Waitangi claim Wai 262 was lodged by six iwi (tribes), asserting a range of breaches of the Treaty by the Crown. The Wai 262 claim covers a broad range of issues, and includes a focus on rights to New Zealand's biological resources and traditional knowledge. The claim is currently being considered by the Waitangi Tribunal, and the Tribunal's report is expected some time in early 2010. The Crown will then need to consider the report.

Finalisation of bioprospecting policy remains challenging while the range and nature of rights over New Zealand's biological resources remains unsettled. Meanwhile, private and public research and conservation of genetic variation of biological resources continues through existing permitting processes.

Public engagement in biodiversity protection

During the past reporting period there has been a significant increase in awareness by the New Zealand public of the importance and value of New Zealand's indigenous biodiversity.

This is particularly so in areas of primary production, ecosystem services and tourism. The intrinsic value of biodiversity is also gaining support and public acceptance.

New Zealand has experienced significant increases in community group participation and volunteer involvement in conservation management via restoration programmes, species recovery programmes, and beach and reserve clean-up events, to name but a few. This has been coupled with a significant increase in the uptake of voluntary biodiversity protection mechanisms on privately-owned land. There is growing public awareness of climate change issues and, in particular, the role of environmental services and the importance of improving biodiversity resilience to facilitate natural adaptation to the impacts of climate-driven change.

Representativeness of the Terrestrial Protected Area Network

While the impact of land-use change is not currently a significant factor for New Zealand's protected area network, there are a few threatened lowland ecosystems that continue to be under-represented. These areas tend to occur in high-value, productive, lowland areas and, as such, are also valuable for their production potential. Such land blocks are difficult to acquire as they are expensive to purchase and private landowners are often reluctant to sell them. This lack of representativeness has been recognised as an issue for New Zealand and, therefore, under the New Zealand Biodiversity Strategy, a number of funds have been established to support the voluntary protection of biodiversity in privately-owned lowland areas (refer to Appendix III (A)—Target 1.1). While the funds have proven to be very successful and popular with landowners, it is recognised that this mechanism is not sufficient on its own. For this reason, the Government continues to give priority to the identification of ecosystems that are under-represented and the acquisition of these via land tenure reviews or the purchase of land by the Crown (refer to Chapter 1, Biome Type: Forests (Indigenous) for further information on the Nature Heritage Fund).

Chapter 1—Overview of biodiversity status, trends and threats

Biodiversity monitoring, indicators and baseline data

A paucity of baseline data continues to be a challenge for New Zealand. In 1997, the New Zealand Ministry for the Environment released its first State of the Environment Report, providing some datasets against which to measure trends. In 2005, an independent review of the New Zealand Biodiversity Strategy again highlighted the lack of baseline data available in some areas and thus New Zealand's inability to measure and monitor progress. In 2007, New Zealand's second Environmental Impact Assessment report was released, allowing a look at progress and change for a number of environmental indicators.

The Department of Conservation is attempting to address the paucity of data primarily on lands it manages via the development of a Natural Heritage Management System (NHMS), which will include a number of nationally important biodiversity datasets.

Natural Heritage Management System (NHMS)

NHMS was initially developed to enable the most cost-effective use of resources for conservation management. NHMS will measure indicators of the ecological integrity at a site, monitor trends over time, rank sites in order of priority, and enable coherent reporting on the state of biodiversity conservation in New Zealand. Parts of NHMS are now operational, including:

- The inventory and monitoring toolbox
- Natural heritage training
- Animal and pest weed data layers
- Datasets for waters of national significance
- Computer based mapping (using Global Information Systems (GIS)) of the Department of Conservation's conservation management activities, which is now complete and will be updated as part of business as usual

Other sections of NHMS are in their final stages of development, such as:

- Piloting the full suite of measures—this is complete and will be reported on in June 2009
- National monitoring indicators—these are in place and baseline data are being collected
- Pilot studies—these are underway in the Eglington Valley and at three wetlands sites

Some of the early data from NHMS have helped to inform the New Zealand Environmental Assessment 2007 and this report. It is anticipated that New Zealand will be in a better position to monitor and report on biodiversity status and trends for the 5th CBD National Report, as NHMS should be fully operational at that time.

Status and trends summary

The majority of information below has been taken from the indicators used to measure environmental status and trends for the State of the Environment Report 2007.

Land cover

Land cover in New Zealand continues to change as the population grows, land prices change and international commodity prices fluctuate.

In 2002, native forest, native vegetation and other natural land cover (for example, rivers, lakes, snow, ice and scrub) made up 50 percent of New Zealand's total land cover area. Pasture was the country's second largest land cover at just over 39 percent, and exotic forest covered 7.31 percent of New Zealand's land area.

Between 1997 and 2000:

- Pastoral land cover decreased by 125,200 hectares (or just over 1 percent)
- Human settlements increased by just over 5,300 hectares (or 3 percent); this represents 96 percent of the total increase in artificial surfaces of 5,500 hectares
- Native vegetation and native forest decreased by 17,200 hectares (or 0.15 percent)
- Exotic forest cover increased by 139,500 hectares (or about 8 percent)
- Horticultural land area increased by 4,500 hectares, with the total area of horticultural land at just under 1.6 percent of New Zealand's total land area

Freshwater

New Zealand has 425,000 kilometres of rivers and streams, almost 4,000 lakes larger than 1 hectare in surface areas and about 200 groundwater aquifers.

By international standards, freshwater in New Zealand is both clean and in good supply. However, some aspects of water quality are deteriorating in areas dominated by intensive land use. Demand for water is increasing, particularly in areas that are already water-stressed.

Pollution of New Zealand's waterways by organic waste has considerably reduced since the late 1980s, as a result of improvements in the management of point source pollution (i.e. effluent from sewage treatment plants, meat works and farm ponds). However, pollution from diffuse sources, such as run-off from farm land (animal manure and urine, and fertilisers) and urban areas, has proven difficult to address. The quantity of nutrients applied to agricultural land has increased significantly since the mid-1980s, and water quality monitoring has shown that a proportion of these nutrients will, in time, end up in waterways.

During summer 2006/07, the water quality of 60 percent of monitored swimming sites on rivers and lakes met New Zealand guidelines for water-based (contact) recreation almost all of the time (that is, at least 95 percent of samples taken at these sites were within acceptable levels), and were therefore safe for swimming.

Terrestrial protected areas

By international standards, a large proportion (just over 32 percent) of New Zealand's land area is legally protected for conservation purposes. Between 2004 and 2007, the area of public conservation land increased by 4.56 percent, bringing the total area to 8.43 million hectares.

About 44 percent of New Zealand's land area is covered by native vegetation, of which almost two-thirds is protected and found mostly in hill country and alpine areas. Broadleaved native hardwoods, mānuka (*Leptospermum scoparium*) and/or kānuka (*Kunzea ericoides*), tall tussock grassland, and native forest have experienced the greatest losses. There is less native vegetation remaining in lowland areas, which has implications for species that need this type of habitat to survive.

Between 1997 and 2002, native land cover decreased by an estimated 16,500 hectares (0.12 percent). This net decrease included an increase of 700 hectares of non-vegetative native cover, such as sand and gravel, and a decrease of 17,200 hectares of native vegetative cover. These changes either occurred through conversion of land to other uses or as a result of natural processes.

Terrestrial species

Internationally, New Zealand is regarded as a significant contributor to global biodiversity, with an estimated 80,000 species of native animals, plants and fungi. A large proportion of these species are endemic (i.e. do not occur naturally anywhere else on earth). Examples include all the frogs and reptiles, more than 90 percent of the insects, approximately 80 percent of vascular plants (plants other than mosses, liverworts and hornworts), and a quarter of bird species.

Since the 1970s, decreases in population sizes of species found in New Zealand have been largely caused by the impacts of introduced pests, rather than habitat loss. A changing climate may further exacerbate pressures on the country's most endangered species.

Pest control

Another issue of concern for New Zealand's biodiversity continues to be the significant impact of invasive alien species. Since New Zealand's native species evolved in the absence of any native land mammals (other than three species of bat), they are particularly vulnerable to the impacts of introduced predatory mammal species. Native plants and animals that survived the initial habitat modification caused by human settlement continue to be threatened by predators and competitors. What has changed in the past 10 years, however, is the greater area of both public and private land under pest control, much of which is especially targeted at the habitats of the most threatened species. For instance, between 2000 and 2006, areas targeted for Australia bushtail possum (*Trichosurus vulpecula*) management by the Department of Conservation increased by 60 percent. In addition, areas targeted by the Animal Health Board (for tuberculosis control) have increased by 40 percent since 2001, so that the total area targeted for possum management equates to around 37 percent of New Zealand's land area.

Since 1997, pest control has become more effective, as technology and knowledge have improved. The recent introduction of new Department of Conservation traps for stoats (*Mustela erminea*), as well as enhanced control regimes in the Department's offshore and mainland island projects, demonstrate how pest control is evolving in New Zealand.

Increased biosecurity is recognised as a key measure in protecting New Zealand from new foreign pests and plants. This is important not only for native biodiversity, but also for the introduced species on which much of New Zealand's economy depends. In the future, conservation priorities are likely to continue to focus on improved pest control and biosecurity protection, and on increasing the legal protection for conservation purposes. Attention is also likely to focus on the impacts of climate change on the country's native biodiversity and environmental services.

Marine environment

About 30 percent of New Zealand's marine environment is thought to be experiencing some degree of disturbance from human activities. As the population and technological capability grow, so do the pressures placed on the marine environment. These pressures include:

- Commercial fishing and trawling, which have the largest impact on the New Zealand marine environment both inshore and offshore
- Increasing land development, which has increased discharges of land-based pollution, stormwater, nutrients and sediments to the sea
- Marine spills, which can put pressure on the marine environment in some areas
- Climate change, which is expected to have a significant impact on the oceans and coasts

As a result of these changes, well known species may be under threat, including both subspecies of Hector's dolphin (*Cephalorhynchus hectori*), New Zealand sea lion (*Phocarctos hookeri*), southern right whale (*Eubalaena australis*), Fiordland crested penguin (*Eudyptes pachyrhynchus*) and New Zealand fairy tern (*Sterna nereis davisae*). In addition:

- 62.3 percent of the ocean-going seabirds are listed as threatened
- Two species of birds—the Campbell mollymawk (*Thalassarche impavidia*) and black petrel (*Procellaria parkinsoni*)—have shown some signs of recovery in recent years, but seven species have become increasingly threatened over the past 3 years

During summer 2006/07, 80 percent of the 380 monitored beaches had safe water quality almost all of the time. Only 1 percent of sites breached bacterial guidelines regularly. Water quality at New Zealand beaches appears to have improved in recent years, although the record is too short to discern definite trends.

Marine Protected Areas

New Zealand administers the sixth largest marine environment in the world. At more than 4.4 million hectares, it is around 14 times larger than the country's land area. Between 1997 and 2007, the area designated as marine reserve increased from 7,602 square kilometres to 12,764 square kilometres.

Marine reserves now cover just over 7 percent of New Zealand's territorial sea. This is high by international standards. In addition, other mechanisms are in place to manage the impact of bottom fishing on 30 percent of New Zealand EEZ and a number of seamounts are closed to fishing.

Impacts from pollution as a result of land-use practices continue to be an issue. They are managed through provisions of the Resource Management Act and the National Coastal Policy Statement. Monitoring of a selection of our coastal swimming areas indicates that pollution at these sites is primarily affected by human activity on land.

Biome Type: Agricultural ecosystems

New Zealand's agricultural sector

New Zealand agriculture is largely pastoral farming, based on dry stock and dairy farming, with lower amounts of horticulture, cropping and viticulture. Agriculture occupies about 14 million hectares (about 51 percent of the total land area), mainly on the relatively fertile lowlands. Horticulture and other crops are generally confined to the best lowland soils. Pastoral farming occupies a range of lowland sites to harder hill country sites, with some extensive grazing on high country. Agriculture contributes about 16 percent of New Zealand's Gross Domestic Product (GDP) and over 50 percent of export receipts. The country therefore has a high economic reliance on the agriculture sector. Management of water and soils, and the key natural systems associated with farming, are a vital part of New Zealand's sustainable agricultural approach.

New Zealand's agro-ecosystem is largely devoted to intensive management of introduced pasture, crop and grazing mammal species for economic returns. While this contrasts with the natural ecosystem management focus of the protected areas network, there are important links between the two in their approach to biodiversity conservation and its use. The use of agricultural lands for the intensive management relies on the sustainable management of the 'natural capital', that is the physical and biotic components of soil, hydrologic systems and biodiversity, all of which are key components of natural ecosystem management.

While New Zealand does not have a formal programme to monitor agro-ecosystems nationally, this is conducted at regional levels by local councils, particularly with regard to sensitive or erodible soils and their watersheds, ground and surface water quality, and fertiliser use. (For further information, refer to Chapter1—Freshwater.)

The New Zealand Government implements a sustainable land management strategy focusing on soil, water and biodiversity values. In addition, there are a number of industry-led initiatives that focus on water quality, fertiliser and chemical standards. Increasing attention is being given to the role of environmental services in agro-ecosystems; for example, by protecting habitat areas through natural area set-asides (**ref**).

New Zealand's largest dairy company, Fonterra, has an agreement with its suppliers called the 'Clean Stream Accord', which aims to reduce the impact of dairy farming on New Zealand's ecosystems. Details of the 2003 Accord can be found at www.mfe.govt.nz/issues/land/rural/dairying-accord-may03.pdf.

New Zealand continues to maintain a strong biosecurity border and national surveillance system for animal pest, weed and disease incursions. Since 1950, over 250 exotic forest pests have become established in New Zealand.

Drivers of change

Threats to New Zealand's agricultural ecosystems include:

- Potential soil imbalances resulting from nutrient build-up, and water quality and availability
- Changes to habitat, site and hydrology brought about by climate change
- Increased threats from animal pests, weeds and diseases through climate change impacts or from cross-border incursion

Biome Type: Forests (indigenous)

New Zealand's indigenous forests

New Zealand's indigenous forests cover 7.2 million hectares, or 26 percent of New Zealand's land area. 74 percent of those forests reside on lands protected for conservation purposes, and are therefore subject to full protection under existing legislation. A further smaller proportion of the country's indigenous forests are protected under private covenant or some other conservation status.

The Morphological Spatial Pattern Analysis (MSPA) of New Zealand's native forest fragmentation records 74 percent of 7 million hectares as core (forest interior greater than 100 metres from an edge). Overall, 83 percent or 4.2 million hectares of forest protected as public conservation land is core, whereas 49 percent or 900,000 hectares of other native forest is core. This indicates greater long-term viability of forests protected as public conservation lands. The edge to core ratio of all native forest is 1:7, but it is 1:10 in areas protected as public conservation land. In addition, New Zealand wide, less than 2 percent of indigenous forest forms corridors between core areas of forest. These corridors play an important role by allowing forest species to travel between blocks of protected areas, helping to maintain the longterm viability of these species.

Indigenous forest health

In 2007 and 2008, further ill-health of kauri (*Agathis australis*) was recorded in indigenous stands in the Waitakere Ranges, west of Auckland,

and in Trounson Kauri Park, in Northland. Affected trees showed foliage yellowing, canopy thinning and sometimes death associated with bleeding lower stem lesions or collar rot. *Phytophthora* taxon Agathis (PTA) has been isolated from the margin of lesions. PTA was first identified from Great Barrier Island (Aotea Island) in the early 1970s as *P. heveae*, but recent molecular analysis has shown that it is more closely related to *P. katusrae*.

Between 2000 and 2008, there were 58 new host records of insects and fungi on indigenous hosts. None of these records were from native plants growing in natural forests, and none were recorded as causing serious damage. The number of new records found over the past 3 years is significantly higher than in previous years, but the increase is a result of intensified inspection of native trees during high risk site surveillance and is not related to indigenous forest health status. No newly introduced insect pests or fungal pathogens of indigenous forests have been detected over the last 10 years.

Central government research funding into forest health amounts to a little over \$4 million per annum through the Foundation for Research, Science and Technology (FRST) funding³. FRST provides funding to Scion⁴, Bioprotection CORE at Lincoln University⁵, and B3 outcome based investment⁶. In addition, the Forest Biosecurity Research Council funds a further \$1.4 million per annum for research into specific disease and management tools. The Ministry of Agriculture and Forestry (MAF) spends \$17.5 million per annum on surveillance activities, about 5 percent of which is targeted specifically at forestry pests. The New Zealand Forest Owners Association spends a further \$1.1 million on annual surveys.

Ridley et al. (2000)⁷ showed that no exotic fungal pathogens or insect pests have caused damage in major indigenous forest ecosystems, and concluded that the risk of such organisms establishing is low.

Australian brushtail possum (*Trichosuros vulpecula*) browse can have significant health implications for indigenous forest health, possum control work undertaken by the Department of Conservation is mostly within indigenous forest. The average indigenous forest area treated was 748,832 hectares in 2000 and 1,305,075 hectares in 2005 (based on 5-year averages).

³ www.frst.govt.nz/funding/research

⁴ www.scionresearch.com/

⁵ www.lincoln.ac.nz/story2787.html

⁶ www.b3nz.org/birea/index.php

⁷ Ridley, G.S.; Bain, J.; Bulman, L.S.; Dick, M.A.; Kay, M.K. 2000: Threats to New Zealand's indigenous forests from exotic pathogens and pests. *Science for Conservation 142*. Department of Conservation, Wellington. 67 p.

Indigenous forest management in New Zealand

There is a clear framework in place for forest conservation and use in New Zealand. A significant proportion of indigenous forests (74 percent) is within the protected area network, and is fully protected from commercial harvesting. Indigenous forests on private lands are subject to sustainable forest management provisions of the Forests Act 1949. This provides for limited timber production based on the forest's capacity to be both sustained for this use and managed for natural forest (non-timber) values. All forests, including indigenous and planted commercial forests (which provide the majority of timber production in New Zealand), are subject to broader requirements for sustainable management of natural and physical resources under the Resource Management Act (RMA).

The New Zealand Government has established and funds a number of voluntary conservation mechanisms that provide options for the full protection of indigenous forests for private forest owners. An additional voluntary agreement between the planted forest industry, major environmental groups and other sector stakeholders provides for biodiversity conservation in conjunction with many commercial forestry operations.

As the indigenous peoples of New Zealand, Māori are significant owners of forested lands. The New Zealand Government has therefore established and funded the Ngā Whenua Rāhui Fund⁸, which specifically aims to assist and support Māori with the conservation and management of biodiversity on their lands. In addition, New Zealand legislation provides for Māori and local community involvement in protected area management and regulatory processes.

Sustainable forest management under New Zealand's Forests Act provides for the sharing of expertise between the regulatory agency and forest owners, and the gradual improvement of forest management practices. Research is currently underway to explore mechanisms providing for both conservation of protected biological diversity and sustainable use of non-protected biodiversity. Methods developed by the Department of Conservation (particularly relating to pest control) are made freely available to the public and other forest managers. In addition, the government-funded science system makes biodiversity information freely available as a public good.⁹

⁸ www.doc.govt.nz/getting-involved/landowners/nga-whenua-rahui/

⁹ www.landcareresearch.co.nz

¹⁰ www.forestbiosecurity.com

¹¹ www.doc.govt.nz/getting-involved/landowners/nature-heritage-fund/

¹² www.doc.govt.nz/getting-involved/landowners/

¹³ www.openspace.org.nz/

New Zealand agencies, including major forest companies and conservation groups, have developed a coordinating mechanism for input into international processes affecting forests through the international forest research union (IUFRO)¹⁰.

New Zealand has an extensive protected area network, encompassing 32.9 percent of the total land area. This network is not fully representative; in particular, lowland and fertile forests are poorly represented, while montane forests feature prominently. The funding schemes put into place for the voluntary protection of biodiversity on private land have gone some way to protecting privately-owned lowland forests. In addition, the Nature Heritage Fund¹¹, established in 1990 and funded by the New Zealand Government, is mandated to 'ensure that viable or sustainable examples of all natural ecosystems are protected by approximately the same proportions in which they were originally present in the natural landscape'. This is an ongoing task, and is achieved through direct purchase and the establishment of covenants on private land.

A process for placing voluntary legal protection across private land through 'covenants' is in place. The bodies administering the covenant legislation (the Department of Conservation¹² and the Queen Elizabeth II National Trust¹³) provide information to landowners about forest conservation issues and biodiversity protection options. The Government provides significant funds to pay for the registering of covenants and is increasingly contributing to the management of covenanted lands.

Despite the processes and mechanisms mentioned above, between 1997 and 2002 there was a net loss of 14,500 hectares of indigenous forest cover in New Zealand.

Research currently underway

Since the time of human settlement, New Zealand indigenous forests have been substantially cleared and the remaining forests subjected to the impacts of invasive animals, pests and weeds. These impacts have significantly changed the species composition of these forests. Measuring the health of these forest ecosystems in terms of numbers of forest-related species is difficult due to the lack of biodiversity information from historic times. However, current research aims to provide more information about changes in species within forest taxa, based on indicator species, with the further aim of better understanding the extent of historic biodiversity changes and ongoing impacts.

Drivers of change

Past drivers of indigenous forest loss were land clearance for agriculture or exotic forestry. These drivers of change are no longer nationally significant.

Major threats to indigenous forests today include:

- Introduced pests, particularly possums, which consume foliage, leading to high mortality in some tree species, and are also significant predators of some bird species. Deer, goats (*Capra hircus*) and pigs (*Sus scrofa*) are also agents of decline in some areas. Other introduced predators, particularly stoats and rats (*Rattus spp.*) are major causes of decline in indigenous forest vertebrates. Consequently, these predators impact on seed dispersal and pollination services within forests. The recent irruption of a strain of *Phytophthora* fungus is implicated in the decline of New Zealand's largest tree species, the kauri.
- The effects of past fragmentation, which continue to be expressed as existing remnants lose species that succumb to edge effects or lack of recruitment.
- The ongoing decline of a number of forest-dwelling species, including iconic animals such as the kiwi (*Apteryx spp.*), which is of cultural significance. This, in turn, is leading to strong community and government responses focused on threat management and species recovery at key sites.

Biome type: Forests (production)

New Zealand production forests

The health status of the production forests

New Zealand has reasonable data on the health status of production forests. Health status may change considerably from year to year as a result of episodic pest outbreaks. For instance, the severity of *Dothistroma* needle blight is closely related to summer rainfall. In 2002, following a wet summer, over 180,000 hectares had to be sprayed for disease control. Conversely, in 2008, following a dry summer, only 90,000 hectares were sprayed. For that reason, it is appropriate to look at trends over a given time period when evaluating forest health status.

Based on data supplied for the 2008 Montreal Process¹⁴ the health of New Zealand's plantation forests improved over the 2004–2008 period compared with the previous 1999–2003 period (Table 1). The impact of *Cyclaneusma* needle-cast and *Dothistroma* needle blight decreased, due to a combination of weather that was unfavourable for disease outbreaks, reduced area of trees in the susceptible age-class, and increased planting of stock that was somewhat less susceptible to disease. The improvement in overall health, as measured by economic loss, was tempered by the impact of *Nectria* flute canker over the latest period. This disease was first recognised in 2003 and its economic impact was not

¹⁴ <http://www.maf.govt.nz/forestry/montreal-process/#mprs>

taken into account in Table 1. However, in reality the disease was causing loss over the 1999–2003 period, so it is probable that the reduction in average annual loss was greater than that shown here. No new insect pests or fungal pathogens have been detected in production forests over the past 10 years.

Table 1. Annual loss from pathogens affecting plantation forests.

Factor	Host	Average loss 1999–2003 (\$ million)	Average loss 2004–2008 (\$ million)	Change (\$ million)
Cyclaneusma needle cast	<i>Pinus radiata</i>	51	38	–13
Dothistroma needle blight	<i>Pinus radiata</i>	24	20	–4
Diplodia whorl canker	<i>Pinus radiata</i>	4	4	0
Armillaria root rot	<i>Pinus radiata</i>	23	20	–3
Other diseases	<i>Pinus radiata</i>	4	15	11
Swiss needle cast	<i>Pseudotsuga menziesii</i>	1	1	0
Cypress cankers	<i>Cupressus</i> spp.	1	1	0
Total		108	99	–9

No insect problems of any note have been recorded in plantation or protection forests over the past 10 years.

Introduced Australian brushtail possums are a major forest health problem in New Zealand. They affect the overall structure and composition of indigenous forests, and also affect planted forests. Reports of possum damage were significantly more common in the late 1990s and early 2000s (Scion Forest Health Database records) than in recent times. It is difficult to determine the reason for this, but it is possible that forest companies reduced efforts to control possums prior to that period due to budget constraints so that populations increased to levels where significant damage was being caused. Increased efforts in possum control by the Department of Conservation and the Animal Health Board between 2000 and 2006 have targeted 37 percent of the New Zealand land area (refer to Chapter 1—Status and trends summary—Pest control). Over the last 3 years, the numbers of records of possum damage in plantation forests have averaged about 100 per year, down from around 500 per year from 1999 to 2003.

Few forest health data are collected nationally for protected exotic forests, except for some targeted inspections of high-risk sites such as Craigieburn Forest Park. These inspections focus on detection of new pests rather than assessment of existing pests. However, protected exotic forests are generally not affected by *Dothistroma* needle blight or many of the other pathogens to the same degree as plantation forests, because the environment and climate are not conducive for disease development. No newly introduced insect pests or fungal pathogens have been detected in protected forests over the past 10 years. It is reasonable to assume that the health of protected exotic forests has not changed significantly over the past 10 years.

Production forest management in New Zealand

New Zealand's planted forests are predominantly managed as stands of exotic species grown primarily for timber production. These are the mainstay of the production forest sector in New Zealand.

Some privately-owned indigenous forests are managed for timber production under legislated silvicultural practices, which require the mimicking, as closely as practicable, of the natural forest processes. This requires particular regard to forest type, species composition, habitat conservation values and a forest-stand-scale ecosystem approach. All production, indigenous and planted forests are subject to the environmental sustainability requirements of the Resource Management Act 1991.

Planted and natural forests are often located in close proximity and provide 'stepping stones', allowing a degree of 'connectivity' for certain bird species.

All forests share a capacity to provide for key environmental values such as water and soil conservation, land stability, and climate change mitigation (carbon sequestration, etc.). In New Zealand, there has been a renewed awareness of, and interest in, the role of indigenous and planted forests in the provision of environmental services. This applies particularly to watershed management and carbon sequestration.

Both natural and planted forests are a strong element of the cultural identity and land-based economic aspirations of New Zealand Māori communities and organisations.

New Zealand has a number of initiatives underway, which include the enhancement of habitat for indigenous bird species within planted forests and around interfaces between indigenous and planted forests; enhancing the role of forests in climate change mitigation; and promotion of timber as a sustainable and renewable green building material.

Drivers of change

The key threats to production forests include:

- Increased risk of pest and disease incursions potentially affecting planted and indigenous forest species
- Climate change impacts on temperature or rainfall, which could lead to reduction or loss of ecosystems and/or growing sites, increased opportunity for invasive species establishment, or increased disease incursions
- Inadequate understanding of natural/indigenous forest ecosystem processes, and how best to mimic them in natural production forests

Biome type: Inland waters

New Zealand's inland water ecosystems

New Zealand is a narrow, mountainous country that is characterised by relatively small catchments and fast-flowing rivers and streams. Half of its 425,000 kilometres of rivers and streams are small headwater streams.

Of New Zealand's total length of rivers and streams, 51 percent lies in catchments with predominantly natural land cover, such as native forest, shrubland, or alpine rock and tussock grassland.

The remaining 49 percent of river length is in catchments that have been modified by agriculture (43 percent), plantation forestry (5 percent) or urban settlement (1 percent).

There is a widespread trend towards nutrient enrichment of rivers, with an average annual increase of concentrations of total nitrogen and dissolved phosphorus of 0.5 to 1 percent over the period 1989 to 2003, primarily as a result of land-use impacts from farming and industry.

In addition, New Zealand has almost 4000 lakes greater than 1 hectare in surface area and 200 groundwater aquifers. They range in water quality from highly eutrophic, shallow, lowland lakes to deep, cold, oligotrophic lakes of the southern high country. By extrapolating results for monitored lakes, it is estimated that about one-third of all lakes are likely to be nutrient enriched and have poor water quality.

Suitable long-term water quality records are available for 49 monitored lakes in New Zealand. From these, most (33) show no significant change

in nutrient or algal status. Ten of the remaining lakes show signs of deterioration and six show signs of improvement.

Using remote sensing data, the pre-human (prior to AD 1300) extent of wetlands in New Zealand has been extrapolated at around 2.4 million hectares. This constitutes almost 9 percent of the New Zealand mainland area (North Island, South Island and Stewart Island/Rakiura).

Current data (Auseill et al. 2008)¹⁵ indicate that only around 10.1 percent of New Zealand's original wetland systems remain, covering approximately 249,776 hectares.

Drivers of change

Key threats to New Zealand's inland water systems include:

- Invasive pest and weed incursion
- Land-use change—diversion, drainage of wetlands, conversion of floodplains for production purposes
- Nutrient run-off
- Over allocation of water for agricultural, industrial or domestic use
- Climate change

Biome type: Marine and coastal areas

New Zealand's marine and coastal areas

New Zealand administers the sixth largest marine environment (Exclusive Economic Zone) in the world. At more than 4.4 million hectares, New Zealand's marine environment is around 14 times larger than its land area.

The New Zealand marine environment includes a diverse range of ecosystems, ranging from subtropical to subantarctic waters, and includes

¹⁵ Ausseil, A.G.; Gerbeaux, P.; Chadderton, W.L.; Stephens, T.; Brown, D.; Leathwick, J. 2008: Wetland ecosystems of national importance for biodiversity: criteria, methods and candidate list of nationally important international wetlands. Discussion document. Landcare Research Contract Report LC0708/158. Department of Conservation, Wellington. 162 p.

intertidal estuaries, seabed trenches and thermal seamounts.

While little is known about many of New Zealand's marine species, up to 80 percent of the country's indigenous species are thought to occur in the marine environment, around 44 percent of which are thought to be endemic.¹⁶

The results of environmental indicator data for New Zealand's marine environment (Environment New Zealand 2007)¹⁷

- In 2006, the commercial fishing industry caught about 525,000 tonnes of fish in New Zealand waters.
- 65 percent of this catch was from assessed fish species (fish species for which there was enough information to scientifically determine the status of the stock). From these assessed species, 85 percent have been sustainably fished and 15 percent are recovering.
- In 1997, 10 percent of fish stocks were over-fished. (However, it is not possible to directly compare these figures, due to increases in the number of assessed species under the Quota Management System and improved assessment methodologies.)
- Large commercial vessels conducted about 970,000 seabed trawls between 1990 and 2005. During this period, the area swept by trawls averaged around 55,000 square kilometres each year.
- From 1998 to 2005, the area trawled by large commercial vessels reduced from about 68,000 to about 50,000 square kilometres. This is probably due to reductions in the allowable catch for some high-value species.
- New Zealand has 31 gazetted marine reserves, 15 of which have been established since 2000.
- Between 1997 and 2007, the area designated as marine reserve increased from 7,602 to 12,764 square kilometres.
- Marine reserves now cover just over 7 percent of New Zealand's territorial sea. This is high by international standards.
- However, 99 percent of our protected area is found in two offshore marine reserves, and some key habitats remain unprotected.
- In addition, about 30% of New Zealand's seabed within the EEZ has been closed to mobile bottom fishing through industry-proposed Benthic Protected Areas to protect seabed biodiversity
- 80percent of monitored beaches are safe to swim in almost all of the time.
- 1 percent of monitored beach sites breached guidelines regularly. However, the period for which data are recorded is not long enough to show whether the improvements in recreational water quality are a trend or merely annual variations.

¹⁶ www.mfe.govt.nz/publications/ser/enz07-dec07/

¹⁷ www.mfe.govt.nz/environmental-reporting/soe-reports/enz07-questions-answers/oceans.html

¹⁸ <http://www.doc.govt.nz/upload/documents/science-and-technical/sap236.pdf>

¹⁹ www.mfe.govt.nz/environmental-reporting/soe-reports/enz07-questions-answers/oceans.html

- At the time of the last update (2005), the total number of marine species in the acutely threatened, chronically threatened or at risk categories on the New Zealand Threat Classification System List¹⁸ increased by one for marine fish, one for marine mammal, two for macroalgae and 26 for marine invertebrates.
- The Campbell mollymawk and black petrel have shown sufficient recovery to have their threat classification lowered.
- The Bounty Island shag, Fiordland crested penguin, Chatham Island shag, Pitt Island shag, Salvin's mollymawk and red-billed gull have all had their threat classifications increased.

New Zealand has also contributed to various international bodies to protect marine biodiversity, notably Food and Agriculture Organisation of the United Nations (FAO) and Commission for the Conservation of Antarctic Living Resources (CCAMLR), and, through interim measures put in place during negotiations, to establish a South Pacific Regional Fisheries Management Organisation (RFMO). New Zealand is taking a lead role in implementing the South Pacific Regional Fisheries Management Organisation's (SPRFMO's) interim measures to protect Vulnerable Marine Ecosystems on the High Seas.

Drivers of change (Environment New Zealand 2007)¹⁹

The main threats to New Zealand's marine biodiversity include impacts from:

- Commercial fishing and trawling, which have the greatest impact on our oceans, both inshore and offshore
- Increased land development, which has increased discharges of land-based pollution, stormwater, nutrients and sediment to the ocean
- Marine spills, which can put pressure on our marine environment in some areas
- Climate change, which is expected to have significant impacts on our oceans and coasts

Biome type: Dry and sub-humid land

New Zealand's dry and sub-humid lands

New Zealand's 50,000 square kilometre 'dryland' zone covers rainshadow areas with Penman annual water deficits of > 270 millimetres east of the main axial ranges of both main islands, and accounts for 19 percent of New Zealand's land area. Half of this zone receives seasonally

reliable rainfall of 800 millimetres or more, and even the driest parts would not be considered arid in global terms.

New Zealand's dryland ecosystems have been irreversibly altered by two phases of human settlement. The first humans (after AD 1200) used fire to prioritise grassland ahead of fire-sensitive woody vegetation. European pastoralism then introduced a further check to the competitive re-expression of shrubs and trees over grasses, and progressively degraded the secondary grasslands to mixed exotic–native communities.

Today, a significant proportion (> 70 percent) of habitat is dominated by non-indigenous pasture, forestry, crops and urban land uses. Approximately 2 percent of the undeveloped remaining land supports modified primary forest remnants, and 28 percent supports seral shrublands that have developed from post-settlement and induced grasslands without deliberate human intervention. Most of these communities are mixtures of native and exotic species, with about 70 percent being largely native-dominated ('mānuka and/or kānuka', 'broadleaved indigenous hardwoods', 'grey scrub' or 'matagouri') and the remainder ('gorse and/or broom' and 'mixed exotic shrubland') generally being dominated by exotic species. These 'semi-natural' communities contain an exceptionally high proportion of New Zealand's most threatened species (e.g. 46 percent of acutely threatened and 53 percent of chronically threatened vascular plants (Rogers et al. 2005)²⁰ Many more indigenous species are regionally threatened, concentrated in small refuges, with reduced regeneration, compromised genetic structure and limited resilience, and are gradually disappearing from regional gene pools.

Available figures suggest a slow increase in the percentage of land areas being protected (estimates were 1.9 percent in 2003, 2.7 percent in 2004 and 2.4 percent in 2006). Since 1992, high-country land reform has added small amounts to public conservation lands in low-altitude areas, but added significantly to those in high-altitude areas. Furthermore, land reform also privatised many areas most suitable for agriculture, increasing the likelihood of its intensive development.

Drivers of change

Key threats to New Zealand dry and sub-humid lands include:

- Intensive pasture/agricultural development, including dairy farming, viticulture and residential subdivision—privatisation of Crown lands increases opportunity for these activities in lowland areas
- Extensive pastoral agriculture, which has also led to a gradual decline in native biodiversity
- Predators (especially cats and mustelids) of fauna such as braided river birds and lizards, which have reduced most native fauna

²⁰ G.M. Rogers; S. Walker; W.G. Lee. 2005. The role of disturbance in dryland New Zealand: past and present. Science for Conservation no.258. Department of Conservation. Wellington.

- Weeds (especially woody weeds such as wilding pines), which are increasing and modifying some large areas and some smaller yet ecologically vital areas

Biome Type: Island ecosystems

New Zealand's islands

New Zealand is essentially an island nation comprising three main islands (North Island, South Island and Stewart Island/Rakiura), referred to as the mainland, and around 770 offshore and outlying islands larger than 1 hectare. There are also numerous smaller islands.

At least 220 of the 770 islands larger than 1 hectare are managed by the Department of Conservation. In addition, some islands are managed for conservation as public-private partnerships, traditional Māori land and as private land.

As the country's off-shore islands are isolated and relatively free of the invasive animals that have such a great impact on New Zealand's mainland, they contribute greatly to sustaining endemic flora and fauna, and the seabird-dominated ecosystems characteristic of the region prior to the arrival of humans.

The removal of pests has become increasingly successful in the last 30 years, with more than 70 islands now free of all introduced mammals. In the 1970s, prior to eradications, the total island area free of pest mammals was 2,162 hectares. It is now over 29,000 hectares, which has led to increases in abundance and security of at least 200 plant species, 14 invertebrates, 2 frogs, 26 reptiles, 29 terrestrial birds, 12 seabirds and 1 bat.

Through the adoption of a more strategic approach combined with the development and application of new management and restoration tools, the status of indigenous biodiversity on New Zealand's offshore islands is significantly improving.

Drivers of change

Key threats to New Zealand's biodiversity on islands include:

- The establishment of invasive animals and weeds, particularly rodents and mustelids—these species have invaded despite intensive

precautions taken to reduce risks from conservation management actions resulting in increased staff and tourist visitation

- Accidental fire
- Increase in storm or cyclone frequency through climate change

Key drivers of positive change include an increasing ability to eradicate and prevent invasion of pests, and an increasing public interest and involvement in ecological restoration of islands.

Biome Type: Mountain ecosystems

New Zealand's mountain ecosystems

New Zealand is a country dominated by mountains²¹. In the central North Island, there is significant volcanic uplift; in contrast, the South Island landscape is dominated by active tectonic uplift.

New Zealand's mountain biodiversity comprises high levels of species diversity, including very high levels of alpine plant diversity (almost total endemism).

Taking a definition of mountains as being land over 1,000 metres altitude, 2,538,663 hectares or 69 percent of mountains are protected as Public Conservation Land²². The remaining 1,141,096 hectares are under other tenure.

Information on trends in biodiversity in mountain ecosystems per se has not been compiled. A number of species are in decline due to the ongoing impacts of alien invasive species. In general, higher altitude environments are very well represented in the protected area network. The area of protected land managed for biodiversity and landscape is increasing, largely in the South Island through the review of tenure of Crown-owned pastoral lease lands. For more information on this process, see www.doc.govt.nz/conservation/land-and-freshwater/land/south-island-high-country/tenure-review/.

²¹ Defining Alpine using the Land Cover Classes: Permanent Snow and Ice, Alpine Gravel and Rock, Alpine Grassland/Herbfield, Sub-Alpine Shrubland, Tall Tussock Grassland, Depleted Tussock Grassland, Grey Scrub and Matagouri.

²² Land protected for conservation purposes.

As indicated above, there is a predicted reduction in indigenous cover in lower altitude mountain areas, particularly in the rain-shadow zone of the eastern South Island.

Drivers of change

Key threats to New Zealand's mountain ecosystems include:

- Particular risks associated with climate change, including increases in altitudinal range of animal pests and weeds, and changes in snow and ice cover
- Intensification of agriculture in lower-altitude dryland montane and inter-montane areas

Chapter 2—Current status of National Biodiversity Strategies and Action Plans (NBSAPs)

(a) A brief description of the NBSAP, identifying the main or priority activities

The New Zealand Biodiversity Strategy ‘Our chance to turn the tide’ (www.biodiversity.govt.nz/picture/doing/nzbs/index.html) establishes national goals to halt and reverse the decline of New Zealand’s indigenous biodiversity, to maintain and restore a full range of remaining natural habitats and ecosystems and ensure that viable populations of all native species are maintained. Four goals are established for conserving and sustainably managing New Zealand’s biodiversity based on i) community and individual action, responsibility and benefits; (ii) the Treaty of Waitangi, protecting iwi²³ and hapū²⁴ interests and building partnerships between Government and Māori²⁵; (iii) halting the decline of indigenous biodiversity; and (iv) the management of genetic resources of introduced species important for economic, biological and cultural reasons.

(b) An indication of whether and where targets and indicators (both global and national) adopted under the Convention have been incorporated into NBSAPs

The NBSAP has national-level goals, actions and outcomes that are aimed at meeting the Convention’s global targets, where appropriate within the New Zealand context. Management actions are guided by a range of mechanisms, including sectoral strategies, species recovery and site management plans, and central and regional agency statements of intent/strategies. Biodiversity protection is firmly embedded in national legislation (including the Resource Management Act, Biosecurity Act, Hazardous Substances and New Organisms Act, Conservation Act, and Wildlife Act, to name a few) and, more recently, a national policy statement for protecting rare and threatened native biodiversity on private land has been released and a National Policy Statement for Biodiversity has been proposed. Biodiversity targets are generally designed to assess the effectiveness of management actions, and by their nature tend to be more specific and relevant in the New Zealand context than those identified by the Convention. The New Zealand State of the Environment Report entitled ‘Environment New Zealand 2007’ (available at www.mfe.govt.nz/publications/ser/enz07-dec07/index.html) has a number of biodiversity indicators measuring changes in a sample of native species, assessing the overall numbers of threatened species, and

²³ Māori tribal grouping.

²⁴ Māori family or district groups, communities, a sub-tribe.

²⁵ Indigenous peoples of New Zealand.

estimating the amount of change in native vegetation and native land cover classes (using satellite imagery) and the condition of our marine and freshwater ecosystems.

(c) Information on how activities under the NBSAP contribute to the implementation of the articles of the Convention and the thematic programmes and cross-cutting issues adopted under the Convention

The NBSAP and management actions align more readily with the Convention's cross-cutting issues than its thematic programmes per se. In addition, other strategies support various cross-cutting issues. New Zealand's Biosecurity Strategy (www.biosecurity.govt.nz/biosec/sys/strategy/biostrategy/biostrategynz)

and Tourism Strategy (www.tianz.org.nz/Current-Projects/New-Zealand-Tourism-strategy-2010.asp), for example, include functions that support sustainability, biodiversity and management of invasive alien species outcomes.

(d) An overview of progress made in implementation of priority activities or actions, focusing on concrete results achieved

The New Zealand Government commissioned an independent review on progress in implementing the priority actions of the New Zealand NBSAP. This was completed in November 2006, and the findings were released for public information (Green & Clarkson 2005)²⁶.

Green & Clarkson (2005) found that progress in implementing the priority actions varied across the four goals. Significant gains had been made in species recovery programmes, land protection (particularly on private land) and community-led 'Mainland Island' restoration initiatives. However, vulnerable low-altitude environments remained under-represented in the protected area network. These low land environments are predominantly in private ownership and are primarily used for agricultural purposes due to the high fertility of their soils and the related high land purchase prices. In recognition of this, the New Zealand Government has established a number of initiatives to target increased protection of less common lowland ecosystem types, including lowland forests, non-lowland forests, wetlands, streams, bogs, rivers and lakes. Examples include covenants (a voluntary form of legal protection); funds that assist private land owners to manage the biodiversity values on their lands; and direct purchase/acquisition. However, despite the high levels of interest in the funds by the New Zealand public, Green & Clarkson (2005) found that voluntary protection was not sufficient. Accordingly, the New Zealand Government continues to try to identify where gaps in representation in the protected area network exist, and mechanisms to ameliorate this situation.

New Zealand's State of the Environment Report 2007 provides information on a number of indicators of direct relevance to biodiversity management. Examples include:

²⁶www.doc.govt.nz/publications/conservation/a-review-of-the-first-five-years-of-the-nz-biodiversity-strategy/

- **The area of land covered by native vegetation, including the area under legal protection**—The report indicates that there has been a reduction in area of a number of vegetation types, including broadleaved native hardwoods, mānuka and/or kānuka, tall tussock grasslands and native forest, as a result of harvesting or conversion to exotic forestry. The report also shows that in 2006, 64.2 percent of New Zealand’s total native land cover was legally protected. There has been an increase in public conservation land through the buy back of Crown-owned high-country farmland that was formerly leased or licensed to run-holders.
- **The distribution of a selection of seven native species (including the lesser short-tailed bat (*Mystacina tuberculata*), all five species of kiwi (Brown Kiwi *Apteryx mantelli*, Tokoeka *Apteryx australis*, Rowi *Apteryx rowi*, Great Spotted Kiwi *Apteryx haastii*, Little Spotted Kiwi *Apteryx owenii*), kākā (*Nestor meridionalis*), kōkako (*Callaeas cinerea wilsoni*), mohua (*Mohua ochrocephala*), wrybill (*Anarhynchus frontalis*) and dactylanthus/woodrose (*Dactylanthus taylorii*), selected as indicators because of their habitat requirements, the availability of data and their threat status**—Most of these species continue to show a gradual decline in distribution and range, primarily as a result of impacts associated with introduced pests rather than habitat loss.

A number of New Zealand’s key species are maintained on highly-managed offshore islands (e.g. kākāpō) and, more recently, on intensively-managed mainland islands (e.g. black stilt (*Himantopus novaezelandiae*)). Biodiversity monitoring is carried out by the Department of Conservation and is part of its core business. The Department of Conservation’s 2007 Annual Report²⁷ provided results on threatened species management. Among the results was a reported 78 percent increase in kākāpō numbers since 1995; an increase in all kiwi sanctuary populations as a result of management and the establishment of new populations as the result of translocation and community group initiatives; and the successful propagation of a rare species of threatened daisy *Celmisia mangaweka* known from one location.

A summary of the findings of additional environmental indicators can be found in Chapter 1—Summary of status and trends.

New Zealand has improved the protection status of a number of highly threatened marine species (e.g. Maui (*Cephalorhynchus hectori maui*) and Hector’s dolphin (*Cephalorhynchus hectori*)) through a network of Marine Protected Areas and marine mammal sanctuaries, along with set net and fishing bans. Thirty-one marine reserves and two marine mammal sanctuaries now cover 7.06 percent (12,792 square kilometres) of New Zealand’s territorial sea.

²⁷ [http://www.doc.govt.nz/upload/documents/about-doc/role/policies-and-plans/annual-report-\(for-year-ended-30-june-2007\).pdf](http://www.doc.govt.nz/upload/documents/about-doc/role/policies-and-plans/annual-report-(for-year-ended-30-june-2007).pdf)

Existing marine management tools in New Zealand's waters

Management tool	Legislation	Restrictions	Area (square kilometres)	New Zealand waters where tool applies
Marine reserves	Marine Reserves Act 1971	Marine reserves prohibit fishing, removal of material, dredging, dumping, construction or any other direct human disturbance.	12,792	Territorial sea
Marine mammal sanctuaries	Marine Mammals Protection Act 1978	A range of restrictions depending on each marine mammal sanctuary. These vary from all commercial fishing being prohibited to special fisheries regulations.	6,180	Territorial sea
Marine parks	Hauraki Gulf Marine Park Act 2000 and amendment 2001 Fisheries Act 1996 Sugar Loaf Islands Marine Protected Area Act 1991	A range of restrictions depending on each marine park. These include a variety of fishing restrictions from all commercial fishing being prohibited to special fisheries regulations.	20,536	Territorial sea
Submarine cables and pipelines protection zones	Submarine Cables and Pipelines Protection Order 1992	No fishing or anchoring except for ships being used for research by or for the Ministry of Fisheries, as long as research is done without directly or indirectly attaching any ship to the seabed.	1,731.8	Territorial sea and EEZ
Mātaitai—closed areas	Fisheries Act 1996 Fisheries (Declaration of Mātaitai Reserve	In general, commercial fishing is prohibited and amateur regulations apply unless amended by appointed tangata tiaki/kaitiaki, who can	204	Territorial sea

Management tool	Legislation	Restrictions	Area (square kilometres)	New Zealand waters where tool applies
	and Appointment of Tangata Kaitiaki/Tiaki) Notice	authorise customary food gathering.		
Taiāpure—closed areas	Fisheries Act 1996 Fisheries Order	A spatial closure to set aside coastal fishing areas that customarily have been of special significance to an iwi or hapū as a source of food (kaimoana) or for spiritual or cultural reasons.	388	Territorial sea
Section 186—temporary closures	Fisheries Act 1996 Fisheries (Temporary Closure) Notice	A range of restrictions applies dependent on the particular area. All restrictions prohibit the removal of at least one species. For example, a prohibition to take fish, aquatic life or seaweed from Pukerua Bay, except by the method of line fishing, applies during the period beginning 8 June 2007 and ending 7 June 2009.	769	Territorial sea
Benthic Protected Areas (BPAs)	Fisheries Act 1996 Fisheries (Benthic Protection Areas) Regulations 2007	Prohibition on use of dredge and restrictions on use of trawl net within 100 metres of the sea floor.	1,250,000	Territorial sea and Exclusive Economic Zone
Seamount closures	Fisheries Act 1996 Fisheries Regulations	Trawling prohibited.	100,997	Exclusive Economic Zone
Total area			1,393,598	
Total area as a percentage of New Zealand's total waters (territorial sea and Exclusive Economic Zone)			34 percent	

(e) An indication of domestic and/or international funding dedicated to priority activities

The 20-year New Zealand Biodiversity Strategy was launched in 2000 and complemented by a funding commitment of \$187 million over the first 5 years of implementing the key actions identified in the NBSAP. The majority of funding was allocated at the level of central government. Nevertheless, funding was provided for a number of the programmes aimed at increasing biodiversity on private land through additional protection, improving and maintaining the condition of areas of indigenous vegetation, species and habitats. One fund in particular (the Poukoura Taio Fund) is aimed at supporting Māori initiatives to retain and promote traditional knowledge and its use in biodiversity management. 26 percent (\$48 million) of the Biodiversity package funding was allocated for activities with a private landowner and community focus.

In 2006, the New Zealand Government decided to retain the levels of funding over the first 5 years of the NBSAP on an ongoing basis and to baseline it within relevant government agency funding allocations. That equates to \$55 million per annum. In addition, new funding was allocated (from 2006) as a result of new advice on areas that require additional management attention. This included an additional \$2 million over 4 years to enable more work on improving processes to consider the establishment of marine reserves; and \$3.9 million for biodiversity and biosecurity research.

(f) A review of successes and obstacles encountered in implementation, and lessons learned

Obstacles

There continues to be a number of implementation obstacles. Competition for government funding for environmental outcomes versus the more traditional sectors of health, education, and the establishment and maintenance of infrastructure has meant that central government agencies are continually reprioritising in an attempt to meet NBSAP objectives. Despite the additional funding provided for implementation of the National Biodiversity Action Plan (see paragraph (e) above), the Department of Conservation is only able to intensively manage high 'conservation' value areas and highly threatened species.

Successes

There have been significant gains via community engagement in biodiversity protection and restoration projects. Community-led restoration projects, species recovery and protection of areas of private land are proving critical for protecting lowland biodiversity. A number of significant ecosystem types continue to be poorly represented though (e.g. wetlands, ephemeral springs and karst systems).

There has been a significant increase in Māori involvement in biodiversity protection. For example, in 2007/08 financial year, Ngā Whenua Rāhui²⁸ funding allocated over

²⁸ www.doc.govt.nz/getting-involved/landowners/nga-whenua-rahui/nga-whenua-rahui-fund/

\$3.899 million to Māori landowners for voluntary protection, including several significant additions to New Zealand's protected land. Treaty of Waitangi²⁹ settlements recognise and provide for the role of Māori as guardians of New Zealand's biodiversity. In some cases, co-management of important areas such as the Waikato River is being enabled.

Lessons learned

Public engagement in protecting biodiversity on private land has been critical in protecting some of New Zealand's unique biodiversity. The use of ongoing targeted public awareness, alignment of national and regional strategies, identification of operational synergies, efficiencies and efforts to enhance cross-sector implementation, and the increased engagement of science providers have all helped to enhance the gains obtained from existing biodiversity funds.

The establishment of a 'natural resources' Chief Executives group has helped to facilitate communication across, and inform decision making by, the Chief Executives of a number of government agencies tasked with the management of New Zealand's natural resources.

(g) An analysis of the effectiveness of NBSAPs, focusing on:

(i) Whether observed changes in status and trends in biodiversity (as described in Chapter 1) are a result of measures taken to implement NBSAPs and the Convention

Observed changes (in some but not all cases) can be attributed to measures taken to implement the New Zealand Biodiversity Strategy 2000. The ongoing implementation of the Strategy continues to lead to increases in the amount of public and private land under legal protection, number of targeted threatened species management programmes that are carried out, effectiveness of public awareness campaigns, and the ongoing engagement of community-led recovery and restoration initiatives. Particularly significant are the mechanisms that provide for protection of biodiversity on private land and that have greatly enhanced public recognition of the value of New Zealand's unique biodiversity.

(ii) Whether the current NBSAP is adequate to address the threats to biodiversity identified in Chapter 1

Given that New Zealand's biodiversity strategy was released in 2000, it is still in its implementation phase for a number of areas, as initial efforts targeted high priority actions. An independent review in 2005³⁰ noted that a number of building blocks had been initiated, including the development of new classification systems for marine,

²⁹ www.waitangi-tribunal.govt.nz/treaty/

³⁰ www.doc.govt.nz/publications/conservation/a-review-of-the-first-five-years-of-the-nz-biodiversity-strategy/

terrestrial and freshwater systems; establishment of terrestrial and freshwater biodiversity information systems; and establishment of specific land acquisition and protection funds. The report from that review also noted that other important building blocks were required, such as the development of an Ocean's Policy to clarify *inter alia*, governance and management responsibilities for marine biodiversity, a National Policy statement on Biodiversity, and indicators for biodiversity and biosecurity, and for these to be linked to regional and national monitoring and reporting systems.

The New Zealand Biodiversity Strategy is comprehensive in its coverage of topics and the additional funding has seen significant progress in many areas. Particular successes have been through increased land protection mechanisms, an example of which includes a fund specifically for protecting indigenous peoples' traditional land (Poukoura Taio Fund); biodiversity awareness; and community involvement in restoration and protection programmes (the Biodiversity Advice and Condition Funds). However, it should be noted that funding is insufficient to manage indigenous biodiversity across the complete land and seascape, and is instead directed at threatened species or high value area management.³¹

The Natural Heritage Management System (NHMS), which is soon to be fully operational, will help to inform decision-making/prioritisation for the most effective use of resources to ensure the best outcomes for biodiversity. In addition, it will help to fill current gaps in baseline data, assisting with national biodiversity monitoring and trends analysis.

(iii) How implementation of NBSAPs may be improved, where necessary, including suggestions of possible ways and means to overcome identified obstacles

Increased awareness of the 'value' of biodiversity and supporting ecosystems at all levels of decision-making would mean that infrastructure, development and resource-use decisions would be made in a more coordinated and informed manner. These would recognise the importance of biodiversity in economic terms and the potential impacts of decisions under consideration, and would not only reduce impacts but, wherever possible, would allow for a net biodiversity gain.

Funding remains an ongoing issue, with insufficient funds available to enable government agencies to manage all biodiversity threats. The move to increase community engagement in both central management and regional-specific restoration and recovery has assisted in this regard and is leading to significant positive biodiversity outcomes. When NHMS becomes fully operational, it will help to inform the most effective use of financial resources for biodiversity both regionally and nationally.

Coordination across the various regional and national agencies needs to be enhanced in order to facilitate the efficient and effective implementation of New Zealand's

³¹www.doc.govt.nz/publications/conservation/a-review-of-the-first-five-years-of-the-nz-biodiversity-strategy/

Biodiversity Strategy. The advent of a central government forum of Chief Executives has gone some way to achieving this. However, interactions at lower levels are not consistent across all agencies. Regional policy and planning could be implemented in such a way as to ensure that biodiversity outcomes are not unnecessarily compromised. The New Zealand Government is proposing to establish a national policy statement on biodiversity, which will ensure that future central and regional policy and planning decisions meet specified policy statement outcomes. The development of memorandums of understanding and joint operational statements would also encourage agencies to work collaboratively for better biodiversity outcomes.

Chapter 3—Sectoral and cross-sectoral integration or mainstreaming of biodiversity considerations

Extent to which biodiversity is included and SEAs undertaken at various levels in the New Zealand context

Central Government: The Resource Management Act 1991

The Resource Management Act 1991 (RMA) is the principle statute for the management of resources in New Zealand. The Act promotes the sustainable management of natural and physical resources.

The Act defines sustainable management as managing the use, development and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social wellbeing, economic wellbeing and cultural wellbeing, health, and safety. At the same time, the Act:

- (a) Sustains the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations
- (b) Safeguards the life-supporting capacity of air, water, soil and ecosystems
- (c) Avoids, remedies or mitigates any adverse effects of activities on the environment

The RMA can be viewed at

www.legislation.govt.nz/act/public/1991/0069/latest/DLM230265.html.

The National Policy Statements (NPSs), which are RMA policy tools, provide national policy guidance for matters that are considered to be of environmental importance, such as the coastal environment. The Government is currently investigating an NPS for biodiversity. (See Chapter 2—paragraph (g) (iii) above.)

Several other pieces of legislation also influence biodiversity management and protection. They include:

- Conservation Act 1987
- Biosecurity Act 1993
- Fisheries Act
- HSNO Act 1996
- Reserves Act 1977
- Forests Act 1949
- Wildlife Act 1953

The Quality Planning website www.qp.org.nz/plan-topics/indigenous-biodiversity.php provides guidance for local government planners when deciding whether or not to allow resource use at a local level.

Local Government

Regional and local councils provide information about their expectations and plans for regional or local biodiversity in their regional plans. See, for example, the Greater Wellington website (www.gw.govt.nz/section2107.cfm) and Environment Waikato website (www.ew.govt.nz/Policy-and-plans/Regional-Policy-Statement/Operative-Waikato-Regional-Policy-Statement-October-2000/RPS-3111/).

Industry

New Zealand's largest dairy company, Fonterra, has an agreement with its suppliers (the Clean Stream Accord) that aims to reduce the impact of dairy farming on New Zealand's ecosystems. Details of the 2003 Accord can be found at www.mfe.govt.nz/issues/land/rural/dairying-accord-may03.pdf.

Sector: Agriculture

Extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans

The Resource Management Act (RMA) is the statutory framework for environmental and resource management in New Zealand. It sets out how New Zealanders manage their environment, including air, water, soil, biodiversity, the coastal environment, noise, subdivision and land-use planning in general.

Under the RMA, councils have to create district plans (and regional councils may create regional plans) that explain how that council will manage the environment. Councils are responsible for considering the sustainable management and use of biodiversity, as part of their broader environmental considerations. The development of district and regional plans are subject to full public consultation processes.

Sector and community group initiated plans and individual property plans also incorporate environmental/biodiversity considerations, such as soil, and management for both water and nutrients.

Processes by which biodiversity has been integrated into these sectoral and cross-sectoral plans

Administration of the RMA is devolved to local or regional government, at which level the plans, policies and other measures of the RMA principles are applied. An example of this is the suite of programmes that Taranaki Regional Council has for biodiversity, and the way in which these are incorporated into the Council's sustainable land management and riparian programmes and efforts (www.trc.govt.nz/environment/biodiversity.htm#council).

Sector, industry and community farm planning initiatives are supported by a number of government- and privately-sourced funds to encourage the protection of biodiversity on private land. An example of an industry effort that includes biodiversity considerations is the Zque accreditation scheme within the merino wool industry. In New Zealand, merino farming occupies large areas of mountainous country. Zque requires accredited growers to meet the standards outlined in the Zque manual and uses an independent (third party) audit process to ensure that these are complied with (www.zque.co.nz/). Similarly, the New Zealand Winegrowers have developed the Sustainable Winegrowing NZ (SWNZ) scheme, which includes

biodiversity considerations; for further information, go to www.nzwine.com/swnz/.

Whether and how the ecosystems approach has been adopted or used in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes

The Ecosystems Approach is primarily given expression in New Zealand through the nationally applied RMA. The Act expressly takes into account the safeguarding of ecosystems, protection of significant vegetation and habitats, and the cultural traditions of Māori. The RMA applies to all lands and the territorial waters (out to 12 nautical miles) of New Zealand.

Sector: Education

Processes by which biodiversity has been integrated into these sectoral and cross-sectoral plans

Research has been undertaken to identify the nature and extent of New Zealand's biodiversity education resources.

Whether and how the ecosystems approach has been adopted or used in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes

Planning will be undertaken by the Department of Conservation in 2009 to develop an effective approach to biodiversity and conservation education within the context of New Zealand's new school curriculum. This is due to be implemented in 2010.

Sector: Rural development

Extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans

Please refer to the response under the 'Agriculture Sector'.

Processes by which biodiversity has been integrated into these sectoral and cross-sectoral plans

Please refer to the response under the ‘Agriculture Sector’.

Whether and how the ecosystems approach has been adopted or used in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes

Please refer to the response under the ‘Agriculture Sector’.

Sector: Forestry

Extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans

Biodiversity and broader environmental considerations are an integral part of forestry planning, both for commercial private-planted forests as well as for indigenous forests subject to the Forests Act 1949. The integration of environmental values into commercial planted forests has been further boosted by the recently updated New Zealand Forest Owners Association environmental standards and development of third party forest certification⁷⁵. As at September 2008, approximately 970,000 hectares of New Zealand production forests were under Forest Stewardship Council certification.

Processes by which biodiversity has been integrated into these sectoral and cross-sectoral plans

New Zealand has a natural resource policy framework that includes statutes with ecosystem or environmental management provisions applying to natural

⁷⁵ <http://www.rarespecies.nzfoa.org.nz/>

resource management generally and to forests more specifically. It also supports associated government, non-government and sector initiatives.

The Resource Management Act 1991, Conservation Act 1987 and Indigenous Forest Provisions of the Forests Act 1949 are key statutes that govern the conservation and sustainable use of forests in New Zealand.

Whether and how the ecosystems approach has been adopted or used in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes

In line with the response in this section under the ‘Agriculture Sector’, the RMA principles are aligned with the ecosystem approach.

Sector: Fisheries

Extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans

New Zealand is increasingly focusing on the management of fisheries impacts across the marine environment.

New Zealand manages its fisheries through a range of legislation that applies to commercial, customary and recreational fishers. The purpose of the Fisheries Act 1996, the principal piece of legislation, is to provide for utilisation of fisheries resources, while ensuring sustainability. In the context of the Act, ensuring sustainability means ‘maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations’ and ‘avoiding, remedying or mitigating any adverse effects of fishing on the aquatic environment’; while utilisation means ‘conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural wellbeing’. New Zealand also introduced the Quota Management System (QMS) in 1986, which controls the total commercial catch for virtually all the main fish stocks found within New Zealand’s EEZ. The QMS was considered the best way to prevent overfishing, which had become critical in some inshore fisheries. The introduction of the QMS is viewed as a significant achievement, and a number of other states have moved to follow New Zealand’s (and Iceland’s) lead in introducing such a management system. As well as setting total allowable catches for the majority of commercial fisheries stocks, New Zealand also uses other management tools, such as daily bag limits for recreational fishers, and regulations that are implemented to mitigate the effect of fishing on the marine environment.

Processes by which biodiversity has been integrated into these sectoral and cross-sectoral plans

The development of standards will set limits in areas such as biomass targets and harvest rates, seabird by-catch (when seabirds are accidentally caught during fishing) and disturbance of the seabed. Fishers will be managed within these limits. It should also be noted that standards for consultation and research are being set.

These standards will enhance transparency around how fisheries management decisions are made. The standards, detailed below, should also make it easier for tangata whenua and stakeholders to take part in the process of managing New Zealand’s fisheries:

- Marine Protected Area (MPA) policy/protection standard—The MPA Policy has been designed to develop and implement a strategy for establishing a network of areas that protect marine biodiversity. This includes marine reserves, world heritage sites, and other coastal and marine management tools such as mātaihai and taiāpure areas, marine area closures, seasonal closures, and area closures to certain fishing methods.
- Fisheries Plans—The Ministry of Fisheries is implementing objective-based fisheries management through Fisheries Plans, a major initiative that will involve engagement with stakeholders.

Whether and how the ecosystems approach has been adopted or used in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes

The ecosystems approach has not been explicitly adopted or used to mainstream biodiversity into sectoral and cross sectoral strategies. However, the implementation of the processes referred to above is broadly an ‘ecosystem’-based approach when sustainable management of fish stocks is combined with avoiding, remedying and mitigating the effects of fishing on the aquatic environment, as required by the Fisheries Act 1996.

Sector: Mining

Extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans

Biodiversity is integrated into the strategies of the New Zealand mining sector through the cross-sectoral interlinking of minerals development with New Zealand's environmental legislation, which includes the Resource Management Act (RMA), and regional and district plans (which are guided by the RMA).

Processes by which biodiversity has been integrated into these sectoral and cross-sectoral plans

Biodiversity is a value considered in the RMA. The key focus of the RMA is the sustainable management of natural and physical resources⁷⁶. Within the purpose and principles section of the RMA, any decision-maker under the RMA must have 'particular regard' to the 'intrinsic values of ecosystems'⁷⁷. Biodiversity or biological diversity is defined in the RMA as: '...the variability among living organism, and the ecological complexes of which they are part, including diversity within species, between species, and of ecosystems'.

Such values filter into the operational plans of regions and districts, as regional and district councils (local government) create such plans under the instruction of the values and processes within the RMA. For example, under the RMA, one function of all regional councils is to 'control the use of land for the purpose of ... the maintenance and enhancement of ecosystems in water bodies and coastal water'⁷⁸.

Biodiversity is integrated into the mining sector's plans and strategies through the RMA's intersection with the processes of the mining sector.

Under the Crown Minerals Act 1991 (CMA), the Crown allocates the right to develop Crown-owned minerals by granting prospecting, exploration or mining permits to successful applicants. Access to land is a separate matter, as is the consideration of environmental effects.

Environmental effects are considered under the RMA and any required RMA resource consents must be obtained before minerals development can take place. The determination of which resource consents are necessary is informed by the plans of the region and/or district in which the development intends to take place. As noted above, such plans are set by regional and/or district councils. Resource consents often contain compulsory measures such as mitigation and rehabilitation in cases where significant environmental effects would occur as a result of the activity allowed for in the consent.

⁷⁶ Resource Management Act 1991, s.5.

⁷⁷ Resource Management Act 1991, s.7(d).

⁷⁸ Resource Management Act 1991, s.30(1)(c)(iia).

The intersection of the CMA and other environmental legislation also serves to close off, for all practical purposes, areas of high-value conservation land from mining activities. Schedule Four of the CMA lists such protected areas; examples include Ramsar sites and national parks held under the National Parks Act 1980.

Whether and how the ecosystems approach has been adopted or used in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes

The ecosystems biodiversity approach has been adopted in mainstream cross-sectoral plans and strategies. As noted above, the predominant way this has been incorporated is through the RMA's consideration of biodiversity under the umbrella of considerations relating to ecosystems.

The Thames-Coromandel District Plan provides an insight into how such planning documents can make the consideration of ecosystems and biodiversity by sectors such as mining operational in their region. The plan identifies biodiversity issues in the area and then sets out objectives, policies, methods, results, anticipated environmental results and monitoring for the issue.⁷⁹

In New Zealand, a tool that has features in common with the SEA and the EIA (Environmental Impact Assessment) is called an Assessment of Environmental Effects (AEE). This tool is used regularly by the extractive minerals industry. Any proposed activities requiring resource consent must furnish an AEE, as this must accompany any application for resource consent.⁸⁰ AEEs provide an opportunity to consider and provide for the protection of biodiversity in the mining sector.

Sector: Tourism

Extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans

The New Zealand Government launched the New Zealand Tourism Strategy 2015 (NZTS 2015) in November 2007. The NZTS 2015 sets out priorities, actions and targets to guide the development of the tourism sector through to 2015. These are grouped according to four interdependent outcomes:

⁷⁹ www.tcdc.govt.nz/Council/District+Plan+-+Operative+in+Part/Volume+1/; Section Two: Significant Resource Management Issues; 211 Biodiversity.

⁸⁰ www.mfe.govt.nz/publications/rma/ace-guide-aug06/index.html

- New Zealand delivers a world-class visitor experience
- New Zealand's tourism sector is prosperous and attracts ongoing investment
- The tourism sector takes a leading role in protecting and enhancing New Zealand's environment
- Communities and regions recognise and value the benefits of tourism

The NZTS vision is that by 2015 tourism will be valued as a leading contributor to a sustainable New Zealand economy.

Outcome three of the Strategy identifies a number of priorities to protect and enhance New Zealand's environment (for further information, refer to www.nztourismstrategy.com).

Tourism activities on the Public conservation land are managed by the Department of Conservation. Commercial tourism operators are required to obtain concessions to undertake commercial activities. The types of permitted activities are outlined in National Park Management Plans, which identify conservation values, including the preservation of indigenous species, habitats, ecosystems and natural resources.

Regulation of tourism activity on private land is captured by the Resource Management Act.

The Biosecurity Strategy also has an impact on the tourism sector. Visitors to New Zealand are primarily attracted by the country's natural environment. However, this environment is at risk from imported pest species, and the Biodiversity Strategy sets out what needs to be done to make sure that New Zealand maintains good levels of biosecurity.

Other national and sub-national programmes and strategies and programmes	
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National and sub-national programmes and strategies and programmes: Poverty reduction strategies and papers	
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New Zealand International Aid and Development Agency (NZ AID) is the government agency responsible for delivering New Zealand's Official Development Assistance Programme. NZ AID's Environment Policy goal is to provide 'a protected and enhanced natural resource base for sustainable development and poverty elimination'. Through this approach, NZ AID will ensure that best practice environmental management is mainstreamed in all NZ AID programme activities. (For more details on the NZ AID environment policy, please visit www.nzaid.govt.nz.)

NZAID's Pacific Strategy 2007–2015—Te Ara Tupu—The Pathway of Growth—Tackling poverty in our Region is strategy to guide New Zealand's development assistance in the Pacific Islands region.

NZAID's mission is to eliminate poverty through development partnerships with a vision of a safe and just world that is free of poverty. The NZAID poverty statement is available at www.nzaid.govt.nz

Other Convention processes, other than the CBD: Convention on the International Trade in Endangered Species

The Convention on International Trade in Endangered Species (CITES) is implemented through the Trade In Endangered Species Act (TIES Act) 1989. The level of protection given to species by the Act is based on the CITES Appendices. Endemic species are also protected under New Zealand's Wildlife Act 1953 and Marine Mammal Protection Act 1978. The latter permits export only in exceptional circumstances.

Species protected under the TIES Act are also covered by the New Zealand biosecurity system. In terms of CITES functioning, the biosecurity system monitors all imports and exports of species covered by the Convention to ensure they do not pose a threat in the form of dangerous pests or diseases.

Other Convention processes, other than the CBD: Convention on Migratory Species

Migratory bird species in New Zealand are fully protected under the Wildlife Act 1953. This legislation applies irrespective of land tenure, with the result that species are protected wherever they occur. No specific plans exist under the Wildlife Act for protected migratory species, but all habitats are required to be managed in a sustainable manner under the requirements of the RMA.

Migratory marine mammals (and in particular great whales) are fully protected under the provisions of the Marine Mammals Protection Act 1978, while present in the New Zealand Exclusive Economic Zone (EEZ). Similarly, white sharks and corals are fully protected within the EEZ under the Wildlife Act.

Other Convention processes, other than the CBD: Ramsar Convention on Wetlands

New Zealand has six sites with a Ramsar designation. All of these sites are required to have a management plan and comply with the ‘wise use’ principles of the Ramsar Convention on Wetlands, in line with the sustainable management objectives of the CBD.

In addition, New Zealand applies the Ramsar ‘wise use’ principles in the management of all its wetlands and inland waterways through its application of the RMA, and Conservation, National Parks and Reserves Acts (established to manage lands protected specifically for conservation purposes).

Other Convention processes, other than the CBD: World Heritage Convention

Three areas in New Zealand are inscribed on the World Heritage List:

- Tongariro National Park (inscribed as a natural site in 1990, and inscribed for associated cultural values in 1993)
- Te Wāhipounamu—South West New Zealand World Heritage Area (inscribed as a natural site in 1986, area increased in 1990)
- The Subantarctic Islands of New Zealand (inscribed as a natural site in 1998)

These three areas are either national parks, of particular scientific value or hold reserve status. Specific management plans have been drawn up for the sites. These plans recognise the biodiversity values of the World Heritage sites and put in place policies to protect those values.

Public and sector group consultation occurs during preparation of these plans following a process set out in legislation. The plans are approved by Conservation Boards appointed under statutory provisions. The boards are comprised of civil society members and iwi (Māori) representatives.

The plans all seek, through public consultation and engagement, to protect the full spectrum of biodiversity values contained in the World Heritage sites and therefore reflect the ecosystems approach to management.

Other Convention processes, other than the CBD: United Nations Framework Convention on Climate Change (UNFCCC)

New Zealand actively supports international efforts to achieve the ultimate objective of the UNFCCC.

Key work areas in New Zealand's domestic climate change programme include:

- An Emissions Trading Scheme
- Carrying out international negotiations and reporting
- Adapting to the effects of climate change
- Delivering the Sustainable Land Management and Climate Change Plan of Action
- Transitioning to a more renewable and efficient low carbon energy sector (including transport)
- Carrying out research to assist with the identification and understanding of climate change impacts on New Zealand
- Developing technology to assist New Zealand's response and to capitalise on opportunities

Chapter 4 (A)—Progress towards the 2010 Target and implementation of the Strategic Plan

TABLE: Provisional framework of goals, targets and indicators to assess progress towards the 2010 Biodiversity Target.

Key for symbols to be used in Column 5

-  improving
-  little or no overall change
-  deteriorating
-  insufficient or no comparable data

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Protect the components of biodiversity			
<i>Goal 1: Promote the conservation of the biological diversity of ecosystems, habitats and biomes.</i>			
Global Target 1.1: At least 10 percent of each of the world's ecological regions is effectively conserved.			
Target 1.1.1: Coverage of Protected Areas	New Zealand has clear goals, objectives and actions set out in its NBSAP. Targets for management purposes are generally set in sectoral strategies, species recovery	<ul style="list-style-type: none"> • The Department of Conservation maintains a date-stamped spatial database of public conservation land classified according to levels of protection. • Landcare Research maintains the Protected Areas Network of NZ 	33 marine reserves have been established within New Zealand's territorial sea. In addition, Benthic Protection Areas that protect 30 percent of New Zealand's EEZ from bottom trawling and dredging have been created. Other fisheries restrictions provide localised protection from fishing methods that impact the sea floor, or specific methods of fishing that minimise non-target impacts.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>plans, agency accountability documents, etc. These are designed to support the assessment of management effectiveness and, therefore, do not necessarily fit the framework adopted by the CBD. Work is underway in all agencies to improve the quality of performance measurement, and this will result in changes to targets. Targets tend to be much more specific than those used by the CBD. For example, the New Zealand Department of Conservation's Statement of Intent⁸¹ includes specific targets relating to threatened species (e.g. 154 'acutely threatened' species or subspecies will have improved security for one or more populations as</p>	<p>(PAN-NZ) database, which also includes protected land under private and local-authority tenure.</p>	<p>On land, at least 10 percent of the areas of all World Wildlife Fund (WWF) Biomes are legally protected as public conservation land. Exceptions are Canterbury and Otago tussock grasslands, of which only 6.25 percent are protected areas. Other biomes, such as the Fiordland forest, achieve close to 100 percent protection.</p> <p>The WWF Biomes provide a relatively coarse framework against which to assess the level of protection of all habitats and ecosystems. In general, the degree of protection for the lowlands, including lowland forests, is much less than for montane and alpine areas. Lowland landscapes are much more modified and opportunities for protection are thus being lost. However, the overall size of land and marine area under formal protection is continuing to grow.</p> <p>The New Zealand Government continues to give priority to the identification and protection of lands and ecosystems that remain under-represented in the protected areas network, through direct acquisition and/or covenanting.</p>

⁸¹http://www.doc.govt.nz/publications/about-doc/archive/statement-of-intent/statement-of-intent-2008-2011/3_0-operating-intentions/3_2-natural-heritage/#outcome2

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>a result of active species conservation programmes), numbers of hectares of MPAs that will be created, numbers of ecosystem restoration projects undertaken, etc.</p> <p>New Zealand's NBSAP and management approaches do not generally use a framework that matches the thematic and cross-cutting work areas division that the CBD has adopted. For example, New Zealand has a single approach for species management, regardless of whether those species normally occupy mountains, dry lands or forests. It is often possible to cross-reference New Zealand's approach to the CBD approach, e.g. in relation to work areas such as the development and</p>		

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>management of marine protected areas or alien species, but this is not always the case. Relevant targets in the New Zealand Biodiversity Strategy (www.biodiv.org.nz) include:</p> <p>Objective 1.1—Protecting Indigenous Habitats and Ecosystems:</p> <p>a) Enhance the existing network of protected areas to secure a full range of remaining indigenous habitats and ecosystems.</p> <p>b) Promote and encourage initiatives to protect, maintain and restore habitats and ecosystems that are important for indigenous biodiversity on land outside of protected areas.</p>		

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Target 1.1.2: Trends in extent of selected biomes, ecosystems and habitats	Please refer to the response to Target 1.1.1.	The Landcover Database (LCDB) provides the opportunity to assess trends in indigenous and non-indigenous cover classes between 1998 and 2003, with further updates to come (www.mfe.govt.nz/publications/ser/metadata/land-rep/page36.html).	🟡 A national indicator has not been compiled, but ecosystems and habitats under active management are generally improving in biodiversity condition.
Target 1.1.3: Trends in abundance and distribution of selected species	Please refer to the response to Target 1.2.1.	See Target 1.2.1 for further information.	🔴 See Target 1.2.1.
Global Target 1.2: Areas of particular importance to biodiversity are protected.			
Target 1.2.1: Trends in extent of selected biomes, ecosystems and habitats	The NBSAP (Objective 2.1—Protection and sustainable management of freshwater) has a target to ‘Protect a full range of remaining natural freshwater ecosystems and habitats to conserve indigenous freshwater biodiversity, using a range of appropriate mechanisms’.	All site-based restoration programmes have performance indicators that will be able to be reported at a national scale.	🟢 See Target 1.1.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>In the marine environment, the target of the NBSAP (Objective 3.6—Protected marine habitats and ecosystems) is to ‘Protect a full range of natural marine habitats and ecosystems to effectively conserve marine biodiversity, using a range of appropriate mechanisms, including legal protection’.</p> <p>In the terrestrial environment, targets conform to the general goals, objectives and actions set out in the NBSAP.</p> <p>Certain areas are prioritised for intensive management or restoration on the basis of level of threat and opportunity for recovery. Key examples are landscape-scale projects including:</p> <ul style="list-style-type: none"> • Three Arawai Kakariki 		

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>or wetland restoration projects</p> <ul style="list-style-type: none"> • Ten Operation Ark sites aimed at the recovery of endemic vertebrates of beech forests • Five kiwi sanctuaries, focused on the recovery of New Zealand's kiwi species • Six Mainland Islands where habitat is restored through the intensive management of pests <p>These are joined by many other site-based management programmes that are managed by both the Government, and private and community groups.</p>		
Target 1.2.2: Trends in abundance and distribution of selected species	Refer to the response to Target 1.2.1.	National indicators are being developed. Refer to the response to Target	 Ecosystems and habitats under active management are generally improving in biodiversity condition.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		1.2.1.	Intensive site management covers the following areas: <ul style="list-style-type: none"> • Mainland Islands—26,000 hectares • Arawai Kakariki Wetlands—46,000 hectares • Operation Ark Sites—155,000 hectares • Kiwi sanctuaries—59,000 hectares plus an equivalent area under community-initiated management
Target 1.2.3: Coverage of protected areas	Refer to the response to Target 1.1.	Refer to the response to Target 1.1.	 Refer to the response to Target 1.1.
<i>Goal 2: Promote the conservation of species diversity.</i>			
Global Target 2.1: Restore, maintain or reduce the decline of populations of species of selected taxonomic groups.			
Target 2.1.1: Trends in abundance and distribution of selected species	Please refer to the response to Target 1.2.1.	All terrestrial site-based restoration programmes have performance indicators that will be able to be reported on at a national scale. Measurement of trends in abundance of fish and bycatch species, including non-target species, have continued. Identification manuals have been developed to aid monitoring of marine invertebrate diversity.	 Refer to the response to Target 1.1.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		Refer to the response to Target 1.1 for further information.	
Target 2.1.2: Change in status of threatened species	Refer to the response to Target 1.2.1.	Refer to the response to Target 2.1.1.	🌀 Refer to the response to Target 1.2.2.
Global Target 2.2: Status of threatened species improved.			
Target 2.2.1: Change in status of threatened species	<p>The New Zealand Biodiversity Strategy provides related national level Targets including: Goal Three: Halt the decline in New Zealand's indigenous biodiversity: Maintain and restore viable populations of all indigenous species and subspecies across their natural range and maintain their genetic diversity.</p> <p>The Department of Conservation Statement of</p>	The status of all listed threatened species is re-assessed every 3–4 years using the New Zealand Threat Classification System.	<p>⊗ At the time of the last report, the number of species listed as threatened had increased from 2372 to 2788. These changes were mostly as a result of improved knowledge and the assessment of species that had not been considered previously. Since then, a small number of species changed category as a result of improved or deteriorated status. This continues to be the most recent information available, as the next round of threat status evaluations are now underway.</p>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>Intent 2008–2011 Intermediate Outcome 2 states that ‘The security of threatened species unique to New Zealand, and most at risk of extinction, is improved’.</p>		
<p>Target 2.2.2: Trends in abundance and distribution of selected species</p>	<p>New Zealand does not have any related national targets.</p>	<p>The second New Zealand State of the Environment indicator provides information on the distribution of selected native species. The distributions of the following species are measured to provide information for reporting on this indicator:</p> <ul style="list-style-type: none"> • Lesser short-tailed bat • Kiwi • Kākā • Kōkako • Mohua • Wrybill • Dactylanthus 	<p>⊗ Indicator data regarding the abundance and distribution of several indigenous indicator species from the 2nd New Zealand State of the Environment Report provide the following information:</p> <ul style="list-style-type: none"> • The lesser short-tailed bat currently occupies less than 5 percent of the range it was estimated to have had before human settlement. Its current distribution is approximately 75 percent of its former range in the 1970s. • Kiwi now occupy about 17 percent of their estimated original range, as a result of habitat loss and predation. Since the 1970s, their range has decreased by about 20 percent. • Kākā currently occupy less than 20 percent of their original range, and recent evidence suggests that most populations without predator control are declining and remaining populations may consist of mostly males (Moorhouse et al. 2003). Since the 1970s, the kākā’s range has contracted a further 6 percent.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
			<ul style="list-style-type: none"> • Kōkako are currently present in 2 percent of their estimated natural range. Since the 1970s, their range has been reduced by 90 percent. There have been successful transfers of Kōkako to offshore islands. • Mohua are found only in South Island forests. Their distribution has become very fragmented and the species is now confined to beech forest. Mohua are present in 5 percent of their estimated natural range. Since the 1970s, their range has contracted by almost 70 percent, and mohua numbers are continuing to decline in areas where there is no predator control. • Wrybills currently breed only in braided rivers east of the Main Divide in Canterbury and northern Otago. Wrybills previously bred in a number of Marlborough rivers, but their range has contracted southwards in the past 100 years. They now occupy about 60 percent of their estimated original range. • Dactylanthus currently occupies only 4 percent of its former range, with its range having decreased by 32 percent since the 1970s.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Target 2.2.3: Coverage of protected areas	On land, the Department of Conservation uses a terrestrial environmental classification system, which classifies areas of natural heritage under legal protection into 20 different types of 'environment'. This information is used to work towards a more comprehensive range of terrestrial environments being legally protected. While no targets have been set, the information helps prioritise funding when responding to opportunities to protect land areas.	The following indicators were used in the Department of Conservation's Annual Report of 2007–2008: ⁸² 1. Percentage of lowland forest areas in protection 2. Percentage of wetland areas in protection 3. Percentage of marine areas in protection	Reporting against the Department of Conservation Annual Report of 2007–2008 indicators included the following:  1. There has been little change in the degree of protection provided for lowland forests over the past year.  2. Previous Department of Conservation reports on national wetland extent, and wetland extent within protected areas has been insufficient to provide this data with suitable levels of accuracy. However, the recent development (2008) of a national map of New Zealand Waters of National Significance (including wetlands) will allow for this type of analysis to be undertaken in the future.  3. Use of the percentage of marine areas in protection as an indicator was discontinued by the Department of Conservation in 2007–2008 because it did not sufficiently focus on the needs of marine protection. However, new marine reserves are planned for gazettal.
<i>Goal 3: Promote the conservation of genetic diversity.</i>			
Global Target 3.1: Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species is conserved, and associated indigenous and local knowledge is maintained.			
Target 3.1.1: Trends in genetic diversity of	New Zealand's Biodiversity Strategy	The Ministry of Economic Development is leading the	 New Zealand's national bioprospecting policy is currently under development. Many of the 'Actions'

⁸² <http://www.doc.govt.nz/publications/about-doc/archive/annual-reports/annual-report-for-year-ended-30-june-2008/>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
<p>domesticated animals, cultivated plants and fish species of major socio-economic importance</p>	<p>states: Objective 4.1 Conserve the diversity of New Zealand's genetic resources so as to maintain their current and potential benefits to New Zealanders. 4.1.a Develop a collaborative strategy to manage New Zealand's genetic resources (from both introduced and indigenous species ... 4.1.b Identify significant areas of risk in the management of genetic resources of New Zealand's introduced species, including information gaps, and recommend how these gaps might be effectively managed. 4.1.c. Identify significant areas of risk in managing genetic resources of New</p>	<p>development of New Zealand's over-arching domestic policy for bioprospecting.</p> <p>The development of domestic bioprospecting policy is set against the backdrop of contested rights to New Zealand's biological resources. In 1991, the Wai 262 claim was lodged by six iwi, asserting a range of breaches of the Treaty of Waitangi by the Crown. The Wai 262 claim covers a broad range of issues, and includes a focus on rights to New Zealand's biological resources and traditional knowledge. The claim is currently being considered by the Waitangi Tribunal, and the Tribunal's report is expected some time in late 2009 or early 2010. The Crown will then need to consider the report.</p> <p>Finalisation of bioprospecting</p>	<p>specified in the New Zealand NBSAP with regard to managing New Zealand's genetic resources are being addressed as part of the policy development process.</p>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	Zealand's indigenous species.	<p>policy remains challenging while the range and nature of rights over New Zealand's biological resources remains unsettled. Meanwhile, private and public research and conservation of genetic variation of biological resources continues, through existing permitting processes.</p> <p>Assessing changes in genetic diversity is included as a goal in the Ministry of Fisheries' Biodiversity Medium Term Research Plan. There is no progress on fish genetic diversity reporting as yet.</p>	
<i>Target 3.1.2: Biodiversity used in food and medicine (indicator under development)</i>		New Zealand communities rely on biological resources to be managed by commercial and community enterprises. The food and medicinal values of indigenous biota species within private and public forest areas are retained in Māori lore, and in some cases are managed for community use and commercial	

⁸³ www.doc.govt.nz/getting-involved/landowners/nga-whenua-rahui/matauranga-kura-taiao-fund/

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		<p>return.</p> <p>Since the last report, the Department of Conservation has established the Mataranga Kura Taiao Fund to help record traditional knowledge associated with biodiversity.⁸³</p>	
Target 3.1.3: Trends in abundance and distribution of selected species		Refer to the response under Target 3.1.1.	Refer to the response under Target 2.2.2.
Promote sustainable use			
<i>Goal 4: Promote sustainable use and consumption.</i>			
Target 4.1: Biodiversity-based products are derived from sources that are sustainably managed, and production areas are managed in a way that is consistent with the conservation of biodiversity.			
Target 4.1.1: Area of forest, agricultural and aquaculture ecosystems under sustainable	New Zealand strives to achieve 100 percent sustainable management of its natural resources through its implementation of the RMA. The Act	Please refer to the response to Target 1.1.2.	 New Zealand has about 6.2 million hectares (23 percent of the land area) of indigenous forests. The Department of Conservation manages about 77 percent of the forestry estate for conservation, heritage and recreational purposes. 23 percent of the estate is privately

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
management	expressly takes into account the safeguarding of ecosystems and the protection of significant vegetation and habitats, and the culture and traditions of Māori. For further information, refer to Chapter 3—Resource Management Act.		<p>owned. Privately-owned indigenous forests, which are used for timber production purposes, are required by law to be managed in a way that maintains their ability to provide products and amenities in perpetuity.</p> <p>Approximately 50,000 hectares of indigenous forests are sustainably managed under the Sustainable Forest Management provisions of Part IIIA of the Forests Act 1949.</p> <p>New Zealand has 1.8 million hectares of planted forests and 44 percent of the planted forest estate is Forest Stewardship Council (FSC) certified⁸⁴. While planted forests are primarily a commercial resource, these forest ecosystems also provide habitat for some indigenous species, thereby supporting the vital conservation of biodiversity role of indigenous forest ecosystems.</p> <p>In relation to agriculture, there is a diverse range of sector initiatives underway for the sustainable management of natural and physical resources by different agricultural sectors. Most sectors have some levels of activity, but this activity can vary from reasonably low-level provision of tools and information to quite comprehensive and compulsory codes of practice (such as simple water budgeting tools through to more complex crop-specific</p>

⁸⁴ www.med.govt.nz/templates/EcoLabel_____37979.aspx

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
			<p>calculators).</p> <p>There is a total area of around 18,000 hectares of marine aquaculture farms operating around New Zealand's coast. Aquaculture farmers manage these farms sustainably using environmental impact assessments, monitoring and environmental codes of conduct. The Ministry of Fisheries has a statutory role in assessing the effects of new aquaculture on fishing.</p> <p>New aquaculture areas can only be established following comprehensive environmental impact assessments being undertaken.</p>
<i>Target 4.1.2: Proportion of products derived from sustainable sources (indicator under development)</i>	New Zealand does not have any related national targets	The Ministry of Fisheries has commissioned work to explore the linkages between biodiversity, habitat function and structure, as well as links to land use..	The results of which are not yet available
Target 4.1.3: Trends in abundance and distribution of selected species	'The New Zealand Biodiversity Strategy includes the goal 'To halt the decline of New Zealand's indigenous biodiversity by 2020'.	A national indicator exists for the area of land covered by native vegetation, including the area under legal protection.	<p>About 44 percent of New Zealand's land area is covered by native vegetation, most of which is in hill country and alpine areas. In comparison, less native vegetation is found in lowland areas.</p> <p>🕒 Between 1997 and 2001, native land cover (vegetative and non-vegetative) was reduced by 0.12</p>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
			<p>percent.</p> <p>✔ 35 percent of New Zealand's total land area is legally protected. The area of public conservation land and private land under protection increased by 4.5 percent and 51 percent, respectively, between 2004 and 2007. Some vegetation types receive comparatively high levels of protection, while other vegetation types are protected to a lesser degree. This has implications for species that need this type of habitat to survive. For more information, refer to the biodiversity chapter of <i>Environment New Zealand 2007</i> (www.mfe.govt.nz/publications/ser/enz07-dec07/index.html).</p>
Target 4.1.4: Marine trophic index	New Zealand does not have any related national targets.	Please refer to the response provided for Target 4.1.2.	

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Target 4.1.5: Nitrogen deposition	New Zealand does not have any related national targets.	<p>No national policies or indicators have been developed for nitrogen, of which the principal sources are:</p> <ul style="list-style-type: none"> • Animal urine • Nitrogenous fertilisers <p>N₂O emissions are reported to UNFCCC annually.</p> <p>Refer to the response to Target 7.2.1.</p>	
Target 4.1.6: Water quality in aquatic ecosystems	New Zealand does not have any related national targets.		
Target 4.2: Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced.			

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
<p>Target 4.2.1: Ecological footprint and related concepts</p>	<p>The Ministry for the Environment has been exploring the integration of ecosystem services (supply or resilience of ecosystem services are affected by changes in biodiversity) into the Strategic Environmental Assessment (SEA). This work has been developed to better understand the value of incorporating the ecosystem approach into policy making.</p> <p>The Department of Conservation is investigating the importance of conservation management in sustaining the provision of ecosystem services.</p>		
<p>Target 4.3: No species of wild flora or fauna endangered by international trade.</p>			

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
\ Target 4.3.1: Change in status of threatened species	New Zealand does not have any related national targets.	New Zealand has a national dataset for around 20 threatened species that are annual measured and provide an indication of the status of those species being actively managed. The 5 yearly Threatened Species Classification ⁸⁵ review uses expert opinion to monitor the status of 2800 of New Zealand's Threatened Species. In addition, the Department of Conservation also fulfils its reporting requirements under CITES.	The Threatened Species Classification system is currently between review periods with the next review write-up scheduled for 2011.  There is no indication that international trade is affecting the status of New Zealand's threatened species.
Address threats to biodiversity			
<i>Goal 5: Pressures from habitat loss, land use change and degradation, and unsustainable water use reduced.</i>			
Global Target 5.1: Rate of loss and degradation of natural habitats decreased.			
Target 5.1.1: Trends in extent of selected biomes, ecosystems and habitats	New Zealand does not have any related national targets.	Monitoring the extent of suitable native habitats for a selection of 'indicator species' is a practical way of assessing changes in New Zealand's native biodiversity. The	 The species selected as biodiversity indicators in New Zealand have decreased in abundance and distribution. This decrease is due to habitat loss and the impact of introduced predators.

⁸⁵ <http://www.doc.govt.nz/upload/documents/science-and-technical/sap236.pdf>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		<p>New Zealand State of the Environment Report (2007)⁸⁶ has used the changes in the distribution of a small number of indicator species over specific periods to illustrate the changing extent of native habitats over time. The three periods used were: before human settlement; during the 1970s and 1980s; and the present.</p> <p>Seven indicator species were selected from the national biodiversity indicator programme currently under development by the Department of Conservation. These species are all managed by the Department of Conservation under recovery plans and were selected for their usefulness as indicators, their habitat requirements, the availability of data for them, and their level of threat.</p>	<p> Some of New Zealand's more common native birds have shown an increase in distribution in recent years, particularly in urban areas. This increase is thought to be due to intensive local pest control and plantings of native plants in gardens to attract these species. (See www.gw.govt.nz/story31053.cfm for an example of a programme with biodiversity benefits.)</p>

⁸⁶ <http://www.mfe.govt.nz/publications/ser/enz07-dec07/index.html>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Target 5.1.2: Trends in abundance and distribution of selected species	Please refer to the response to Target 1.2.1.		
Target 5.1.3: Marine trophic index	New Zealand does not have any related national targets.	Work is progressing on trophic indices and linkages for key marine species. Refer to the response to Target 4.1.2.	☹ Results from ongoing work in this area are not yet available.
Global Target 6.1: Pathways for major potential alien invasive species controlled.			
Target 6.1.1: Trends in invasive alien species	Yes		<p>The geographic model is separated into three separate but interrelated zones of activity.</p> <ul style="list-style-type: none"> ▪ Global - rest of the world, outside New Zealand's borders, where biosecurity risks emerge and information on intelligence and surveillance is gathered and exchanged. This is where international treaties and multi-lateral agreements are negotiated and where responsibility for facilitating trade access and for New Zealand's reputation lies. ▪ Pathways and Borders - the mode in which biosecurity-risk goods and organisms arrive and enter New Zealand, the final point at which people, goods and craft are given approval to enter into or depart from New Zealand, including all the activity to manage risk prior to or at the border. This includes export trade inspection and official assurances.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
			<ul style="list-style-type: none"> ▪ Within New Zealand - the management of risks and impacts of pests and diseases that have crossed the border and diseases that have already established in New Zealand. The effective national biosecurity management together with animal welfare management enables the assurance of New Zealand as an exporter that is free of biosecurity-risk goods. <p>The system covers biosecurity activities:</p> <ul style="list-style-type: none"> ▪ offshore - reducing the risks posed by other countries such as developing Standards and Regulations⁸⁷ ▪ our borders - stopping biosecurity-risk pests and diseases getting into New Zealand⁸⁸ ▪ within out border - eradicating or managing those pests and diseases that have established.⁸⁹ <p>It's a joint effort involving central government, regional councils, industry, community groups and of course the general public.</p> <p>A number of new initiatives have been implemented to</p>

⁸⁷ <http://www.biosecurity.govt.nz/regs>

⁸⁸ <http://www.biosecurity.govt.nz/enter/declare>

⁸⁹ <http://www.biosecurity.govt.nz/pests/surv-mgmt>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
			boost biosecurity readiness and response. These are: Government-Industry Agreements ⁹⁰ , National Bovine Tb Management Strategy, Surveillance Strategy for New Zealand, and Long-term Contract for biosecurity response operations. See New Post Border Initiatives ⁹¹ for additional information
Target 6.2: Management plans in place for major alien species that threaten ecosystems, habitats or species.			
Target 6.2.1: Trends in invasive alien species	Yes	Success of strategies for managing pests at national (e.g.) and regional levels.	✔ Established response programmes for indigenous species, for example the varroa (otherwise known as national rainbow lorikeets), and programmes for newly introduced organisms such as the Mediterranean fan worm.
<i>Goal 7: Address challenges to biodiversity from climate change, and pollution</i>			
Target 7.1: Maintain and enhance resilience of the components of biodiversity to adapt to climate change.			
Target 7.1.1: Connectivity/fragmentation of ecosystems	There are no specific targets for connectivity, but Theme One of the NBSAP identifies the problems associated with fragmentation, particularly in the lowlands, and sets	Fragmentation of forests has been measured through Morphological Spatial Pattern Analysis (MSPA), though this does not yet distinguish between natural and human-induced fragmentation.	⚠ Morphological Spatial Pattern Analysis (MSPA) of New Zealand's native forest fragmentation records 74 percent of 7 million hectares as core (forest interior greater than 100 metres from an edge). Overall, 83 percent or 4.2 million hectares of forest protected as public conservation land is core, whereas 49 percent, or 900,000 hectares of other native forest is core. This indicates greater viability

⁹⁰ <http://www.biosecurity.govt.nz/pests/surv-mgmt/gia>

⁹¹ <http://www.biosecurity.govt.nz/biosec/new-post-border>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	relevant targets for protection and restoration of indigenous habitats and ecosystems.		of forests protected by the Protected Area Network. The edge to core ratio of all native forest is 1:7, but it is 1:10 in areas protected as public conservation land. New Zealand-wide, less than 2 percent of the country's indigenous forest forms corridors between core areas of forest.
Target 7.2: Reduce pollution and its impacts on biodiversity.			
Target 7.2.1: Nitrogen deposition		<p>Under the RMA, regional and unitary councils are responsible for making decisions, including about resource consents for people wanting to discharge pollution.</p> <p>There are also a large number of primary-sector-led initiatives underway, including for the management of nutrients and pollutants, which vary from reasonably low-level provisions of tools and information to comprehensive and compulsory codes of practice.</p> <p>Specific examples include:</p> <ul style="list-style-type: none"> • The OVERSEER® Nutrient Budgets model, which provides users with a tool to examine the 	

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		<p>impact of nutrient use and flows within a farm and potential environmental impacts and mitigation options.</p> <ul style="list-style-type: none"> • The fertiliser industry ‘Code of Practice for Nutrient Management’. • Increasing uptake of nitrification inhibitors, which is leading to reduced N₂O emissions and decreased nitrogen leaching in pastoral agriculture. • A regulatory nutrient trading regime for nitrogen, which is being established for the catchment of Lake Taupo (Taupomoana). This will provide for the capping of nitrogen limits and also allow trading of nitrogen offsetting between properties. <p>Refer to the response to Target 4.1.5.</p>	
Target 7.2.2: Water quality in aquatic ecosystems	The RMA is the key piece of legislation governing the management of	Research on the marine environment has identified clear examples of linkages between	 <u>Rivers</u> Pollution from organic waste has reduced in rivers since

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>freshwater resources.</p> <p>Under the RMA, regional and unitary councils are responsible for making decisions about the allocation and use of water within their boundaries. This includes decisions about resource consents for people wanting to use freshwater or discharge into it.</p> <p>Councils are guided in their decisions by regional policy statements and regional plans. These set out environmental objectives, policies, rules and processes, and sometimes set quality standards or specify how much water can be taken</p>	<p>habitat structure, biodiversity and also land practices.</p>	<p>the late 1980s. This indicates that improved management of point source discharges of organic waste—that is pollution from a single facility at a known location, such as wastewater plants, meatworks and farm effluent—is having a positive impact on the quality of river water.</p> <p>For further information, see the latest Clean Streams Accord Report⁹² for details of a programme run by New Zealand’s largest dairy company to reduce the impact of dairy farming on the environment (www.mfe.govt.nz/issues/land/rural/dairying.html).</p> <p><u>Lakes</u></p> <p>A large majority of the 3,820 lakes greater than 1 hectare in surface area in New Zealand are not monitored. By extrapolating the results for monitored lakes, it is estimated that the majority (about two-thirds) of all lakes are likely to have relatively low concentrations of nutrients and good to excellent water quality because they lie in natural, or only partially developed, catchments. The remaining one-third of lakes are likely to have high levels of nutrients and poor water quality.</p>

⁹² <http://www.maf.govt.nz/mafnet/rural-nz/sustainable-resource-use/resource-management/dairy-clean-stream/>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>from particular water bodies.</p> <p>Also please refer to the response to Target 6.1.</p>		<p>For further information about the status of freshwater resources, please refer to <i>Environment New Zealand 2007</i>⁹³.</p> <p> <u>Freshwater management</u></p> <p>On 8 June 2009, the Government announced its new strategy 'New Start for Fresh Water'. This outlines the Government's new direction for water management in New Zealand and sets out some of the choices we face and the implications of those choices. Further information can be found at www.mfe.govt.nz/issues/water/freshwater/new-start-fresh-water.html.</p>
Maintain goods and services from biodiversity to support human well-being			
<i>Goal 8: Maintain capacity of ecosystems to deliver goods and services and support livelihoods.</i>			
Target 8.1: Capacity of ecosystems to deliver goods and services maintained.			
<i>Target 8.1.1: Biodiversity used in food and medicine (indicator under development)</i>			

⁹³ www.mfe.govt.nz/publications/ser/enz07-dec07/html/chapter10-freshwater/index.html

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Target 8.1.2: Water quality in aquatic ecosystems	<p><u>The Sustainable Water Programme of Action</u></p> <p>In 2003, the Ministry for the Environment and the Ministry of Agriculture and Forestry jointly launched the ‘Sustainable Water Programme of Action’ (SWPoA) to identify priorities for government action to improve freshwater management in New Zealand. The SWPoA has a particular focus on addressing the pressures on water bodies from land-use change and intensification. Extensive consultation in 2005 revealed broad support for the development of policy in a number of areas of freshwater demand and quality management. See www.mfe.govt.nz/issues/w</p>	<p><u>National environmental standards for drinking water sources</u></p> <p>In November 2006, the Government gave approval for a national environmental standards (NES) for sources of human drinking water. The purpose of the NES is to reduce the risk of contaminating sources of human drinking water (e.g. rivers and groundwater). The NES will prevent resource consents from being granted or permitted activity rules being included in regional plans, if they would result in drinking water becoming unsafe to drink (after treatment by existing means).</p> <p><u>Recreation water quality</u></p> <p>More than 230 sites on rivers and lakes throughout the country are regularly monitored for recreational water quality. These are sites where water-based activities such as swimming, water-skiing and diving are common.</p>	<p> <u>Recreational water quality</u></p> <p>During summer 2006/07, the water quality of 60 percent of monitored swimming spots on rivers and lakes met New Zealand guidelines for water-based (contact) recreation most of the time (that is, at least 95 percent of samples taken at these sites were within acceptable levels), and were therefore safe for swimming.</p> <p>Sampling over the past four seasons suggests that bacteria levels have improved over the monitoring period, but the data are sensitive to the weather (that is, whether the summer is dry or wet) and it is too early to draw firm conclusions from this sampling.</p> <p> <u>Lakes</u></p> <p>From the 49 lakes for which longer-term trends in nutrient levels can be established, most have shown no signs of change in nutrients since 1990. Ten show possible or definite signs of deterioration and six show signs of improvement. Many of the lakes showing signs of deterioration are already moderately nutrient-enriched (meso-eutrophic) and lie in largely developed catchments (for example, Waikere in Northland, and Waikare and Rotomanuka in Waikato).</p>

⁹⁴ <http://www.mfe.govt.nz/publications/water/microbiological-quality-jun03/>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<p>ater/prog-action/index.html for more information.</p>	<p>Water samples are typically taken once a week over the summer (November to March) and are tested for <i>Escherichia coli</i>, the indicator of faecal pollutants in freshwater. When <i>E. coli</i> levels are higher than those recommended by the Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas⁹⁴, regional councils liaise with health authorities to make sure the public is warned (by signs or other means) of the health risk.</p> <p><u>Water quality in lakes</u> New Zealand mountain lakes have good water clarity. For example, underwater visibility in South Island mountain lakes is commonly more than 10 metres. Two-thirds of New Zealand lakes are in natural or partially developed catchments and are likely to have good to excellent water quality.</p>	<p>⊙⊙⊙ <u>Ground water quality</u> (There are no comparable baseline data to compare this with.)</p> <p>61 percent of over 1,000 monitored groundwaters in New Zealand have normal nitrate levels; but the remainder have nitrate levels that are elevated above natural background levels.⁹⁵ 5 percent have nitrate levels that make the water unsafe to drink for infants, while 20 percent of 520 monitored groundwaters have levels of bacteria that make general consumption unsafe. However, it is not known what proportion of these groundwaters is used to supply drinking water to people. High levels of nitrates and bacteria are particularly common in shallow, unconfined aquifers that are situated beneath areas of intensive land use.</p> <p>Refer to the response to Target 7.2.2 for further information.</p>

⁹⁵ www.mfe.govt.nz/publications/ser/enz07-summary-dec07/html/page5-freshwater.html

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		<p><u>Groundwater quality</u></p> <p>Nitrogen is found in groundwater in the form of nitrate and is monitored for both health and environmental reasons. From an environmental perspective, elevated levels of nitrate often indicate the potential presence of other pollutants from human activities, like faecal pathogens and pesticides (that is, nitrate can be a good indicator of general groundwater degradation).</p> <p>Refer to the response to Target 7.2.2 for further information.</p>	
Target 8.1.3: Marine trophic index	New Zealand does not have any related national targets.	Refer to the response to Target 4.1.2.	Refer to the response to Target 4.1.2.
Target 8.1.4: Incidence of human-induced ecosystem failure	New Zealand does not have any specifically related national targets.	Research has been commissioned on two important coastal marine systems to assess the relative long-term impacts of natural and anthropogenic forcing. These are not ‘failed’ ecosystems but any assessment of ‘failure’ would require some understanding of the	 The results of research currently underway are not yet available.

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		<p>range of natural variability.</p> <p>Research is also underway to develop and test indicators for terrestrial environments by:</p> <ul style="list-style-type: none"> • Ascertaining relationships between indigenous dominance, environmental gradients and land-use history • Assessing whether environmental representation indicates species security • Measuring whether trends in ecosystem composition along environmental and disturbance history gradients reflect change to whole ecosystem • Analysing whether trends in the status of ‘acutely threatened’ taxa could indicate benefits to other species <p>In freshwater environments, related research is quantifying relationships between human pressures and ecological integrity in lakes and rivers.</p>	

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Target 8.2: Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained.			
Target 8.2.1: Health and well-being of communities who depend directly on local ecosystem goods and services	New Zealand does not have any related national targets.	New Zealand does not have any related national indicators of health and well-being of communities who depend directly on local fisheries ecosystem goods and services. However, a number of mechanisms have been put in place such as mātaimai reserves and taiāpure, which support and provide for access to marine resources for indigenous peoples.	 There are currently ten mātaimai ⁹⁶ (four of which have come into force since New Zealand's last report) and eight taiāpure ⁹⁷ .
<i>Target 8.2.2: Biodiversity used in food and medicine</i>	Global Target still under development, therefore it is difficult to report on related national targets	Please refer to the response to Target 3.1.2.	

⁹⁶ www.doc.govt.nz/conservation/marine-and-coastal/marine-protected-areas/other-protected-areas/mataimai/

⁹⁷ www.doc.govt.nz/conservation/marine-and-coastal/marine-protected-areas/other-protected-areas/taiapure/

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Protect traditional knowledge, innovations and practices			
<i>Goal 9: Maintain socio-cultural diversity of indigenous and local communities.</i>			
Target 9.1: Protect traditional knowledge, innovations and practices.			
Target 9.1.1: Status and trends of linguistic diversity and numbers of speakers of indigenous languages	The New Zealand Government recognises that the Māori language is a treasure guaranteed to Māori by the Treaty of Waitangi. Māori is one of two officially recognised languages in New Zealand (Māori and English). The Māori Language Strategy (2003) ⁹⁸ outlines the Government's commitment to Māori language revitalisation, including investment in Māori language education, broadcasting, arts and archives. One goal of the Māori Language Strategy is strengthening community leadership for the Māori language, which	New Zealand has no national indicators.	

⁹⁸ <http://www.tpk.govt.nz/en/in-print/our-publications/publications/the-maori-language-strategy/>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	recognises the importance of maintaining and protecting local traditional knowledge (including language) and practices.		
<i>Target 9.1.2: Additional indicators to be developed</i>		<p>The current development of a domestic bioprospecting policy is being undertaken with the goal of filling gaps identified in the management of New Zealand's biological resources and associated traditional knowledge, including opportunities for increasing benefit sharing for and within New Zealand.</p> <p>The Treaty of Waitangi Wai 262 claim is very significant and</p>	

⁹⁹ Gathering and use of natural resources by tangata whenua according to tikanga.

¹⁰⁰ www.doc.govt.nz/publications/about-doc/role/policies-and-plans/conservation-general-policy/2-treaty-of-waitangi-responsibilities/

¹⁰¹ www.doc.govt.nz/getting-involved/landowners/nga-whenua-rahui/matauranga-kura-taiao-fund/

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
		<p>could have important outcomes for the management of New Zealand’s biological resources, amongst other things.</p> <p>Māori have access to biodiversity managed by the Department of Conservation under specific ‘customary use’⁹⁹ provisions that allow for the cultural harvest of certain species under certain conditions¹⁰⁰.</p> <p>The Department of Conservation also administers the Mataranga Kura Taiao Fund¹⁰¹, which encourages hapū and iwi to use traditional knowledge and practices in biodiversity management in their rohe.</p>	
<i>Target 9.1.3: Indicator to be developed</i>			

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
Ensure the fair and equitable sharing of benefits arising from the use of genetic resources			
<i>Goal 10: Ensure the fair and equitable sharing of benefits arising from the use of genetic resources.</i>			
Target 10.1: All access to genetic resources is in line with the Convention on Biological Diversity and its relevant provisions.			
<i>Target 10.1.1: Indicator to be developed</i>	A domestic bioprospecting policy is currently under development.		
Target 10.2: Benefits arising from the commercial and other utilisation of genetic resources are shared in a fair and equitable way with the countries providing such resources in line with the Convention on Biological Diversity and its relevant provisions.			
<i>Target 10.1.2: Indicator to be developed</i>	A domestic bioprospecting policy is currently under development.		
Ensure provision of adequate resources			
Target 11.1: New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 20.			
Target 11.1.1: Official development assistance provided in support of the Convention	NZAID has committed to support its Pacific partners' management of biodiversity through implementation of the Pacific Strategy and Environmental Policy. This includes engagement in:	New Zealand is actively engaged in work with the Pacific Regional Environment Programme, the Pacific Round Table for the sustainable management and conservation of biodiversity in the Pacific Region, and the Pacific Invasive Species Initiative, all of which support networks of biodiversity professionals and	 <p><u>Pacific Environment Programme (SPREP) 2004–2008</u> New Zealand supports the Secretariat of the Pacific Environment Programme (SPREP) to coordinate work on nature conservation in the Pacific region. NZAID support covers assistance for National Biodiversity Strategic Plans of Action (NBSAPS), the operation of the regional round table, monitoring and evaluation of the Action Strategy, supporting countries to engage in the development of the CBD Islands Programme of Work, and the invasive</p>

Global indicators	Does New Zealand have any related national targets?	Does New Zealand have any related national indicators?	If so, what are the results of the most recent indicator assessment?
	<ul style="list-style-type: none"> • The Pacific Regional Environment Programme (SPREP) • The Pacific Invasive Partnership (PIP) • The GEF Pacific Small Grants Programme, which includes implementation of the CBD 	policy makers in implementing the obligations of the CBD.	<p>species officer position at the Secretariat.</p> <p><u>Small Grants Programme (SGP): 2006–2009</u> NZAID supports the Global Environment Fund (GEF) Pacific Small Grants Programme managed by UNDP in the Pacific. The SGP aims to assist communities to manage local resources through small-scale funding support, with decisions made by country committees. SGP support is determined by the five GEP Focal Areas for the implementation of Multilateral Environment conventions including the CBD.</p> <p><u>Pacific Invasive Species Initiative (PII): NZ\$1,300,000 2006–2010</u> NZAID supports the Pacific Invasive Species Initiative (PII) managed by ISSG. NZAID support covers awareness raising with Pacific stakeholders on invasive species management, and a range of pilot projects at the community level to increase capacity for invasive species management, and thereby improve people’s livelihoods and reduce their vulnerability to poverty.</p>
Target 11.2: Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 20, paragraph 4.			
<i>Indicator to be developed</i>			

Chapter 4 (B)—Goals and objectives of the Strategic Plan and provisional indicators for assessing progress

Goal 1: The Convention is fulfilling its leadership role in international biodiversity issues.

Objective 1.1: The Convention is setting the global biodiversity agenda.

Objective 1.2: The Convention is promoting cooperation between all relevant international instruments and processes to enhance policy coherence.

Objective 1.3: Other international processes are actively supporting implementation of the Convention, in a manner consistent with their respective frameworks.

Objectives 1.1, 1.2 and 1.3 all relate to the effectiveness of the CBD in representing biodiversity concerns on the international stage and within the work of other international conventions.

Objective 1.4: The Cartagena Protocol on Biosafety is widely implemented.

The Cartagena Protocol on Biosafety came into effect for New Zealand on 25 May 2005. Regulatory or administrative provisions have been put in place to ensure the requirements of the Protocol are implemented fully.

Goal 2: Parties have improved financial, human, scientific, technical and technological capacity to implement the Convention.

Objective 1.5: Biodiversity concerns are being integrated into relevant sectoral or cross-sectoral plans, programmes and policies at the regional and global levels

The Ministry for the Environment is developing guidance material and a national policy statement on biodiversity that will help decision makers to consider the biodiversity implications when making resource use and allocation decisions. This material includes significant guidance on addressing biodiversity matters through regional policy documents (and regional and district plans). Information on this material can be found at www.qp.org.nz.

In addition, the Ministry for the Environment has been exploring the integration of ecosystem services (supply or resilience of ecosystem services are affected by changes in biodiversity) into the Strategic Environmental Assessment (SEA). This work has been developed to better understand the value of incorporating the Ecosystems Approach into policy making.

The Natural Resources Sector Network (at Chief Executive and Deputy Chief Executive levels) has been established to ensure that, across government agencies, a strategic, integrated and aligned approach is taken to natural resource development and management (including issues relating to biodiversity).

Objective 1.6: Parties are collaborating at the regional and sub-regional levels to implement the Convention.

Under the RMA, councils have to develop district plans (and regional councils may create regional plans) that outline how they will manage the environment. Councils are responsible for considering the sustainable management and use of biodiversity, as part of their broader environmental considerations. The development of district and regional plans is subject to a full public consultation process, and these plans are reviewed on a 5- to 10-year timescale.

Refer to Chapter 3: Resource Management Act.

Objective 2.1: All Parties have adequate capacity for implementation of priority actions in national biodiversity strategy and action plans.

New Zealand is a small, developed country with a lot of endemic biodiversity that is vulnerable to predation by introduced mammal species. While significant new funding has been allocated to the implementation of the New Zealand Biodiversity Strategy, the capacity to implement all the actions specified in the New Zealand Biodiversity Strategy Action Plan (NBSAP) remains an ongoing issue. Significant efforts aimed at increasing community engagement and private landowner involvement, and rationalising and improving coordination of central and regional government operations means that not all priority actions are being implemented.

Significant research funding has now been allocated to areas that improve biodiversity and biosecurity outcomes across the full range of ecosystems. Information and database building blocks have been in place for some time now, and increasing benefits are being accrued as more information accumulates. New Zealand continues to advance the use of technologies such as GIS mapping of ecosystem, land-classification and land-use databases in order to facilitate targeted management activities.

Objective 2.2: Developing country Parties, in particular the least developed and the small island developing States amongst them, and other Parties with economies in transition, have sufficient resources available to implement the three objectives of the Convention.

N/A

Objective 2.3: Developing country Parties, in particular the least developed and the small island developing States amongst them, and other Parties with economies in transition, have increased resources and technology transfer available to implement the Cartagena Protocol on Biosafety.

N/A

Objective 2.4: All Parties have adequate capacity to implement the Cartagena Protocol on Biosafety.

The Environmental Risk Management Authority (ERMA) is the New Zealand Competent National Authority responsible for assessing and deciding on applications to introduce new and genetically modified organisms into New Zealand, either for contained use or for release into the environment.

ERMA acts as New Zealand's Biosafety Clearing House (BCH) Focal Point; all ERMA New Zealand's decisions are notified to the BCH and are separately available on ERMA's website (www.ermanz.govt.nz).

Information relating to some decisions taken by regulatory agencies in the period before entry into force of the Protocol for New Zealand is also accessible through ERMA New Zealand's website.

Objective 2.5: Technical and scientific cooperation is making a significant contribution to building capacity.

Most of New Zealand's government agencies support visiting official delegations by providing information and advice on the way in which New Zealand manages its natural resources.

The Department of Conservation assists its Pacific partners and collaborates with other countries through the provision of technical transfer and scientific cooperation. As an island nation, New Zealand shares many of the same invasive alien species (IAS) pressures with its Pacific partners. Therefore, the tools that New Zealand has developed to manage those pressures are often readily transferable to their circumstances.

Pacific projects from 2006 to 2009

During 2006–2009, the Department of Conservation contributed technical transfers to the following projects in the Pacific:

- New Caledonia—Mainland restoration through pest control at Mt Panie; feasibility study for rodent eradications on offshore islands; technical advice on deer management; one New Caledonian joined a workshop in New Zealand on eradication planning, during which the Department of Conservation’s Island Eradication Advisory Group (IEAG) gave input into an operational plan.
- Fiji—Technical support for three island eradication projects (Viwa, Vatu'i'ra, Mabalau); Fijians involved in these projects visited New Zealand twice, including attendance at a workshop in New Zealand on eradication planning, which involved IEAG input into an operational plan.
- Samoa—Technical support for rodent eradication project (Aleipata), which included a visit from Samoans involved in this project to join a workshop in New Zealand on aerial eradication planning and IEAG input into the operational plan.
- Kiribati—Technical support and involvement in an invasives survey of Phoenix Islands (2006), followed by the Department of Conservation’s project managed, NZAID-funded, eradication and capacity building project 2008–2010.
- Palau—Feasibility study for rodent eradication project (Kayangel) and a visit from Palauans to join a workshop on eradication planning, which included IEAG input into another eradication project (Fana).
- Pohnpei—Strategic advice and training workshop in Pohnpei on eradication projects.
- Galapagos—Strategic advice at a workshop held in Galapagos for rodent eradication strategy.
- Hawaii—Technical support for mainland predator control projects, including visits to New Zealand from Hawaiians to see control tools in use, and field visit to Hawaii by Department of Conservation staff; technical advice into rodent eradication projects (Palmyra and Lehua); technical advice into registration of pesticides for rodent control/eradication in Hawaii.
- Japan—Technical support into pest management issues in Japan, including weed control, rodent eradication and mongoose control.
- French Polynesia—Technical input into eradication plans for two islands (Vahanga Atoll and Nuku Hau), which included participation in a field trial on Vahanga and a visit to New Zealand from Tahitians to join a workshop on eradication planning, during which IEAG gave input into an operational plan.

The Department of Conservation has also assisted with work in other countries, including Alaska, Chile and Mexico.

Agreements for technical and staff exchange

The Department of Conservation currently has technical transfer and scientific cooperation agreements with government agencies in the following countries: Argentina, Australia, Brazil, Chile, Czech Republic, Italy, Republic of Korea, Malaysia (Peninsula), Philippines, South Pacific (South Pacific Regional Environment Programme), and the United Kingdom.

Free Trade Agreements

In 2001 the New Zealand Government developed a 'Framework for Integrating Environment Objectives in Trade Agreements' to give expression to the aim of harmonising trade and environment objectives and serving the overarching objective of promoting sustainable development. To date, New Zealand has successfully negotiated an Environment Cooperation Agreement in the context of the New Zealand–Thailand Closer Economic Partnership Agreement, the Trans-Pacific Strategic Economic Partnership Agreement and the New Zealand–China Free Trade Agreement. These agreements can facilitate the development of cooperative projects on environmental issues including biodiversity. As these agreements are still at an early stage, there have been no biodiversity projects undertaken.

The Chilean Government is currently developing a conservation strategy to preserve the biodiversity and culturally-significant marine region in Southern Chile. WWF Chile has won a contract to assist the Chilean Government in developing the strategy. To get this work underway, WWF Chile has invited a New Zealand expert, Ken Grange from NIWA, to attend a proposed international experts workshop.

Goal 3: National biodiversity strategies and action plans, and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention.

Objective 3.1: Every Party has effective national strategies, plans and programmes in place to provide a national framework for implementing the three objectives of the Convention and to set clear national priorities.

The New Zealand legislative and planning framework supports an overlapping and layered approach for biodiversity management and protection. Increased awareness of the value of biodiversity has resulted in its protection and enhancement being incorporated into a range of strategies, including those with biosecurity, tourism and sustainability outcomes. Biodiversity has been mainstreamed, alongside other societal values, within multiple sectors.

Objective 3.2: Every Party to the Cartagena Protocol on Biosafety has a regulatory framework in place and functioning to implement the Protocol.

New Zealand either had in place already, or introduced in time for entry into force of the Protocol, the necessary legal, administrative and other measures to provide for a full domestic regulatory framework for implementation of the Protocol.

Regulatory control for Living Modified Organisms is given effect through a number of different statutes and regulations laws. Complete versions of all relevant

New Zealand laws are accessible through the New Zealand Government's legislation website (www.legislation.govt.nz/), access to which has been made available to the Biosafety Clearing House.

Full details of New Zealand's regulatory framework for Living Modified Organisms is contained in New Zealand's First Regular National Report on the implementation of the Protocol, as submitted to the Secretariat in September 2007 (refer www.cbd.int/biosafety/parties/reports.shtml).

Objective 3.3: Biodiversity concerns are being integrated into relevant national sectoral and cross-sectoral plans, programmes and policies.

Please refer to the response to Objective 1.5.

Objective 3.4: The priorities in national biodiversity strategies and action plans are being actively implemented, as a means to achieve national implementation of the Convention, and as a significant contribution towards the global biodiversity agenda.

The New Zealand Biodiversity Strategy priorities and actions are increasingly implemented by relevant central and regional government agencies, resulting in significant contributions towards improving global objectives. Particularly significant gains have been made on public lands, with just over 32 percent of New Zealand's land mass having some level of protection.

Goal 4: There is a better understanding of the importance of biodiversity and of the Convention, and this has led to broader engagement across society in implementation.

Objective 4.1: All Parties are implementing a communication, education and public awareness strategy, and are promoting public participation in support of the Convention.

Under the Conservation Act 1987, the Department of Conservation has functions that relate to the implementation of communication, education and promoting public participation in support of the Convention, namely:

- To advocate the conservation of natural and historic resources generally
- To promote the benefits of conservation of natural and historic resources to present and future generations
- To prepare, provide, distribute, promote and publicise conservation information

Department of Conservation staff throughout the country carry out activities to achieve these aims. Overall approaches can be seen at www.doc.govt.nz.

Objective 4.2: Every Party to the Cartagena Protocol on Biosafety is promoting and facilitating public awareness, education and participation in support of the

Protocol.

Prior to ratification of the Protocol, New Zealand already had a formal system for public reporting of risk assessments undertaken and decisions made on the import and domestic use of living modified organisms that are genetically modified. This system includes:

- Information relating to developments under the Protocol and on New Zealand's regulatory requirements in relation to the products of biotechnology covered by the Protocol is provided to the public through the websites of the Ministry for the Environment (www.mfe.govt.nz) and the Ministry of Research, Science and Technology (www.morst.govt.nz).
- Information on specific applications to import or use domestically living genetically modified organisms is made public through the website of the Environmental Risk Management Authority (www.ermanz.govt.nz).

Intersessional meetings of stakeholders are organised periodically to provide a forum for government officials and members of the public to exchange information and share views on matters scheduled for discussion or negotiation under the Protocol.

Objective 4.3: Indigenous and local communities are effectively involved in implementation and in the processes of the Convention at national, regional and international levels.

One-third of the land area of New Zealand is subject to some form of conservation protection status, much of which is managed by the Department of Conservation according to the provisions of the Conservation Act 1987. The management of all natural resources in New Zealand is subject to the provisions of the Resource Management Act (RMA). The RMA expressly takes into account the safeguarding of ecosystems and protection of significant vegetation, habitats and the cultural traditions of Māori.

The Conservation Act 1987, Section 4 states that 'This Act shall so be interpreted and administered so as to give effect to the principles of the Treaty of Waitangi ...'. In 1995, the Court of Appeal clarified that Section 4 of the Conservation Act applies to interpreting and administering all of the legislation administered by the Department of Conservation.

Legislation administered by the Department of Conservation includes:

- Reserves Act 1977
- Marine Reserves Act 1971
- Wildlife Act 1953
- Wild Animal Control Act 1977
- Marine Mammals Protection Act 1978

In May 2005, the Minister of Conservation released:

A Conservation General Policy, (approved by the New Zealand Conservation Authority (NZCA)¹⁰², to guide policy in implementing the Conservation Act, Wildlife Act, Marine Reserves Act, Wild Animal Control Act and Marine Mammals Protection Act)

A National Parks General Policy (approved by the NZCA to guide policy development in the implementation of the National Parks Act).

Both of these general policies are statutory documents and state that the Department of Conservation shall:

- Seek to maintain relationships with tangata whenua
- Consult in the development of statutory planning documents
- Consult on specific proposals that involve places and resources of spiritual and cultural significance to tangata whenua
- Encourage and support tangata whenua involvement and participation
- Seek to avoid actions that would breach the Treaty of Waitangi (Te Tiri O Waitangi), and participate in and implement relevant Treaty claim settlements

The Department of Conservation has established a consultation policy and a Kahui Kura Taio network to assist with implementing obligations under Section 4 of the Conservation Act. The Kahui Kura Taio network comprises staff in each regional conservancy office who have been specifically tasked to act as an interface between local indigenous communities and the operational arm (conservancies) of the Department of Conservation. Their primary role is to facilitate information exchange and undertake consultation with local and indigenous communities.

The Resource Management Act (RMA) 1991

The Resource Management Act (RMA) 1991 enables local authorities to control and regulate New Zealand's natural and physical resources in order to provide for sustainable management. Ultimate responsibility for this lies with the Minister for the Environment. The day-to-day management, however, lies with local authorities (the councils). The RMA requires that Māori interests and values be included in the management process.

The RMA sets out the 'matters of national importance' that persons exercising functions and powers under the Act must 'recognise and provide for'. Many of these matters are particularly relevant to Māori, notably: the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wahi tapu, and other taonga; and the protection of recognised customary activities. The RMA also sets out the 'other matters' that persons exercising

¹⁰² www.doc.govt.nz/getting-involved/nz-conservation-authority-and-boards/nz-conservation-authority/

functions and powers under the Act must ‘have particular regard to’, making direct reference to kaitiakitanga (the exercise of guardianship by the tangata whenua—the iwi or hapū that holds mana whenua, or customary authority, over that area) of an area in accordance with tikanga Māori in relation to natural and physical resources; and includes the ethic of stewardship. In achieving the purpose of the RMA, all persons exercising functions and powers under it in relation to managing the use, development and protection of natural and physical resources must also take into account the principles of the Treaty.

The basic assumption under the RMA is that applications for resource consents (other than controlled activities) will be publicly notified. Māori have the same rights to participate in resource consent process as any other persons. When forming an opinion as to who may be adversely affected by the granting of a resource consent application (and therefore who should be notified), the consent authority must have particular regard to every relevant statutory acknowledgment (of Māori association with the area) under any Treaty Settlement Act. All persons exercising functions and powers under purpose of the Act are bound by certain requirements, including particular sensitivity to Māori issues. There are also a number of specific opportunities under the RMA for consultation, notification and participation in decision-making processes by Māori.

A local authority may transfer any of its functions, powers or duties under the RMA to an iwi authority (the statutory authority that represents an iwi and is recognised by that iwi as having authority to do so), or may enter into a joint management agreement with an iwi authority or group that represents a hapū for the purposes of the Act. The RMA provides that in a local authority hearing, the authority shall recognise tikanga Māori where appropriate and receive evidence written or spoken in Māori, and may restrict or prohibit the publication of any information supplied to it in any proceedings where it would cause serious offence to tikanga Māori or would disclose the location of wahi tapu.

Under the RMA, the Minister for the Environment must not recommend the making of any national environmental standard unless the Minister has notified iwi authorities, and established a process to give iwi authorities adequate time and opportunity to comment on the proposed standard. Before a Minister prepares a proposed national policy statement (including a New Zealand Coastal Policy Statement), he or she must first seek and consider comments from relevant iwi authorities. Similarly, a local authority must consult with relevant iwi authorities during the preparation of any regional policy statement or regional or district plan, and when considering the desirability of preparing a regional plan, a regional council must consider any significant concerns of tangata whenua for their cultural heritage in relation to natural and physical resources. If a board of inquiry is appointed to consider whether a proposal is of national significance, the Minister for the Environment must have regard to potential board members’ experience relating to ‘tikanga Māori’. Additionally, the Minister must consult with the Minister of Māori Affairs about membership of any special tribunals set up to consider applications for water conservation orders (which recognise and sustain outstanding amenity or intrinsic values that are afforded by waters in their natural state, or by waters that are not in their natural state where the values are still outstanding).

¹⁰³ Relates to the concept of guardianship.

The Hazardous Substances and New Organisms Act 1996

The purpose of the Hazardous Substances and New Organisms (HSNO) Act 1996 is to protect the environment, and the health and safety of people and communities, by preventing or managing the adverse effects of hazardous substances and new organisms (including genetically modified organisms). Decision-making under the HSNO Act provides that the customs and values of the kaitiaki¹⁰³ will be balanced against other relevant factors when decisions are being made under the Act.

In particular, the HSNO Act “Principles” require that all persons exercising functions, powers and duties under the HSNO Act shall, to achieve the purpose of that Act, recognise and provide for (a) the safeguarding of the life-supporting capacity of air, water, soil and ecosystems, and (b) the maintenance and enhancement of the capacity of people and communities to provide for their own economic, social and cultural wellbeing and for the reasonably foreseeable needs of future generations.

National Biodiversity Strategy and Action Plan

The New Zealand Biodiversity Strategy released in 2000, is New Zealand’s main vehicle for implementing its obligations under the CBD. In developing the NBS Action Plan (NBSAP), an extensive public consultation process was undertaken, including targeted consultation with Māori.

In developing national positions in preparation for Conference of Parties meetings of the Convention on Biological Diversity, the New Zealand Government ensures that stakeholder meetings are undertaken to help inform national positions to be taken at the meeting.

Multilateral Agreements

Implementation of New Zealand’s international obligations is generally conducted in consultation with tangata whenua (Māori); for example, the development and implementation of the New Zealand Biodiversity Strategy; the proposal to designate specific wetlands as being of international importance; the listing of indigenous species on CITES schedules; and the development of New Zealand’s Tentative List for World Heritage designation. Consultation is also undertaken with interested stakeholders in preparation for international decision-making meetings where issues are considered to be of significance to local indigenous communities.

Objective 4.4: Key actors and stakeholders, including the private sector, are engaged in partnership to implement the Convention and are integrating biodiversity concerns into their relevant sectoral and cross-sectoral plans, programmes and policies.

The New Zealand Biodiversity Strategy fulfils, in part, commitments under the CBD. The Statement of National Priorities supports the Biodiversity Strategy. These

are used by central and local government agencies to facilitate partnerships across agencies, and with private landowners, communities, individuals and the private sector to enhance biodiversity understanding, and to motivate and support widespread and coordinated action to conserve and sustainably use biodiversity.

Partnerships are built and strengthened between government agencies and indigenous peoples to protect, conserve and sustainably use indigenous biodiversity.

These effects have been supported by funding from central government for the Queen Elizabeth II National Trust (QEII), Ngā Whenua Rāhui (NWR), Nature Heritage Fund (NHF), Biodiversity Condition and Advice Funds (Biofunds), and the Community Conservation Fund (CCF).

Funding and support is also provided through various commercial sponsorship programmes, for example the National Kakapo Recovery Programme with the Department of Conservation, Forest & Bird, the community and Rio Tinto Comalco; and the Save the Kiwi Trust between the Department of Conservation and Bank of New Zealand.

Appendix I—Information concerning reporting Party and preparation of national report

A. Reporting Party

Contracting Party	New Zealand
NATIONAL FOCAL POINT	
Full name of the institution	<i>Ministry of Foreign Affairs and Trade</i>
Name and title of contact officer	<i>Ed McIsaac</i>
Mailing address	<i>Private Bag18 901, Wellington, NEW ZEALAND</i>
Telephone	<i>+64 4 439 8189</i>
Fax	<i>+64 4 472 9596</i>
E-mail	<i>Ed. McIssac@mfat.govt.nz</i>
CONTACT OFFICER FOR NATIONAL REPORT (IF DIFFERENT FROM ABOVE)	
Full name of the institution	<i>Department of Conservation</i>
Name and title of contact officer	<i>Nicola Scott, Senior International Relations Advisor</i>
Mailing address	<i>PO Box 10420, Wellington, NEW ZEALAND</i>
Telephone	<i>+64 4 4713 197</i>
Fax	<i>+64 4 4713 49</i>
E-mail	<i>nscott@doc.govt.nz</i>
SUBMISSION	
Signature of officer responsible for submitting national report	
Date of submission	<i>10.03.2010</i>

B. Process of preparation of national report

While the Ministry of Foreign Affairs is the lead government agency for the Convention on Biological Diversity in New Zealand, the Department of Conservation is the lead technical advisor and as such is responsible for the coordination of the government agencies involved in the preparation of New Zealand's 4th CBD National Report. Government agencies involved in the preparation of this report include: Department of Conservation; Ministry of Foreign Affairs and Trade; Ministry of Agriculture and Forestry; Ministry of Maori Development; Ministry of Economic Development; New Zealand Aid; Ministry for the Environment; Ministry of Fisheries; Ministry of Education; Ministry of Tourism; Biosecurity New Zealand.

Road map for preparation of New Zealand's 4th National Report to the CBD

8 December 2008	<ul style="list-style-type: none"> Draft material for agencies distributed in preparation for inter-agency meeting
11 December 2008	<ul style="list-style-type: none"> Inter-agency meeting—allocate agency leads for sections of the report and agree on process and timeframe proposed
February 2009	<ul style="list-style-type: none"> First draft of allocated sections of the 4th National Report completed and circulated for inter-agency consultation Comments on draft sections of the report submitted to lead agencies Final draft sections completed and submitted to the Department of Conservation for compilation
March 2009	<ul style="list-style-type: none"> First draft of report compiled and additional material sought where necessary from relevant agencies and interested parties
6 April 2009	<ul style="list-style-type: none"> Circulation of draft to government agencies involved in preparation of the report
July 2009	<ul style="list-style-type: none"> Comments on revised draft submitted to the Department of Conservation
April - July 2009	<ul style="list-style-type: none"> Draft revised based on comments received from government agencies
August 2009	<ul style="list-style-type: none"> First copy edit of the draft 4th National Report
September 2009	<ul style="list-style-type: none"> Clarifications sought from, and revised text provided to, relevant government agencies
October – December 2009	<ul style="list-style-type: none"> Second copy edit of draft document completed. Further clarification and material sought from supporting government agencies
December 2009	<ul style="list-style-type: none"> Prepare Ministerial cover brief
January 2010	<ul style="list-style-type: none"> Final copy edit of draft 4th National Report Ministerial cover submission circulated to other agencies for comment Comments on Ministerial cover submission received from agencies Ministerial cover submission and 4th National Report finalised
February 2010	<ul style="list-style-type: none"> Cover submission and draft 4th National Report on implementation of the CBD submitted to the Minister of Conservation for approval
March 2010	<ul style="list-style-type: none"> New Zealand's 4th National Report submitted to the CBD Secretariat and tabled in Parliament

Appendix II (A)—Progress towards targets of the Global Strategy for Plant Conservation

Lead Agency: Department of Conservation

Parties are invited to provide an overview of progress towards the 16 targets contained in the Global Strategy for Plant Conservation, adopted by decision VI/9 and reproduced in annex IV of these guidelines.

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
<p>Target 1: A widely accessible working list of known plant species, as a step towards a complete world flora</p>	<p>The Department of Conservation and the New Zealand Plant Conservation Network (NZPCN) have jointly published a checklist of the indigenous vascular plants of New Zealand (de Lange et al. 2006).</p> <p>Landcare Research, a Crown Research Institute (CRI), is currently in the process of developing a full flora listing (including fungi).</p> <p>In addition, plant species checklists of macroalgae are available from NIWA (another CRI).</p>	<p>The listing process for New Zealand’s plant species has been initiated through two publications (de Lange 2005; de Lange et al. 2006) but will need regular updating.</p> <p>Of concern is that at least 20 percent of New Zealand’s vascular flora requires taxonomic resolution, and knowledge about the country’s algae, fungi, liverworts and mosses is still inadequate. Lichens, though better known, remain poorly managed. Through Foundation for Research, Science and Technology (FRST) funded Outcome Based Investments, the Department of Conservation is active in ensuring that biosystematic expertise is better prioritised to resolve these deficiencies.</p>
<p>Target 2: A preliminary assessment of the conservation status of all known plant species at national, regional and international levels</p>	<p>New Zealand undertakes triennial national listing of Threatened and Uncommon Vascular Plants. This is sponsored by the Department of Conservation (de Lange et al. 2009). Triennial listings of algae, fungi, liverworts and mosses are also undertaken and have been published collectively by the Department of Conservation (Hitchmough 2002; Hitchmough et al. 2007).</p>	<p>New Zealand has achieved its national target for threatened and uncommon vascular plants—paper has been published in <i>New Zealand Journal of Botany</i> 47(1): 61–96 (2009).</p>

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
Target 3: Development of models with protocols for plant conservation and sustainable use, based on research and practical experience	The Department of Conservation uses species-specific, generic, geographic and ecosystem-based recovery and management plans to conserve New Zealand’s indigenous flora. These plans are firmly based on research undertaken by the Department of Conservation and external agencies. The plans are suited to New Zealand’s particular circumstances.	<u>Needs and future priorities</u> The ecosystem-based plans currently in place need further refinement as most are island based.
Target 4: At least 10 per cent of each of the world's ecological regions effectively conserved	Almost one-third of New Zealand’s land area is under some form of protective management. New Zealand is striving to achieve a fully representative protected area network; most of the country’s indigenous ecosystems are currently represented.	<u>Needs and future priorities</u> Most of New Zealand’s indigenous ecosystems are represented within the protected area network. However, recent work using Land Environments of New Zealand (LENZ) (a GIS-based mapping tool) has identified some key ecosystems that may previously have been overlooked. These will be given priority for formal protection. Refer to Chapter 2—paragraph (d) for further information.
Target 5: Protection of 50 percent of the most important areas for plant diversity assured	The regions of Northland, North West Nelson, Otago and Chatham Islands are the main hot spots of New Zealand’s indigenous floral biodiversity. The representative areas within these regions are protected via national parks, other reserves and conservation covenants.	Some key habitats <i>may</i> have been overlooked; if so, these will be identified and protected if possible. (Please refer to the response to Target 4.) Important Plant Area (IPAS) as a system has been identified by the New Zealand Plant Conservation Network (NZPCN), but so far has not been widely supported by the New Zealand public.
Target 6: At least 30 percent of production lands managed consistent with the conservation of plant diversity	New Zealand does not have a national target that relates to the global target. However, the plant conservation targets are being assisted at the local government level through the integration of private reserves and covenants within areas of privately-owned production land.	There is increasing awareness that indigenous species landscapes and the introduced-species-dominated production lands are part of an integrated and broader New Zealand biodiversity landscape. Some work has been undertaken to gain a better understanding

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
		of these interfaces. Further work is needed in areas such as soil biodiversity and habitat patterns.
Target 7: 60 percent of the world's threatened species conserved in situ.	New Zealand's protected area network already protects an almost representative range of indigenous biodiversity. In addition, there are a number of funding mechanisms and agencies that work to support the conservation of threatened species 'in situ' through covenanting, kawanata ¹⁰⁴ , outright purchase and funding support for biodiversity protection on privately-owned land. These mechanisms and agencies include: the Queen Elizabeth II National Trust ¹⁰⁵ , Ngā Whenua Rāhui ¹⁰⁶ , the Native Forest Restoration Trust ¹⁰⁷ , the Royal Forest and Bird Protection Society ¹⁰⁸ , and the Biodiversity Advice and Condition Funds ¹⁰⁹ .	Recent work using a GIS-based mapping tool Land Environments of New Zealand (LENZ) has identified some key ecosystems that may previously have been overlooked. Most of these have been incorporated into a reserve framework. Research continues to identify any possible gaps.
Target 8: 60 percent of threatened plant species in accessible <i>ex situ</i> collections, preferably in the country of origin, and 10 percent of them included in recovery and restoration programmes	New Zealand's botanic gardens and some indigenous plant nurseries provide a reservoir of <i>ex situ</i> taxa. In addition, a seed bank has been established by the New Zealand Plant Conservation Network (NZPCN) to conserve germ plasm and seeds of threatened vascular plants. However, no specific objective is in place to support this target.	<u>Needs and future priorities</u> New Zealand-based botanic gardens could better coordinate threatened plant collections to ensure that they maximise genetic potential of accessions. The seed bank will need to contain a wider and more representative sample of threatened and uncommon taxa.
Target 9: 70 percent of the genetic	The Department of Conservation does not have any specific	New Zealand has few indigenous 'crops' that are 'socio-

¹⁰⁴ www.doc.govt.nz/getting-involved/landowners/nga-whenua-rahui/nga-whenua-rahui-fund/

¹⁰⁵ www.nznfrt.org.nz/

¹⁰⁶ www.forestandbird.org.nz/

¹⁰⁷ www.doc.govt.nz/getting-involved/landowners/biodiversity-funds/

¹⁰⁸ Terrestrial includes inland water ecosystems.

¹⁰⁹ The concept of connectivity may not be applicable to all Parties.

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
diversity of crops and other major socio-economically valuable plant species conserved, and associated indigenous and local knowledge maintained	<p>national targets in place. However, cultural needs are covered in a permitting system that recognises indigenous people's needs. In addition:</p> <ul style="list-style-type: none"> • Research into ethnobotany involving iwi and universities is underway. • CRIs such as Landcare Research hold the national Māori flax (<i>Phormium</i>) weaving collection—the Ngā Tipu Whakaoranga-Ethnobotany Database. 	<p>economically valuable', but research is helping to identify those whose status has been forgotten or lost to indigenous peoples, e.g. <i>Hebe speciosa</i>.</p> <p><u>Needs and future priorities</u> Despite the existence of a wealth of databases and germplasm banks in New Zealand, few of these maintain viable collections of indigenous plants.</p>
Target 10: Management plans in place for at least 100 major alien species that threaten plants, plant communities and associated habitats and ecosystems	<p>While a number of plant species management plans exist, it is not clear how many there are nor how widely encompassing they are. Currently, the Department of Conservation is carrying out research on the control of about 300 alien taxa.</p> <p>A classification system for alien plants has been developed by Landcare Research and the Department of Conservation, which will help to prioritise the alien plants that are most in need of management attention.</p>	<p><u>Needs and future priorities</u> Better consultation is needed between the botanical community, invasive species managers and the public. NZPCN has organised a meeting that will seek to achieve this goal through modification of the weed classification system and wider public consultation.</p>
Target 11: No species of wild flora endangered by international trade	CITES seeks to protect elements of the New Zealand indigenous flora. This has been especially successful for some groups, e.g. Orchidaceae.	<p><u>Needs and future priorities</u> Some species threatened by trade, e.g. <i>Dactyloctenium aegyptium</i>, are not listed by CITES. This needs to be addressed, as no indigenous species (other than orchids and tree ferns, few of which are listed as threatened) are specifically protected through CITES.</p>
Target 12: 30 percent of plant-based products derived from sources that are sustainably managed	<p>There are currently no national targets in place for this target.</p> <p>All commercial plant-based products are subject to the sustainability principles of the RMA (refer to Chapter 3—</p>	While not directly target-oriented, New Zealand has a sustainable land management strategy that aims to assist farmers, growers, foresters and local government to better manage land for the benefit of soil, water and biodiversity.

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
	Sector: Agriculture).	There are regulations relating to ground and surface water quality, sensitive and erodible soils, and nutrient build-up. There are also industry-led initiatives such as the Clean Streams Accord, forest environmental standards, Forests Accord and agri-chemical standards. Extension work through research organisations includes watershed and soil productivity mapping.
<p>Target 13: The decline of plant resources, and associated indigenous and local knowledge innovations and practices, that support sustainable livelihoods, local food security and health care, halted.</p>	<p>The Department of Conservation is aware of, and makes provision for, indigenous peoples’ needs and uses of the indigenous flora. Iwi are consulted wherever possible on matters relating to the taxonomic recognition of new taxa and the use of the indigenous flora.</p> <p>The Department of Conservation also established a Maturanga Kura Taio Fund—a contestable fund established to preserve, protect and promote the use of traditional Māori knowledge and practices in biodiversity and management. Also established is Ngā Whenua Rāhui, which is a fund to protect indigenous ecosystems on Māori land by providing incentives for voluntary conservation.</p> <p>The New Zealand Government has assisted in the development of the cultural health index (CHI), an indicators model for use in water bodies. The CHI was developed by Ngāti Tahu and tested within the region of Ngāti Kahungunu. The CHI corroborates iwi stream values and science, and can survey plant resources as part of the stream system in the model.</p> <p>Crown Research Institutes have also developed further indicator models based on marine flora and fauna using</p>	<p><u>Needs and future priorities</u></p> <p>Iwi Māori Wānanga, universities, Māori businesses and Economic Authorities are increasing the use of traditional knowledge and science to innovate and find solutions to issues.</p>

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
	traditional knowledge and science methodologies to assist in identifying impacts on marine ecology.	
<p>Target 14: The importance of plant diversity and the need for its conservation incorporated into communication, education and public awareness programmes.</p>	<p>While New Zealand does not have a specific target for plant CEPA, the Department of Conservation has excellent information and awareness-raising programmes in place to ensure that New Zealand and international audiences are aware of the country's flora, its threats, and its conservation, management and restoration.</p> <p>The Department of Conservation works collaboratively with many external agencies, especially the New Zealand Plant Conservation Network (NZPCN), to educate people about New Zealand's flora. Many of the publications produced by the NZPCN (see de Lange et al 2006; de Lange et al. in press) and their website relies on ongoing input from Department of Conservation botanical staff. This website is linked to other environmental and educational websites.</p>	
<p>Target 15: The number of trained people working with appropriate facilities in plant conservation increased, according to national needs, to achieve the targets of this Strategy.</p>	<p>The Department of Conservation employs 28 botanical staff (spanning the country): 22 based in conservancies and 6 as research scientists. This is considered adequate, though there is a slight deficiency with respect to plant restoration skills. Coverage is complemented by the expertise of staff in other agencies and universities. In the future, an increase in biosystematists to assist with the formal recognition of unnamed entities, resolution of species aggregates, and particularly to recognise biosecurity threats would be desirable.</p>	<p><u>Needs and future priorities</u> There is a need for better communication and coordination between all sections of the Department of Conservation to achieve ecosystem restoration objectives.</p> <p>Nationally, New Zealand would benefit from more biosystematists to assist with the formal recognition of unnamed entities, resolution of species aggregates, and particularly to recognise biosecurity threats.</p>

Global targets	Relevant national targets adopted to achieve the targets of the Global Plant Strategy	Progress towards achieving national targets identified
Target 16: Networks for plant conservation activities established or strengthened at national, regional and international levels	The Department of Conservation supports various networks of staff and associated recovery specialists. The NZPCN plays a substantial role in coordinating and supporting community work.	There is a slight deficiency with respect to plant restoration programmes. In particular, there is a need for better communication and cooperation between all sections of the Department of Conservation to achieve ecosystem restoration objectives.

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Appendix II (B)—Progress towards targets of the Programme of Work on Protected Areas

Overarching comment

New Zealand has clear goals, objectives and actions set out in its National Biodiversity Strategy and Action Plan (NBSAP). Targets for management purposes are generally set in sectoral strategies, species recovery plans, agency accountability documents, etc. These are designed to support the assessment of management effectiveness and, therefore, do not necessarily fit the framework adopted by the Convention on Biological Diversity (CBD). Work is underway in all natural resource management agencies to improve the quality of performance measurement, and this will result in changes to targets. Targets tend to be much more specific than those used by the CBD. For example, the New Zealand Department of Conservation's Statement of Intent includes specific targets relating to threatened species (e.g. 154 'acutely threatened' species or subspecies will have improved security for one or more populations as a result of active species conservation programmes), numbers of hectares of Marine Protected Areas (MPAs) that will be created, numbers of ecosystem restoration projects undertaken, to name but a few examples.

New Zealand's NBSAP and management approaches do not generally use a framework that matches the thematic and cross-cutting work areas division that the CBD has adopted. For example, New Zealand has a single approach for species management, regardless of whether those species normally occupy mountains, drylands or forests. It is often possible to cross-reference this approach to the CBD approach, for example, in relation to work areas such as the development and management of Marine Protected Areas or alien species, but this is not always the case.

Nonetheless, New Zealand is developing a comprehensive and systematic approach to reporting on the status and trends in biodiversity, and measuring the outcomes from management. The Natural Heritage Management System (NHMS) is providing:

- An assembly of national maps in digital format, including pests, native species and management activities
- New classification systems, such as a Threatened Environment Classification
- Tools for helping the Department of Conservation (and other groups and agencies) to prioritise ecosystems and species for conservation work
- A national monitoring framework
- An inventory and monitoring online toolbox

At a national level, NHMS will enable the Government to:

- Target resources to meet national goals
- Track and report national progress for the first time
- Enable the efficient sharing of information between major conservation organisations on natural heritage priorities and activities

While NHMS is designed to cover terrestrial and aquatic environments nationally, the structure will facilitate improved thematic reporting in the future.

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
Goal 1.1 :. To establish and strengthen national and regional systems of protected areas integrated into a global network as a contribution to globally agreed goals.		
<p>Target 1.1</p> <p>Terrestrially ^{110/} by 2010 and 2012 in the marine area, a global network of comprehensive, representative and effectively managed national and regional protected area system is established as a contribution to (i) the goal of the Strategic Plan of the Convention and the World Summit on Sustainable Development of achieving a significant reduction in the rate of biodiversity loss by</p>	<p><u>Protected area management in New Zealand</u></p> <p>One-third of New Zealand’s land area is subject to some form of protective management for conservation purposes. New Zealand is relatively unique in that public protected areas are not inhabited by people, though the Government does encourage recreational use of these areas. Under the Conservation Act and the National Parks Act, activities such as recreation, tourism and commercial enterprise are only allowed where they do not impact on the conservation values for which the land was set aside.</p> <p>Nonetheless, any new building structure, road or facility created on these lands is required to meet the requirements of the RMA. Refer to the response to Chapter 3—Sector: Agriculture for more information on the RMA.</p> <p>The New Zealand Government has recognised that most of the ecosystem types that are under-represented in the protected area network are in highly valuable (in financial terms) and modified lowlands areas. Therefore, New Zealand is seeking to complement direct acquisition (for inclusion in the protected area</p>	<p><u>Review of implementation of the NBSAP</u></p> <p>The independent review of the implementation of New Zealand’s NBSAP found that:</p> <ul style="list-style-type: none"> • Increased representativeness of protected natural areas has been achieved to some extent, but important areas on private land have been lost • Voluntary mechanisms in these vulnerable areas are not enough <p><u>Conservation on private land</u></p> <p>The Biodiversity Advice and Condition Funds were established in 2000, under the Biodiversity Strategy, to assist with protection and enhancement of biodiversity on private land. Since inception, the funds have:</p> <ul style="list-style-type: none"> • Allocated over \$21 million (annual allocation is currently \$3.4 million) to almost 1000 projects • Helped to leverage other contributions, both cash-in-hand and voluntary labour of \$21 million, giving 1:\$1 ratio for Fund investment to other contributions • Directly benefitted over 25,000 private landowners

¹¹⁰ www.doc.govt.nz/about-doc/role/policies-and-plans/conservation-management-strategies-and-plans/

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
<p>2010; (ii) the Millennium Development Goals—particularly goal 7 on ensuring environmental sustainability; and (iii) the Global Strategy for Plant Conservation</p>	<p>network) with other protection mechanisms on private land, such as covenants, kavanata and management support. For this reason, the NBSAP identified the following objectives:</p> <p>New Zealand Biodiversity Strategy (www.biodiv.org.nz).</p> <p>Objective 1.1—Protecting Indigenous Habitats and Ecosystems</p> <p>a) Enhance the existing network of protected areas to secure a full range of remaining indigenous habitats and ecosystems</p> <p>b) Promote and encourage initiatives to protect, maintain and restore habitats and ecosystems that are important for indigenous biodiversity on land outside of protected areas</p> <p>To achieve enhanced protection of biodiversity on privately-owned lands, the New Zealand Government established the Biodiversity Advice and Condition Funds in 2000 to encourage and support private landowners seeking to protect biodiversity on their land.</p> <p>In April 2007, the New Zealand Government introduced non-statutory guidelines. Since their introduction, the Biodiversity Advice and Condition Funds have used these guidelines as part of the criteria for assessing applications. The guidelines include four Priorities:</p> <ol style="list-style-type: none"> 1. To protect indigenous vegetation associated with land environments (defined by LENZ Level IV) that have 20 percent or less remaining indigenous cover. 2. To protect indigenous vegetation associated with sand dunes and wetlands; ecosystem types that have become uncommon due to human activity. 	<ul style="list-style-type: none"> • Supported the establishment of 475 kilometres of fencing • Helped to protect around 378,000 hectares of private land (New Zealand land area is 27 million hectares, one-third of which has some sort of reserve protection status) <p>Since the Government introduced the four Priority areas, the Funds have approved 194 projects; 72 of these met one of the four Priorities, while 88 met two or more of the Priorities. Six projects met all four Priorities.</p> <p><u>The Nature Heritage Fund</u></p> <p>The Nature Heritage Fund was established in 1990 to help achieve the objectives of the Indigenous Forest Policy. The purpose of the Fund is to protect indigenous ecosystems that represent the full range of natural diversity originally present in the New Zealand landscape, by providing incentives for voluntary conservation. Since 2000, the Fund has received 286 individual applications and approved funding for 127 of these, permanently protecting over 167,631 hectares of indigenous ecosystems through direct purchase, or covenanting at a cost of \$106.66 million. All of the areas purchased and covenanted have been stock-proofed with fences.</p> <p>Since the Government introduced its national priorities for the protection of biodiversity on private land, eight properties purchased from the biodiversity package money have met national priorities, three of which met at least one priority, four met two of the priorities, and two met all four priorities. Other approved purchases are still under negotiation.</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
	<p>3. To protect indigenous vegetation associated with ‘originally rare’ terrestrial ecosystem types not already covered by priorities 1 and 2.</p> <p>4. To protect habitats of acutely and chronically threatened indigenous species.</p>	<p>Additional mechanisms such as the Ngā Whenua Rāhui Fund and the Queen Elizabeth II National Trust have also provided extensive protection for biodiversity on private lands via covenants and kawanata (Ngā Whenua Rāhui covenants).</p> <p><u>Ngā Whenua Rāhui Fund</u> Significant gains have also been made through the voluntary covenanting of Māori-owned lands through the Ngā Whenua Rāhui Fund. The programme has been so successful that there is now a waiting list of applicants. To date, approximately 250,000 hectares of land has been protected using these mechanisms.</p> <p><u>Marine protection</u> There are 33 marine reserves established in New Zealand’s territorial waters. The Marine Protected Areas Policy (MPA Policy) provides a mechanism to achieve further protection within the marine environment. There are two fora operating, covering 2 of the 14 biogeographic regions in the territorial sea, which are working towards proposals to establish MPAs. Challenges encountered with the MPA Policy are largely around the large size of the biogeographic regions and how to incorporate a large number of iwi and stakeholders in a small forum.</p> <p>In addition to MPAs, there is also a range of fisheries management tools that provide some additional area-based protection. For example:</p> <ul style="list-style-type: none"> • Widespread set net bans that protect Maui’s and Hector’s dolphins • 30 percent of the EEZ is protected by Benthic Protected Areas,

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
		<p>providing seabed protection Other localised fisheries restrictions provide protection to species or the seabed. The Quota Management System also protects fish from unconstrained extraction.</p> <p><u>Global Plant Strategy</u></p> <p>For information on progress in implementing the Global Plant Strategy, please refer to the responses to Appendix III (A)—Progress towards targets of the Global Strategy for Plant Conservation.</p>
<p>Goal 1.2: To integrate protected areas into broader land- and seascapes and sectors so as to maintain ecological structure and function.</p>		
<p>Target 1.2: By 2015, all protected areas and protected area systems are integrated into the wider land- and seascape, and relevant sectors, by applying the ecosystem approach and taking into account ecological connectivity and the concept, where appropriate, of ecological networks.</p>	<p>The Department of Conservation’s Strategic Direction seeks to ‘entrench conservation as an essential part of the sustainable social and economic future of New Zealand’. The ecosystem approach, which incorporates community consultation and participation, and adaptive management, is acquiring prominence as a means of ensuring that biodiversity conservation and protected area management are properly incorporated into land planning and management, as well as economic development generally.</p> <p><u>Department of Conservation regional planning</u></p> <p>Each of the Department of Conservation’s conservancies is required to prepare a Conservation Management Strategy for</p>	<p><u>Conservation Management Strategies</u></p> <p>Each of the New Zealand Department of Conservation conservancies has an operative Conservation Management Strategy that is used to guide annual planning resource-use decisions.</p> <p><u>National Park Management Strategies</u></p> <p>Each of New Zealand’s 14 national parks has a comprehensive National Park Management Strategy.</p> <p>Morphological Spatial Pattern Analysis (MSPA) of New Zealand’s native forest fragmentation records 74 percent of 7 million hectares as core (forest interior greater than 100 metres from an edge).</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
	<p>their region. These are planning documents with a 10-year life cycle that identify areas that are under-represented in their region, or where protection status would be beneficial for the region's biodiversity. Issues such as edge effects, corridors, fragmentation and representativeness are all taken into account as part of this process.</p> <p>In addition, all New Zealand national parks are required to have a National Park Management Plan. These are statutory documents with a 10-year life cycle that consider the national parks' long-term management requirements.</p> <p>Fragmentation of forests has been measured through Morphological Spatial Pattern Analysis (MSPA), though this does not yet distinguish between natural and human-induced fragmentation.</p>	<p>Overall, 83 percent or 4.2 million hectares of forest protected as public conservation land is core, whereas 49 percent or 900,000 hectares of other native forest is core. This indicates greater viability of forests protected as public conservation lands. The edge to core ratio of all native forest is 1:7, but it is 1:10 in areas protected as public conservation land. In addition, New Zealand-wide, less than 2 percent of the country's indigenous forest forms corridors between core areas of forest.</p>
<p>Goal 1.3: To establish and strengthen regional networks, transboundary protected areas (TBPAs) and collaboration between neighbouring protected areas across national boundaries.</p>		
<p>Target 1.3: Establish and strengthen by 2010/2012 transboundary protected areas, other forms of collaboration between neighbouring protected areas across national</p>	<p>New Zealand is an island nation and therefore does not share its borders with any other countries.</p>	<p>N/A</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
boundaries and regional networks, to enhance the conservation and sustainable use of biological diversity, implementing the ecosystem approach, and improving international cooperation		
Goal 1.4: To substantially improve site-based protected area planning and management.		
<p>Target 1.4: All protected areas to have effective management in existence by 2012, using participatory and science-based site planning processes that incorporate clear biodiversity objectives, targets, management strategies and monitoring programmes, drawing upon existing methodologies and a</p>	<p>All of New Zealand’s protected areas that are managed by the Department of Conservation are subject to regional Conservation Management Strategies—statutory planning documents open to public submission—providing objectives and frameworks for management. Please refer to the response to Target 1.2 above.</p> <p>New Zealand has drafted a National Islands Strategy to help optimise management of these important assets.</p> <p>In addition, a Natural Heritage Management System is under development, to serve as a means to optimise the planning and reporting of the results of species and area-based management.</p>	<p>Please refer to the response to Target 1.2 above.</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
long-term management plan with active stakeholder involvement		
Goal 1.5: To prevent and mitigate the negative impacts of key threats to protected areas.		
<p>Target 1.5: By 2008, effective mechanisms for identifying and preventing and/or mitigating the negative impacts of key threats to protected areas are in place</p>	<p>The Department of Conservation is developing a Natural Heritage Management System, which will serve as a means to optimise the planning and reporting of the results of species and area-based management.</p> <p>In addition, the New Zealand Biodiversity Strategy (2000) has a number of relevant objectives including¹¹¹—objectives: 5.2 (methods for assessing and managing biosecurity risks), 5.3 (border control), and 5.5 (managing potential pest species).</p> <p>Strategic Plan 2007–2012—Ministry of Agriculture and Forestry Biosecurity New Zealand¹¹². Outcomes include preventing harmful organisms from crossing New Zealand’s borders and establishing self-sustaining populations and reducing harm from organisms that have already established populations here.</p> <p>www.biodiversity.govt.nz/picture/doing/nzbs/index.html www.biosecurity.govt.nz/files/biosec/sys/strategy/biosecurity-</p>	<p>Border and biosecurity systems are monitored to determine whether interventions are successful. Progress is reported against outcomes in the Ministry of Agriculture and Forestry Annual Statement of Intent.¹¹³</p> <p>www.maf.govt.nz/mafnet/publications/statement-of-intent/2007-2010/2007-soi-full-version.pdf</p>

¹¹¹ www.biodiversity.govt.nz/picture/doing/nzbs/index.html

¹¹² www.biosecurity.govt.nz/files/biosec/sys/strategy/biosecurity-strategic-plan.pdf

¹¹³ www.maf.govt.nz/mafnet/publications/statement-of-intent/2007-2010/2007-soi-full-version.pdf

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
	strategic-plan.pdf	
Goal 2.1: To promote equity and benefit-sharing.		
<p>Target 2.1 Establish by 2008 mechanisms for the equitable sharing of both costs and benefits arising from the establishment and management of protected areas</p>	<p>A range of national objectives have been established that recognise and provide for the interests and role of Māori in biodiversity management.</p> <p>The New Zealand Government is also in the process of establishing a national bioprospecting policy that will address access and benefit-sharing issues associated with the use of genetic resources.</p>	<p><u>Treaty Settlements</u> A number of significant settlements under the Treaty of Waitangi are in negotiation (or have been negotiated; see www.ots.govt.nz/, documents/deed of settlements), and these will result in direct involvement of Māori in biodiversity protection, in some cases through the development of specific shared management mechanisms.</p> <p><u>Consultation and customary use</u> The New Zealand Government has an obligation to work with tangata whenua (Māori) to develop policies to assist the exercise of their traditional (non-commercial) fishing practices. This obligation has led to the development of customary regulations and tools through which tangata whenua can exercise their traditional practices in a contemporary context. These tools include provision for establishing discrete areas in the marine environment that are restricted to non-commercial (traditional and recreational) use.</p> <p><u>Ngā Whenua Rāhui Fund</u> Significant gains have also been made through the voluntary covenanting of Māori-owned lands through the Ngā Whenua Rāhui Fund. The programme has been so successful that there is now a waiting list of applicants. To date, approximately 250,000 hectares of land has been protected using these mechanisms.</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
		<p><u>Marine environment</u> The Ministry of Fisheries administers a fund (of approximately NZ\$200,000 per annum) to support tangata whenua to research and document their traditional knowledge and practices to support the management of their customary fisheries and participation in mainstream fisheries management.</p>
<p>Goal 2.2: To enhance and secure involvement of indigenous and local communities and relevant stakeholders.</p>		
<p>Target 2.2 Full and effective participation by 2008, of indigenous and local communities, in full respect of their rights and recognition of their responsibilities, consistent with national law and applicable international obligations, and the participation of relevant stakeholders, in the management of existing, and the establishment and management of new, protected areas</p>	<p>One-third of the land area of New Zealand is in some form of protection for conservation purposes; the primary manager of these lands is the Department of Conservation. The Department of Conservation was established under the Conservation Act 1987 and carries out its management functions in accordance with that Act. The rest of the land area in New Zealand is managed in accordance with the RMA.</p> <p>Section 4 of the Conservation Act states: ‘This Act shall so be interpreted and administered so as to give effect to the principles of the Treaty of Waitangi ...’.</p> <p>In May 2005, the Minister of Conservation released a Conservation General Policy, approved by the NZCA, to guide policy in implementing the Conservation Act, the Wildlife Act, the Marine Reserves Act, the Wild Animal Control Act and the Marine Mammals Protection Act. The purpose of the National</p>	<p><u>Marine environment</u> The Ministry of Fisheries also puts resources into supporting the participation of tangata whenua in mainstream fisheries management decisions. Through these processes, Māori traditional knowledge is able to inform contemporary fisheries management.</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
	<p>Parks General Policy is to guide policy development in the implementation of the National Parks Act. These general policies are statutory documents and state that the Department of Conservation shall:</p> <ul style="list-style-type: none"> • Seek to maintain relationships with tangata whenua • Consult in the development of statutory planning documents • Consult on specific proposals that involve places and resources of spiritual and cultural significance to tangata whenua • Encourage and support tangata whenua involvement and participation • Seek to avoid actions that would be a breach of the Treaty of Waitangi (Te Tiri O Waitangi), and participate in and implement relevant Treaty claim settlements 	
Goal 3.1: To provide an enabling policy, institutional and socio-economic environment for protected areas.		
<p>Target 3.1: By 2008, review and revise policies as appropriate, including use of social and economic valuation and incentives, to provide a supportive, enabling environment for more effective</p>		<ul style="list-style-type: none"> • Central government policy continues to be progressed in freshwater, marine and biosecurity in order to protect biodiversity values. • Land protection mechanisms, including government buy backs, Queen Elizabeth II covenants, Ngā Whenua Rāhui (funds specific to the protection of Māori-owned land), the Nature Heritage Fund, the Biodiversity Condition and Advice Funds, and the promulgation of new reserves, continue to be utilised to protect public and private land as appropriate.

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
establishment and management of protected areas and protected areas systems		<ul style="list-style-type: none"> • New marine reserves and other fisheries restrictions have been put in place in the marine area. The latter includes closure of a large part of New Zealand’s EEZ to trawling and dredging, and the establishment of several mātaihai: non-commercial fishing areas that are managed by local Māori. • Further effort is needed to increase the range of ecosystems protected, with priority given to threatened lowland and wetland ecosystems. • Research is being directed at identifying appropriate economic valuation instruments to ensure that biodiversity is balanced against other societal goals. Progress continues to be slow due to the difficulties associated with costing complex ecosystems and ecosystem services. • The Marine Protected Areas Policy acknowledges the cost of MPAs to fishers by having an underpinning principle that impacts on existing users should be minimised when choosing habitats for protection. • The social and economic impact is considered by community fora that make recommendations for new MPAs, and such assessments also form part of the legislative considerations when establishing marine reserves and other closures under the Fisheries Act.
<p>Goal 3.2: To build capacity for the planning, establishment and management of protected areas.</p>		
<p>Target 3.2 By 2010, comprehensive</p>		<ul style="list-style-type: none"> • Actions taken include education and training programmes for staff and communities to develop knowledge and skills.

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
capacity-building programmes and initiatives are implemented to develop knowledge and skills at individual, community and institutional levels, and raise professional standards		<ul style="list-style-type: none"> • On-line training and tools for communities are currently being developed and made available. • A training programme in conservation management for young Māori, known as Taura Kaitiaki Taiao, has been established.
<p>Goal 3.3: To develop, apply and transfer appropriate technologies for protected areas.</p>		
<p>Target 3.3: By 2010, the development, validation and transfer of appropriate technologies and innovative approaches for the effective management of protected areas is substantially improved, taking into account decisions of the Conference of the Parties on technology transfer and cooperation</p>		<p>At the national level, the emphasis is on utilising a Clearing House Mechanism to optimise technology transfer in order to improve management of protected areas. New Zealand does not have a Clearing House Mechanism, but a recent review of the www.biodiversity.govt.nz website has been completed, with recommendations to use it for this purpose. Regional and central government operates a biodiversity managers' forum for exchange of innovations and best practice around protected area management.</p> <p>As part of New Zealand's international efforts, the Government contributed text to the inaugural Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) conference, where a new model of science and technology driving CBD policy was promoted. New Zealand has an initiative proposed to host a workshop on Regional Governance of Island Based Invasive Alien Species management, drawing on the cooperation and experience of the Pacific Invasives Initiative and the Pacific</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
		Invasives Partnership. This will be held in April 2010, and will be focused primarily on technology transfer, capacity building and coordination across global regions with islands on issues relating to invasive alien species and their impact on biodiversity (including biodiversity within Protected Areas). For further information, please refer to Target 4.4 below.
Goal 3.4: To ensure financial sustainability of protected areas and national and regional systems of protected areas.		
<p>Target 3.4: By 2008, sufficient financial, technical and other resources to meet the costs to effectively implement and manage national and regional systems of protected areas are secured, including both from national and international sources, particularly to support the needs of developing countries and countries with economies in transition and small island developing States.</p>	<p>The Department of Conservation's 2007/2008 government funding allocation was NZ\$294.929 million.</p> <p>The funding allocated to the implementation of NBSAP of \$187 million over the first 5 years has been retained on an ongoing basis and baselined within relevant government agencies' funding allocations, equating to \$55 million per annum. Additional funding has been allocated (from 2006) as a result of new advice on areas that require additional management attention, including an additional \$2 million over 4 years to enable more work on improving processes to consider the establishment of Marine Reserves; and \$3.9 million for biodiversity and biosecurity research.</p>	

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
Goal 3.5: To strengthen communication, education and public awareness.		
<p>Target 3.5: By 2008, public awareness, understanding and appreciation of the importance and benefits of protected areas is significantly increased</p>		<p><u>Public awareness and participation</u></p> <ul style="list-style-type: none"> • Public awareness and education programmes are ongoing throughout the country, providing inspiring education and recreation experiences, and actively involving people in conservation activities at protected area sites; these are key strategies. • Raising awareness of specific issues with identified target audiences has been identified as a specific priority. <p>The Department of Conservation's activities in this regard are:</p> <ul style="list-style-type: none"> • Implementing communications, education and awareness strategies • Promoting public participation in support of the Convention by running volunteer and community partner programmes, and building community capacity to carry out biodiversity conservation work
Goal 4.1: To develop and adopt minimum standards and best practices for national and regional protected area systems.		
<p>Target 4.1: By 2008, standards, criteria and</p>		<p><u>Establishment of standards and criteria</u> The New Zealand Government has a number of planning documents</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
best practices for planning, selecting, establishing, managing and governance of national and regional systems of protected areas are developed and adopted		to support the implementation of relevant legislation, such as: <ul style="list-style-type: none"> • The Conservation General Policy¹¹⁴—to support the Conservation Act • The General Policy for National Parks¹¹⁵—to support the National Parks Act • Marine Protected Areas Classification, Protection Standard and Implementation Guidelines (February 2008) ¹¹⁶
Goal 4.2: To evaluate and improve the effectiveness of protected areas management.		
Target 4.2: By 2010, frameworks for monitoring, evaluating and reporting protected areas management effectiveness at sites, national and regional systems, and transboundary protected area levels adopted and implemented by Parties	<u>Natural Heritage Management System (NHMS)</u> To enable the most cost-effective use of resources for species management, the Department of Conservation is developing the Natural Heritage Management System (NHMS). This system can measure indicators of the ecological integrity of a site, monitor trends over time, rank sites in order of priority, and enable coherent reporting on the state of biodiversity conservation in New Zealand. This is a major advance from the Department of Conservation’s initial focus on individual species programmes, with high reliance on individual programme managers’ expertise and limited ability to prioritise work on a national scale. Refer to Target 4.3 below for further information.	Refer to the response to Target 4.3 below.

¹¹⁴ www.doc.govt.nz/publications/about-doc/role/policies-and-plans/conservation-general-policy/introduction/why-the-statement-of-general-policy-has-been-prepared-and-what-it-seeks-to-achieve/

¹¹⁵ www.doc.govt.nz/publications/about-doc/role/policies-and-plans/general-policy-for-national-parks/introduction/general-policy/

¹¹⁶ <http://www.biodiversity.govt.nz/pdfs/seas/MPA-classification-protection-standard.pdf>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
	<p><u>Marine environment</u> The Marine Protected Area Policy Network Design Principles (para 65–99) specifically aim to achieve these global targets for the marine environment. www.biodiversity.govt.nz/pdfs/seas/MPA-Policy-and-Implementation-Plan.pdf</p>	
<p>Goal 4.3: To assess and monitor protected area status and trends.</p>		
<p>Target 4.3: By 2010, national and regional systems are established to enable effective monitoring of protected area coverage, status and trends at national, regional and global scales, and to assist in evaluating progress in meeting global biodiversity targets</p>	<p><u>Natural Heritage Management System (NHMS)</u> The Department of Conservation’s Natural Heritage Management System (NHMS) programme has established a national monitoring framework and managed place monitoring standards, to provide a common platform for assessing status and trends in ecological integrity of protected areas. Please refer to Target 4.2 above for more information.</p>	<p><u>Natural Heritage Management System (NHMS)</u> New Zealand has developed a national monitoring framework and managed place monitoring standards as part of the NHMS programme. Managed place monitoring standards have been trialled in a select number of aquatic and terrestrial ecosystems. The sampling design currently being piloted for a subset of indicators has a national focus. Once completed, it is intended to be delivered through a national sampling programme. Initial reporting against the indicators will include historic data, but as the national sampling programme comes on-stream, it will include ongoing rolling averages.</p> <p>The suite of indicators in development (for example, ecosystem composition) or already implemented (for example, land cover) were selected for their policy relevance and suitability for reporting on components of ecological integrity. Refer to Chapter 1—Status and trends summary for more information on the current status of NHMS.</p>

Global targets	Relevant national targets adopted to achieve the Programme of Work on Protected Areas	Progress towards achieving national targets identified
Goal 4.4: To ensure that scientific knowledge contributes to the establishment and effectiveness of protected areas and protected area systems.		
<p>Target 4.4: Scientific knowledge relevant to protected areas is further developed as a contribution to their establishment, effectiveness and management</p>	<p>Relevant government agencies, including the Department of Conservation, have active programmes of research aimed at developing methods to improve conservation outcomes and the sustainable use of biological resources.</p>	<p><u>Science and research in the terrestrial environment</u> In New Zealand, terrestrial science programmes support the assessment of biodiversity and the prediction of risks to it from introduced pests and weeds. A key target is cost-effective control for multiple pests across a range of ecosystem types. Systems for site prioritisation and integrated pest management are under development. Focusing research effort on ecosystem-based solutions helps to maximise returns on investments at priority sites to maximise indigenous biodiversity protection. Where the survival of species is not assured by the ecosystem approach, a current project to develop a tool for optimising threatened species recovery is helping direct research and management effort.</p> <p><u>Science and research in the marine environment</u> For the marine environment, there has been substantive progress with ‘whole of government’ projects on biological classification of the seabed through implementation of the Ocean Survey 20/20 programme.</p> <p>Government research funding allocations are determined through a process of consultation and collaboration with end-users. Biodiversity conservation and sustainable management figure prominently in funding decisions. Refer to the response to Chapter 4 (B)—Objective 2.5 for more information on New Zealand’s contribution to this Goal.</p>

Appendix III—Further sources of information

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