



The New Zealand

BIODIVERSITY ACTION PLAN

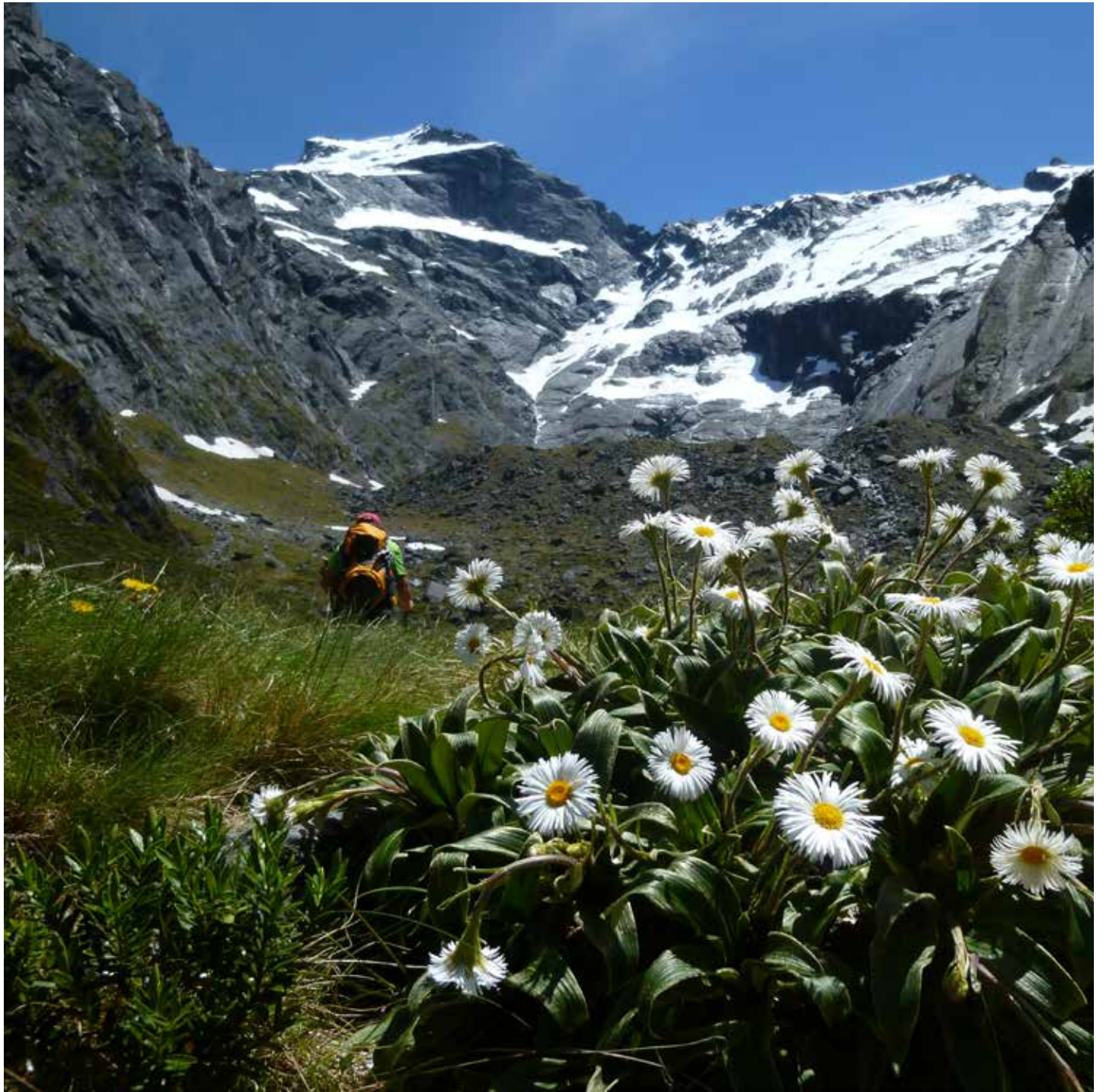
2016 – 2020

Toitū te marae a
Tāne-Mahuta, Toitū
te marae a Tangaroa,
Toitū te tangata.

If the land is well
and the sea is well,
the people will thrive.

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Foreword

New Zealand published its original Biodiversity Strategy and Action Plan in February 2000 with the intention of ‘turning the tide’ of our biodiversity decline. This update reflects our ongoing commitment to this important mission, and outlines the contribution that New Zealand will make toward stemming global loss of biodiversity over the next 4 years.

New Zealand’s biodiversity evolved in isolation. For millions of years, birds dominated the land. Some evolved into unique new forms – the world’s largest eagle, a flightless nocturnal parrot, and the giant moa, taller than any other bird. Flightless birds and giant insects (such as the giant weta) filled roles small mammals filled elsewhere – foraging on the ground, living in burrows and hollows. But there is also a great vulnerability – pressures associated with human settlement have caused a rapid decline of our nature and native species.

Halting this decline requires substantial effort and poses significant challenges. New Zealanders need to meet these challenges together, both on and beyond public conservation lands. Collaboration is essential to successfully look after New Zealand’s biodiversity, and help New Zealanders and international visitors enjoy our natural heritage. Central and local government must work with Māori, New Zealand’s indigenous people, as well as

resource managers, private landowners and businesses.

This collaborative spirit is already manifest in a number of nationwide initiatives, including the recently-announced **Predator Free 2050**, the world’s most ambitious predator management programme. It has the goal to rid New Zealand of introduced predators, the most significant of which are rats, stoats and possums, by 2050. Other major initiatives include the **War on Weeds**, an initiative aiming to rid New Zealand of wilding conifers and 12 other problem weeds, and the **Battle for our Birds**, New Zealand’s largest predator control operations to date in 2014 and 2016, in response to heavy beech tree seeding. The operation employs aerial 1080 drops and self-resetting traps to protect high-risk populations of 10 native bird species, as well as giant snails and native bats.

This update sets ambitious national targets toward greater protection and sustainable use of our biodiversity. These targets will enable New Zealand to demonstrate progress toward the five strategic goals of the Convention on Biological Diversity’s Strategic Plan for Biodiversity 2010–2020.

Working together to protect our biodiversity and share its benefits will enable New Zealand’s ecosystems, species and people to thrive.

The Honourable Maggie Barry
The Minister of Conservation

For 80 million years New Zealand evolved in isolation, resulting in a biodiversity hotspot, with many species found nowhere else on earth.

On land, more than 80% of our vascular plants and 90% of our insects are endemic, along with all of our reptiles, a quarter of our birds and our only terrestrial mammals (several species of bats/pekapeka).

Marine biodiversity is equally rich, with a wide variety of marine species, habitats, communities and ecosystems. New Zealand's marine jurisdiction is one of the largest in the world, encompassing an area of almost 600 million km², spanning subtropical to subantarctic waters. New Zealand's marine invertebrates (and protozoa) are highly diverse, with a high proportion of endemic species, and many of our bottom-dwelling fish are also endemic. A total of 43 species and subspecies of cetaceans (around half of the world's whale and dolphin species) have been recorded in our Exclusive Economic Zone. New Zealand is an important breeding ground for seabirds,

including the world's greatest number of albatrosses/toroa (14 species), petrels (32 species), shags/kawau (13 species) and penguins/kororā (9 species).

Our ecosystems are also highly distinctive, including kauri forests in the northern North Island, extensive braided river systems in the eastern South Island, karst landscapes, restiad peat bogs, coal measures, geothermal systems, and seamounts.

Our natural environment is at the heart of the nation's identity, shaping our economy, lifestyles and culture. Visitors tell us that New Zealand's natural environment is front and centre when they are deciding where to go on holiday. Tourists spent NZ\$29.8 billion last year, an increase of 10.3% over the previous year. Tourism has now surpassed the dairy industry as New Zealand's largest contributor to export earnings.

For Māori, biodiversity conservation is also about the survival of their culture and identity, and vice versa. The ethic of kaitiakitanga (guardianship) is central to the expression of Māori culture and identity, and confers obligations on whānau (family), hapū (sub-tribe) and iwi (tribe) to care for environmental taonga (treasures), including species of indigenous flora and fauna.



Treaty of Waitangi settlements are an important driver in furthering the role of Māori in biodiversity protection and have contributed greatly to the emergence of Māori as a significant economic and political force, with particular interests in natural resources. Settlements are delivering innovative co-management and co-governance arrangements. Māori are increasingly involved in all aspects of biodiversity management, including conservation and customary and commercial use. As well as for cultural purposes, Māori have interests in forestry, fisheries, agriculture, horticulture, aquaculture and ecotourism, all of which revolve around our natural environment.

New Zealand's natural environment and biological wealth are important for sustainable economic growth and development. Strong primary and tourism sectors are the backbone of our economy, reflecting the value of sustainable use of our natural heritage. In the past fiscal year, New Zealand exported NZ\$37 billion of primary products, including dairy, meat, logs and timber and seafood – which all rely on the ecosystem services that biodiversity supports. To sustain these economic benefits we must manage primary industries in ways that ensure

our natural systems are resilient. A preliminary study estimated New Zealand's land-based ecosystem services contributed NZ\$57 billion to human welfare in 2012.

New Zealand was settled by humans comparatively recently. Our biodiversity decline has been rapid, leaving a legacy of loss and introductions of invasive species. The cumulative effects of fire, land clearance, overexploitation of resources, and introduced plants and animals have left a lasting impact on our native biodiversity. As a result, many species have become extinct, including magnificent giant birds such as *Harpagornis moorei* (Haast's eagle), and an increasing number are now threatened with extinction. Our biodiversity continues to face a number of ongoing pressures as well as legacy effects and our changing climate is exacerbating existing pressures on native species and ecosystems.

New Zealand's original Biodiversity Strategy aimed to halt and, ultimately, reverse the decline of indigenous biodiversity. This goal is still relevant. In recent decades we have made significant progress in understanding, managing and reducing the threats to, and loss of, our biodiversity.

New Zealand has a lot to be proud of. A quarter of the country is under native forest cover; 8.6 million hectares is public conservation land; and advances in our knowledge of ecosystems and improved methods of pest control have resulted in biodiversity gains and contributions to the ongoing recovery of ecosystems across many ecosystem types and spatial scales. Intensive pest management is making a difference. Eradication of pests from offshore islands has achieved substantial gains in biodiversity recovery.

There has been a groundswell of protection and restoration initiatives by private landowners and communities, assisted by mechanisms such as the Queen Elizabeth II National Trust, Nature Heritage Fund, and Ngā Whenua Rāhui.

The challenge is great. The targets and actions outlined in New Zealand's updated Biodiversity Strategy Action Plan reflect our country's unique context and history and the magnitude of the task. They represent New Zealand's contribution to achieving the Convention on Biological Diversity's Strategic Plan for Biodiversity 2010–2020 including the five global goals and related Aichi Biodiversity Targets. They are critical to halting the decline and enhancing the benefits of New Zealand's biodiversity.

SPOTLIGHT

Predator Free 2050



Predator Free 2050 is an ambitious goal to rid New Zealand by 2050 of the most damaging introduced predators that threaten our nation's natural taonga, our economy and primary sector. The Government is showing its commitment with an additional \$28 m over 4 years and \$7 m per year thereafter. This is on top of over \$70 million already spent each year on predator control and is expected to leverage additional investment from other sources.

New Zealand is internationally recognised for pest management.

We have had significant success eradicating mammalian predators from offshore islands and in intensively managed mainland areas. The subsequent recovery of threatened

native species on predator-free islands, within fenced sanctuaries, and in areas with intensive and sustained pest suppression highlights the dramatic impact that pest management plays in supporting biodiversity.

Where predator control is not happening there is a steady decline in native species.

The Predator Free 2050 goal builds on remarkable early thinking from Les Kelly and the conservation organisation Forest & Bird. It was first given a public profile by eminent scientist Sir Paul Callaghan who suggested it could be New Zealand's 'Apollo Programme'. Les led an 8-year self-funded campaign to gain the ears of key influencers in New Zealand. Forest & Bird has also been involved from an early stage, including holding a hui (meeting)

at Whakapapa in 2012 that brought together DOC and Landcare Research scientists to determine the feasibility of the ambitious concept.

Predator Free 2050 is an integrated, large-scale effort to eradicate predators by supporting new and existing conservation projects, primary sector pest control, and community groups on a globally unprecedented scale.

A new company will attract investors, and accelerate the scale of pest control. The company aims to bring in private sector or local government funding of NZ\$2 for every NZ\$1 of government funding.

A predator-free New Zealand will significantly benefit indigenous



The interim 2025 goals are:

1. Increase by 1 million hectares the areas where predators are suppressed.
2. Demonstrate predator removal from more than 20,000-hectare areas of the mainland.
3. Remove all mammalian predators from offshore island Nature Reserves.
4. Develop science solutions that lead to the removal of at least one small mammal predator species from the mainland.



biodiversity, reduce a substantial economic drain of an estimated NZ\$3.3 billion (1.96% of GDP), and leave an impressive conservation legacy for future generations.

Predator Free 2050 is about growing and coordinating current pest management efforts and resources. A number of

communities including Wellington, Picton, Nelson and Taranaki have committed to becoming predator free.

Complementary to Predator Free 2050, New Zealand hopes to implement a Threatened Species Strategy that outlines a national approach to recover threatened plants and animals.

GOAL A

**Mainstreaming
biodiversity
across government
and society**



GOAL A MAINSTREAMING BIODIVERSITY ACROSS GOVERNMENT AND SOCIETY



1

NATIONAL TARGET

People's lives are enriched through connection to nature



KEY ACTIONS

- ▶ **BY 2017**, New Zealand will be implementing a National Strategy for Environmental Education for Sustainability (2016–2026) that encourages and enables New Zealanders to actively engage with biodiversity and other related issues.
- ▶ **BY 2020**, New Zealand will have implemented and be monitoring a work plan aimed at enriching 90% of New Zealanders' lives through connection with nature.
- ▶ **BY 2020**, 85% of New Zealanders will visit public conservation lands and waters at least once a year.



SPOTLIGHT

Kids Greening Taupō is a conservation education programme bringing biodiversity back to the town, led by local children. In 2014, a local working group was set up with representatives from Greening Taupō, Tauhara College, Tūwharetoa Māori Trust Board, and the Department of Conservation (DOC). A pilot programme involves two kindergartens, two primary schools and a college. In 2015, an education co-ordinator was appointed for 3 years, funded through DOC's Community Partnership Fund.

The student-led programme aligns with the work of Greening Taupō, a community organisation that aims to increase the native flora and fauna of the town for the benefit of its people, businesses and natural environment. Kids Greening Taupō links local schools and Greening Taupō; and students are actively involved in conservation projects to increase native bird life and solve real-life environmental problems.

Each school has taken on a specific 'green' or environmental project. One school has ecosourced, planted and grown kōwhai (*Sophora* spp.) seed. They will plant the kōwhai seedlings in their school grounds and in the wider region.

Kids Greening Taupō

The kindergartens connect students to nature through ‘bush kindergarten’. The children spend one day each week in the bush, enabling them to experience changes in the seasons and learn about plants and how their natural environment works.

As well gardening prowess, students contribute using their IT (computer), storytelling, and design skills to develop the website, blog and social media. This makes the project relevant across the school curriculum.

Based on the Kids Restore the Kepler project (which has successfully reduced the number of pests and improved the status of many species that were close to extinction on Fiordland’s Kepler peninsula), Kids Greening Taupō shares the same approach with its strong emphasis on youth involvement and leadership.

However, Kids Greening Taupō also involves local iwi (Māori tribes). Iwi provide guidance and support, meaning students learn traditional ways of planting and harvesting, and hear local stories and the Māori perspective on conservation.



Nicola Toki (pictured left) is the Department of Conservation’s first Threatened Species Ambassador. Her role is to support conservation of New Zealand’s threatened species, work to build partnerships and develop strategies to encourage New Zealanders to become involved in conservation efforts.

SPOTLIGHT

Healthy NATURE
HEALTHY People

Healthy Nature Healthy People

Healthy Nature Healthy People is about connecting people and nature and restoring the health of both. Adopted by the Department of Conservation in 2015, Healthy Nature Healthy People is based on the Healthy Parks Healthy People concept initiated by Parks Victoria, Australia.

The Healthy Nature Healthy People movement is being co-designed by government agencies, Māori and non-governmental organisations, all seeking

to improve the lives of New Zealanders through connection to nature. Work is already underway with the Mental Health Foundation, Healthy Families New Zealand and the disability sector to connect more people with nature.

New Zealanders will shape Healthy Nature Healthy People in their own way, in their own communities; giving, connecting, learning, being active and appreciating the places with which they most closely identify.



New Zealand's identity draws strongly on our natural environment and, as our population becomes more urban and diverse, we are using Healthy Nature Healthy People to express the many and varied ways that nature plays a part in every New Zealander's life.



2 NATIONAL TARGET

People are taking greater action for nature



KEY ACTIONS

- ▶ **NEW ZEALAND** will continue to leverage partnerships, e.g. contributions by iwi, whānau and hapū, local and central government, NGOs, businesses and volunteers, to improve biodiversity outcomes from current levels.
- ▶ **NEW ZEALAND** will continue supporting on-the-ground projects through funds distributed to a range of targeted groups (including tangata whenua, community groups, businesses and landowners) for maintaining and restoring the diversity of New Zealand's natural heritage.
- ▶ **NEW ZEALAND** will continue to raise the baseline capability of the community's voluntary contributors to increase their effectiveness.

3 NATIONAL TARGET

Biodiversity is integrated into national and local strategies, policies, plans and reporting



KEY ACTIONS

- ▶ **BY 2020**, we will fully implement a new national environmental reporting series, including the synthesis report *Environment Aotearoa*, in which biodiversity is a cross-domain theme.
- ▶ **BY 2017**, natural resources are recognised in New Zealand's Long Term Fiscal Statement underlining the importance of the natural resource base to New Zealanders' living standards.
- ▶ **BY 2017**, investigate the need and potential to produce New Zealand environmental-economic accounts.

SPOTLIGHT

Environmental reporting

New Zealanders now have access to independent, accurate and credible data to help assess and address questions about the natural and urban environments, including New Zealand's indigenous biodiversity. In 2015, the first national synthesis report, *Environment Aotearoa*, was produced in a new regular series that tells us what state our environment is in, why it is like that, and how this affects New Zealand's economy and society.

The landmark report is part of a new way of reporting on New Zealand's environment. New legislation, the Environmental Reporting Act 2015, requires environmental reporting to be regular, fair and accurate. The report pulled together a huge amount of data to give a detailed picture of New Zealand's environment and made existing data more accessible.

The reporting series focuses on five environmental areas or 'domains'. Three feature biodiversity – freshwater, land and marine. One domain will be published every 6 months from late 2016, with a 'whole of environment' report every 3 years. New Zealand's new framework is in line with other OECD countries' environmental reporting requirements.

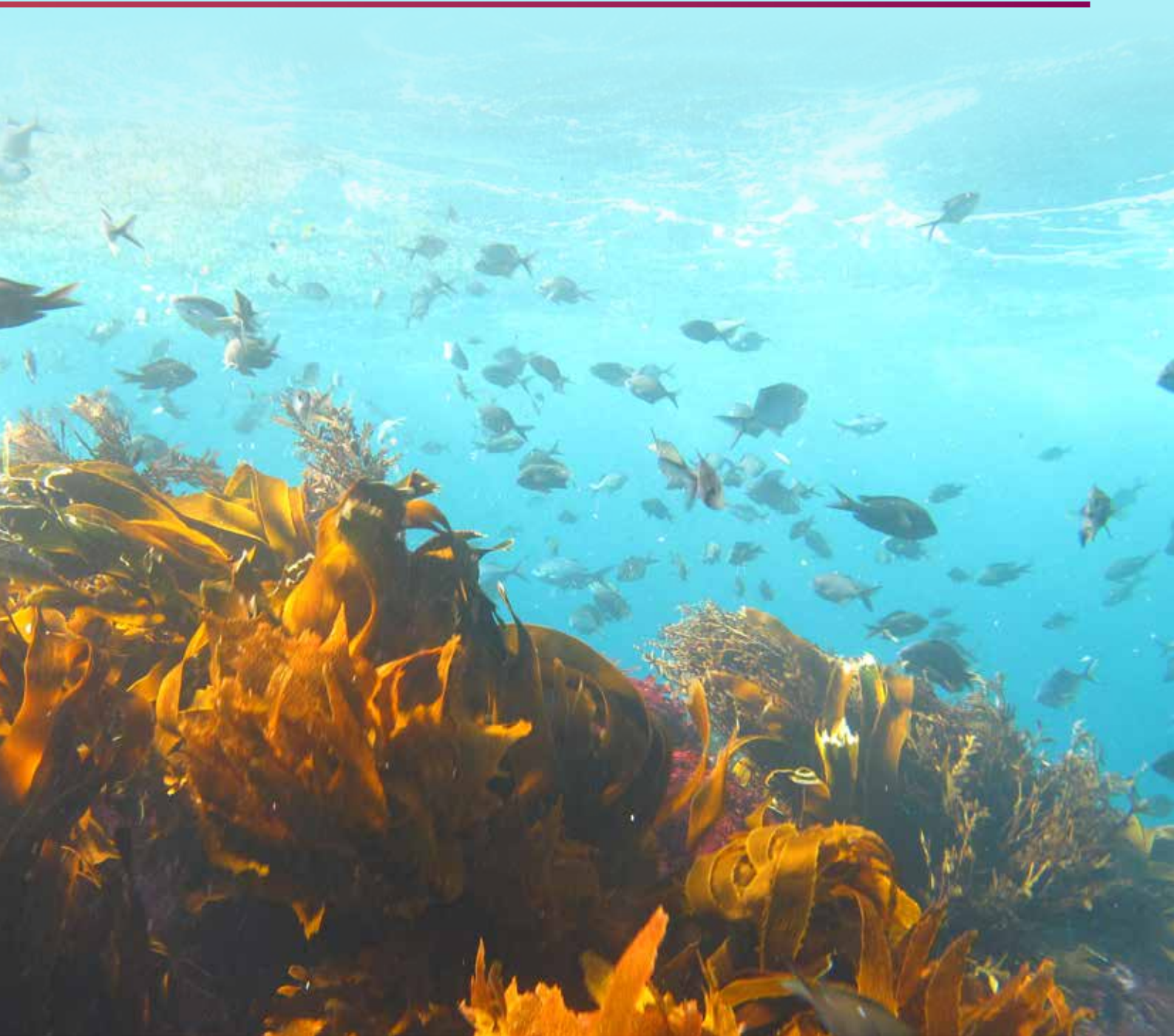


GOAL B

**Reduce pressures
on biodiversity
and promote
sustainable use**



GOAL B **REDUCE PRESSURES ON BIODIVERSITY AND PROMOTE SUSTAINABLE USE**



4 NATIONAL TARGET

More of New Zealand's natural ecosystems are benefiting from pest management

KEY ACTIONS

- ▶ **BY 2020**, landscape-scale predator control will have been conducted across 1 million hectares to prevent population losses of selected threatened species.
- ▶ **BY 2020**, the management of weeds that compromise the integrity of significant natural ecosystems or threatened native species will have increased from current levels and weed awareness and action by community groups will have increased as a result of the War on Weeds campaign.
- ▶ **BY 2020**, new tools or techniques, including a scientific breakthrough aimed at eradicating a mammalian predator, are being developed or are available to control the key pests and diseases that threaten biodiversity.



SPOTLIGHT

Kauri dieback

Kaori are among the largest species of tree in the world and are only found in New Zealand, but are threatened by a disease thought to be introduced to New Zealand sometime in the middle of the 20th century. The disease is spread through infected soil and plant material and no natural resistance has been observed. The Kauri Dieback Programme is a partnership between government agencies, Māori and philanthropists and seeks to protect kauri by preventing people spreading the disease and investment in science to create new tools for disease management.



5 NATIONAL TARGET

Biodiversity is integrated into New Zealand's fisheries management system



KEY ACTIONS

- ▶ **BY 2020**, New Zealand will have moved towards an ecosystem approach to fisheries management that includes enhanced recording of bycatch from the sea and improved understanding of the rates of change in marine biodiversity.
- ▶ **BY 2017**, implementation of the Fisheries Operational Review will begin, including a number of important initiatives that will contribute to the sustainability of fisheries and enhance biodiversity.
- ▶ **BY 2020**, demonstrable progress will have been made towards managing the impacts of bottom trawling and dredging on the seabed.

6 NATIONAL TARGET

Improved understanding of the impacts of climate change on biodiversity informs better management of vulnerable ecosystems and indigenous species



KEY ACTIONS

- ▶ **BY 2020**, improved understanding of climate processes is enabling better prediction of New Zealand's future climate, and identification of impacts of a changing climate on natural resources.
- ▶ **BY 2020**, management of vulnerable ecosystems and species will increasingly consider the impacts of climate change.
- ▶ **BY 2020**, New Zealand's understanding of the compounding pressures of climate change and other anthropogenic pressures on indigenous biodiversity will have improved from current levels.

SPOTLIGHT

Kiwi Recovery Plan

A new Kiwi Recovery Plan aims to recover Kiwi numbers to 100,000 by 2030. Kiwi are one of New Zealand's national icons. They are flightless, nocturnal and the only bird to have nostrils at the end of their very long bill. They also have one of the largest egg-to-body weight ratios of any bird, and female kiwi are larger than males. Kiwi are long-lived, and depending on the species, live for between 25 and 50 years.

There are five species of kiwi and about 68,000 kiwi left across the country, representing only 3% of the original pre-human kiwi population. This decline has been driven by introduced predators, with only 5% of chicks surviving naturally to adulthood. Over 75% of our kiwi remain unmanaged. Without management, kiwi populations decline by 2–3% per year – amounting to more than 20 kiwi per week.

Kiwi matter to New Zealanders. Kiwi conservation is the largest species



recovery programme in New Zealand and includes work by the Department of Conservation, whānau, hapū and iwi, over 100 community groups (represented by Kiwis for Kiwi), 14 captive management institutions, local and international researchers, businesses and philanthropists. Over the past 25 years, their collective efforts have:

- Stopped the extinction of the rarest kiwi species (rowi and Haast tokoeka)
- Grown populations of brown kiwi in Northland and Coromandel

- Led to 150,000 ha of kiwi habitat being managed by communities.

To meet the goal, we will need to increase all kiwi species numbers by at least 2% per year, restore their former distribution and maintain their genetic diversity. This requires shifting from ex situ (captive) management to managing kiwi in the wild through landscape-scale predator control.

This will increase management of all kiwi species, especially those on the South Island that are currently facing greatest decline.

SPOTLIGHT

War on Weeds

Hundreds of invasive weeds are smothering New Zealand's native forests, wetlands and coastal areas, harming native species and transforming natural landscapes. New Zealand's War on Weeds aims to build public awareness of the threat that weeds pose to the sustainability of our natural landscapes and species. It is a call to action to protect our natural heritage from weeds. It encourages New Zealanders to do this by joining groups protecting sites of high conservation value, as well as stopping the spread

from their own backyards. Wilding conifers are considered 'enemy number one' in the war, alongside a 'Dirty Dozen' of 12 other common widespread weeds. The dirty dozen list changes annually. It is only through communities collectively taking action at a landscape scale that common and widespread weeds will be brought under control.

The War on Weeds is supported by the Department of Conservation's Community Fund that in turn has funded a number of programmes and

initiatives (such as the Queen Elizabeth II National Trust/Weedbusters NZ project) that are helping communities tackle problem weeds. The management of wilding conifers is a particular focus for the War on Weeds programme. Wilding conifers currently cover more than 1.8 million hectares of land and are spreading at an estimated rate of 5% each year. To help stop their spread, New Zealand is adopting a Wilding Conifer Strategy. The important role on-the-ground volunteer initiatives play is recognised in the Strategy.



7 NATIONAL TARGET

Sustainable use and protection of biodiversity is promoted through improved national guidance, information and industry practice

KEY ACTIONS

- ▶ **BY 2020**, a National Policy Statement on Indigenous Biodiversity will provide national direction to councils on managing biodiversity under the Resource Management Act 1991.
- ▶ **NEW ZEALAND** will continue work to improve the efficiency of agricultural production systems by improving decisions around land use, maintaining soil and water health, and enhancing flexibility in land management and farming practices.
- ▶ **BY 2018**, a National Environmental Standard for Plantation Forestry will be implemented to improve consistency and reduce negative impacts in the management of plantation forestry.



SPOTLIGHT

Living Water

A Department of Conservation and Fonterra partnership is helping to enhance the quality of New Zealand's waterways and lowland biodiversity. Recognising that New Zealand's future success depends on healthy freshwater systems, the \$20 million, 10-year partnership sees two of New Zealand's most significant land stewards join forces in five sensitive catchments.

Called Living Water, the partnership began in 2013 with a vision that 'a sustainable dairy industry is part of healthy functioning ecosystems that together enrich the lives of all New Zealanders'. Living Water's specific purpose is to trial game-changing and scalable solutions that demonstrate a new way of farming in healthy freshwater environments. To do this, Living Water works collaboratively with iwi, farmers,

8 NATIONAL TARGET

Invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to minimise likelihood of their introduction and establishment



KEY ACTIONS

- ▶ **NEW ZEALAND'S** Biosecurity 2025 Direction Statement will ensure that the biosecurity system remains strong and resilient to meet challenges to biodiversity.
- ▶ **BY 2020**, island biosecurity measures will be implemented to protect all significant island sanctuaries from predator reinvasion.
- ▶ **BY 2020**, fast and efficient response programmes and management strategies are in place and recognised between government agencies and industry leaders for implementation during incursions so that introduction of priority species (such as brown marmorated stink bug, foot and mouth disease, myrtle rust and *Ceratocystis fimbriata*) is prevented.

community groups, councils and other key stakeholders both locally and nationally.

Living Water's five catchments are Kaipara-Hikurangi in Northland, Pūkoro/Miranda on the Firth of Thames, Waikato Peat Lakes – Areare, Ruatuna and Rotomanuka, Te Waihora/Lake Ellesmere – Ararira/ LII in Canterbury, and Awarua-Waituna in Southland.



GOAL C

**Safeguarding
ecosystems,
species and
genetic diversity**





9 NATIONAL TARGET

Improved terrestrial and freshwater ecosystem protection and integrity



KEY ACTIONS

- ▶ **BY 2020**, 1.3 million hectares of New Zealand's terrestrial areas and inland waters will be managed to achieve a high level of ecological integrity and a further 3.9 million hectares will be managed to maintain ecological integrity (located, where possible, to ensure buffering and connectivity).
- ▶ **BY 2020**, a multi-year programme to re-categorise the protection status of stewardship lands with high conservation values will have begun.

10 NATIONAL TARGET

Landowners are supported to protect more rare and threatened habitats and ecosystems



KEY ACTIONS

- ▶ **BY 2020**, collaboration and information sharing with landowners, communities and whānau, hapū and iwi will have increased the protection of naturally rare and uncommon and formerly widespread, but now significantly reduced, ecosystems not on public conservation lands.
- ▶ **NEW ZEALAND** will expand partnerships with whānau, hapū and private landowners by continuing to grow the network of kawenata (covenants) over private and Māori land to secure and support the stewardship of naturally rare and uncommon and formerly widespread, but now significantly reduced, ecosystems and habitats.

SPOTLIGHT

Supporting Māori conservation values

For more than 26 years the Ngā Whenua Rāhui (NWR) Fund has worked to protect the conservation values of Māori land and preserve mātauranga Māori (knowledge) so that the values, histories and stories of natural taonga (treasures) are not lost.

Alongside others such as the Queen Elizabeth II National Trust and the Nature Heritage Fund, the NWR Fund helps private landowners and others to protect New Zealand's indigenous biodiversity.

The NWR Fund provides Māori landowners with the ability to protect their land through kawenata (covenants).

In 2002, the NWR concept further expanded with the introduction of a separate Mātauranga Kura Taiao Fund focused on preserving the history and stories associated with Māori land and the associated kawa (protocols) and tikanga (customary practices).

The NWR Fund has formally protected a significant segment of Māori land; around 220 kawenata agreements protect in excess of 190,000 hectares at a low cost.

The Fund has also approved 240 mātauranga Māori projects to preserve the histories and customs of Māori as tangata whenua.



SPOTLIGHT

Conservation genetics

A groundbreaking genetics project Kākāpō 125, is helping protect New Zealand's remaining kākāpō.

Kākāpō are large, flightless parrots that can live for decades, but only breed every 2 to 4 years. They are found only in New Zealand. Introduced predators devastated kākāpō populations and set them on the path to extinction – at one point only 49 individuals remained. Thanks to dedicated efforts by the Department of Conservation (with financial support from Comalco and, more recently, Meridian Energy), kākāpō numbers have begun to increase. However, their existence is still threatened because their small population has limited genetic diversity.

Kākāpō 125 is refining a breeding programme for this national taonga (treasure) by sequencing the genomes of every living kākāpō. This information will help to protect and increase the birds' genetic diversity. This will be the first time that the entire population of a species will be genome sequenced.

The project, paid for by crowdfunding and the New Zealand Government, is being undertaken by New Zealand Genomics Ltd and Genetics Otago, the University of Otago's Centre for Genetics Research.



11 NATIONAL TARGET

Priority freshwater ecosystems are restored from 'mountains to the sea'

**KEY ACTIONS**

- ▶ **BY 2017**, New Zealand will have identified significant freshwater systems for restoration.
- ▶ **BY 2020**, New Zealand will be working to restore priority freshwater ecosystems from 'mountains to sea' to improve biodiversity outcomes.

12 NATIONAL TARGET

More Threatened, At Risk, or Declining species are managed to the extent necessary to minimise extinction risk and ensure genetic diversity is maintained

**KEY ACTIONS**

- ▶ **BY 2020**, 407 native New Zealand species classified as Threatened, At Risk or Declining will be managed to the degree necessary to minimise extinction risk and selected populations of a subset of threatened species known to be not at current risk of decline will continue to be monitored nationally.
- ▶ **BY 2020**, demonstrable progress will have been made in managing key threats to the most at-risk marine species.
- ▶ **BY 2018**, New Zealand will have introduced new legislation to more effectively protect native plant species, particularly threatened species, and to control exports.

13 NATIONAL TARGET

A growing nationwide network of marine protected areas, representing more of New Zealand's marine ecosystems



KEY ACTIONS

- ▶ **BY 2018**, New Zealand will have new marine protection legislation that provides a framework for the establishment of a representative network of marine protected areas.
- ▶ **BY 2020**, a wider range of marine ecosystems will be in protected areas.
- ▶ **NEW ZEALAND** will work towards establishing the Kermadec/Rangitahua Ocean Sanctuary.



SPOTLIGHT

*Kermadec /
Rangitahua
Ocean
Sanctuary*



New Zealand is working towards creating one of the largest no-take ocean sanctuaries in the world, encompassing 620,000 km² around the Kermadec Islands. As well as protecting marine species and environments it will be an important scientific resource.

The Kermadec region is home to 6 million seabirds of 39 different species, 35 species of whale and dolphin, 3 species of turtle (all endangered), and thousands of species of fish and other marine life. There is nowhere else in New Zealand's Exclusive Economic Zone where such a wide range of tropical, subtropical and temperate species of fish, birds and marine mammals co-exist.

The Kermadec/Rangitahua Ocean Sanctuary will protect highly migratory fish and mammals that pass through

in search of food or breeding sites, as well as resident pelagic and demersal species. The sanctuary also recognises the importance of the area's underwater geology, including an arc of 30 underwater volcanoes and the second-deepest ocean trench in the world.

The sanctuary's name acknowledges the significance of the region and islands to Māori and iwi as one of the only stopover points for migratory waka (canoes) making the long and treacherous journey between the Pacific and New Zealand.

The sanctuary will be twice the size of New Zealand's landmass and 35 times larger than the combined area of New Zealand's existing 44 marine reserves. This impressive size will protect the area from other marine

activities and offer scientists a pristine marine ecosystem to observe and research over time. The insights that this area will provide can be used to inform marine environmental decision-making elsewhere, and will provide a global reference point for both natural and human-induced environmental changes.

New Zealand has obligations to protect and preserve our marine environment as it is a Party to the United Nations Convention on the Law of the Sea and to the Convention on Biological Diversity (CBD). Under the CBD we have committed to conserving 10% of the country's coastal and marine areas by 2020. The Kermadec/Rangitahua Ocean Sanctuary significantly contributes to these targets, demonstrating that New Zealand is serious about being a world leader in marine protection.

GOAL D

**Enhance the
benefits to all**





14 NATIONAL TARGET

Benefits of biodiversity and ecosystems for people's health and economic, social and cultural wellbeing are better understood and received



KEY ACTIONS

- ▶ **BY 2020**, people are aware of the value of nature to their health and wellbeing and regularly seek out natural environments as part of maintaining and improving health and wellbeing (Healthy Nature Healthy People).
- ▶ **BY 2020**, there will be an increase in the number of businesses that recognise the connection between restoring our biodiversity and New Zealand's business success.
- ▶ **NEW ZEALAND** will continue to provide opportunities for biodiversity-related businesses to support increased economic benefits from domestic and international tourism.

15 NATIONAL TARGET

Achieve multiple benefits and greater biodiversity and ecosystem services outcomes through greater coordination, integration and collaboration, particularly at the regional level



KEY ACTIONS

- ▶ **BY 2020**, New Zealand's first large-scale ecological restoration programme will be delivering outcomes in Northland (Reconnecting Northland).
- ▶ **BY 2020**, New Zealand will have completed a partnership project involving landscape-scale predator control and ecological restoration (Cape to City) to deliver economic and social gains, as well as environmental benefits.
- ▶ **BY 2020**, marine spatial planning of the Hauraki Gulf/Tikapa Moana will be completed, representing the first time this approach has been used in New Zealand.

SPOTLIGHT *Cape to City*

Cape to City is a collaborative landscape-scale ecological restoration project in Hawke's Bay that is supporting environmental, social and economic benefits throughout the region. Its vision is that 'native species thrive where we live, work and play'.

The 5-year project began in 2015. It incorporates wide-scale predator control and ecological restoration over 26,000 hectares. Cape Sanctuary, the largest privately owned and funded wildlife restoration project of its kind in New Zealand is a neighbouring project to Cape to City.

Cape to City is supported by Hawke's Bay Regional Council, the Department of Conservation (DOC), Landcare Research, Cape Sanctuary, local hapū (family groups), and the Aotearoa Foundation. This diverse partnership provides a transferable model that could help achieve a predator-free New Zealand (see p 6).

The objectives are underpinned by research, habitat protection, pest control, species reintroductions, and community engagement and education. An important driver is the Hawke's Bay biodiversity strategy.

Cape to City is driving long-term improvement of the region's biodiversity profile, and significantly enhancing community engagement and conservation outcomes by focusing on ultra-low-cost, integrated pest control (of possum, feral cat, mustelid and hedgehog) across large areas of farmland. It is also engaging with schools and communities about the value of biodiversity across urban and rural landscapes, and private and Crown-managed land. ►



Expected benefits include:

Environmental

- Successful demonstration of landscape-scale ecological restoration on private land, and how this can enhance DOC's conservation management on public land.
- Control of predators and other pests to very low numbers.
- Improved habitat connectivity, restoration and water quality. This will aid the dispersal of birds from Cape Sanctuary (e.g. red-crowned kākārīki/parakeet, tomtit/miromiro, rifleman, robin/toutouwai, whitehead, and pāteke/brown teal), allowing these rare and endangered birds to colonise the backyards of towns and cities, and allowing the reintroduction of species such as tītī/muttonbird and whio/blue duck.

Social

- Hawke's Bay communities will better understand the importance of biodiversity and the services nature provides, and will have opportunities to participate in biodiversity protection and restoration activities.
- Opportunities for Māori to participate and to integrate conservation with the holistic Māori world view.
- School students will learn to care about, understand and act for biodiversity.
- Teachers will be better resourced and schools better supported to increase learning about biodiversity in their backyards.

Economic

- Maintaining low levels of possums will continue to reduce the risk of bovine TB, and decrease possum-related pasture and crop damage.
- Reducing feral cat numbers will significantly decrease toxoplasmosis-related lamb abortion rates and vaccination costs.
- Farmers will have the opportunity to earn biodiversity 'green credentials', allowing them to tap into increased international markets.





16 NATIONAL TARGET

Enhance understanding of the contribution of indigenous biodiversity to carbon stocks



KEY ACTIONS

- ▶ **BY 2020**, the ongoing monitoring of carbon stock status and trends in indigenous forest and non-forest habitats will enable the contribution of indigenous biodiversity to carbon stocks to be quantified.
- ▶ **BY 2020**, New Zealanders will have an increased understanding of how natural habitats that support the country's biodiversity are contributing to climate change mitigation (including resilience).
- ▶ **BY 2020**, New Zealand will have improved coordination and cooperation between government agencies and community groups to restore biodiversity and enhance carbon stocks.



GOALE

**Enhance
implementation**





17 NATIONAL TARGET

Whānau, hapū and iwi are better able to practise their responsibilities as kaitiaki



KEY ACTIONS

- ▶ **NEW ZEALAND** will work with whānau, hapū and iwi, through a combination of Treaty of Waitangi settlements, existing commitments and new work, to enable Māori-led conservation work, sustainable customary use of biological resources and indigenous biodiversity protection across a range of services and levels.
- ▶ **NEW ZEALAND** will continue to support projects relating to the revival, use or retention of tikanga (i.e. traditional knowledge and practices in the management of biodiversity or natural resources) through the Mātauranga Kura Taiao fund for the benefit of future generations.
- ▶ **BY 2020**, there will be an increase in the number of gazetted customary fisheries management areas, such as mātaimai and taiāpure. These fishing areas are managed by tangata whenua, ensuring sustainable customary access for these resources and supporting the capacity of tangata whenua to manage the fisheries and effects on biodiversity.

SPOTLIGHT



Te Urewera

The Te Urewera Act 2014 heralded a new era for conservation management in New Zealand, addressing how traditional knowledge (mātauranga Māori) and values can be incorporated into supporting biodiversity and conservation.

Te Urewera was designated as a national park in 1954 and was originally managed by a Parks Board and then by the Department of Conservation. On 27 July 2014 Te Urewera became a separate legal entity with the same rights and responsibilities as all New Zealand citizens. This distinction is revolutionary in New Zealand and around the world.

Te Urewera is now managed by the Te Urewera Board. The Board acts on behalf of and in the name of Te Urewera, for whom the board members act as trustees. A management plan for Te Urewera, to be approved by the Board, will reflect customary values and law in its management approach.

SPOTLIGHT

Strategic science

Biodiversity is an important feature of the Government's strategic approach to investment in science. The National Science Challenges were announced in 2013, and \$133.5 million of funding was allocated for their first 4 years. The 11 challenges focus science investment on issues that matter to all New Zealanders. They are cross-disciplinary, scientist-led programmes designed to tackle the country's biggest science-based challenges.

One challenge directly focuses on biodiversity while three others support it, showing biodiversity's importance to New Zealanders and the country's prosperity.

New Zealand's Biological Heritage/ Ngā Koiora Tuku Iho aims to protect and manage native biodiversity, improve biosecurity, and enhance

resilience to harmful organisms. Research focuses on: enhancing our understanding of New Zealand's native flora, fauna and fungi; reducing risks and threats across the landscape; and enhancing and restoring resilient ecosystems. Widespread public engagement will support communities to take action to improve biodiversity in their own backyards.

Our Land and Water/Toitū te Whenua, Toiora te Wai has the goal of enhancing primary sector production and productivity while maintaining and improving land and water quality. The wide scope will ensure the way we use and manage our land and water helps to sustain vulnerable ecosystems.

Sustainable Seas/Ko ngā moana whakauka aims to ensure that our marine environment is understood



and cared for, and that use of marine resources is enhanced and used wisely for the benefit of all. Ecosystem-based management will provide a tool to achieve this, based on engaging with New Zealanders to understand the cultural, spiritual, economic and environmental values of our marine environment.

The Deep South/Te Kōmata o Te Tonga focuses on enabling New Zealanders to adapt, manage risk, and thrive in a changing climate by building understanding of how the Antarctic and the Southern Ocean affect our climate and future environment. It supports biodiversity by helping understand the potential impacts and implications of climate change to support planning and decision-making, and aid adaptation efforts.

18 NATIONAL TARGET

Knowledge, the science base and technologies relating to biodiversity, its values, function, status and trends, and the consequences of its loss, are improved, widely shared and transferred and applied







KEY ACTIONS




- ▶ **BY 2020**, research that incorporates Māori knowledge, values and aspirations is delivering new information on ways to protect and manage our native biodiversity and utilise our marine resources within environmental limits, and is informing management of land, freshwater and marine ecosystems.
- ▶ **BY 2017**, New Zealand will have an agreed 20-year Conservation and Environmental Science roadmap of the research and data needed by government to develop and evaluate policies and actions that maintain and restore our natural systems and optimise the benefits derived from them.
- ▶ **BY 2020**, the collection, collation, publication and reuse of biodiversity data across local and central government agencies will be improved.

National Biodiversity Strategy

Targets and Actions




GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
<p>GOAL A</p> <p>Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society</p>	<p>1</p> <p>NATIONAL TARGET</p> <p>People's lives are enriched through connection to nature</p> 	<ul style="list-style-type: none"> 1.1 By 2017, New Zealand will be implementing a National Strategy for Environmental Education for Sustainability (2016–2026) that encourages and enables New Zealanders to actively engage with biodiversity and other related issues (DOC, MfE, MoE) 1.2 By 2020, New Zealand will have implemented and be monitoring a work plan aimed at enriching 90% of New Zealanders' lives through connection with nature (DOC) 1.3 By 2020, 85% of New Zealanders will visit public conservation lands and waters at least once a year (DOC) 1.4 By 2020, New Zealand will have involved 230,000 children in programmes connecting them with New Zealand's natural environment and inspiring them to take action for nature in their backyards and communities (DOC) 1.5 By 2020, people will be aware of the value of nature through campaigns and digital channels (DOC) 1.6 New Zealand will help more community offenders connect with the natural environment through the Good to Grow partnership, helping decrease recidivism and creating an increased sense of belonging (DOC, Department of Corrections)
	<p>2</p> <p>NATIONAL TARGET</p> <p>People are taking greater action for nature</p> 	<ul style="list-style-type: none"> 2.1 New Zealand will continue to leverage partnerships, e.g. contributions by iwi, whānau and hapū, local and central government, NGOs, businesses and volunteers, to improve biodiversity outcomes from current levels (DOC) 2.2 New Zealand will continue supporting on-the-ground projects through funds distributed to a range of targeted groups (including tangata whenua, community groups, businesses and landowners) for maintaining and restoring the diversity of New Zealand's natural heritage (DOC, MfE) 2.3 New Zealand will continue to raise the baseline capability of the community's voluntary contributors to increase their effectiveness (DOC, regional councils, NGOs) 2.4 By 2020, there will be a collaborative national approach to supporting community conservation (DOC, regional councils, NGOs) 2.5 By 2020, conservation management strategies and conservation management plans will have become more collaborative and community-led, with iwi actively involved (DOC)

GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
	<p>3</p> <p>NATIONAL TARGET Biodiversity is integrated into national and local strategies, policies, plans and reporting</p> 	<p>3.1 By 2020, we will fully implement a new national environmental reporting series, including the synthesis report <i>Environment Aotearoa</i>, in which biodiversity is a cross-domain theme (MfE, Stats NZ)</p> <p>3.2 By 2017, natural resources are recognised in New Zealand’s Long Term Fiscal Statement underlining the importance of the natural resource base to New Zealanders’ living standards (The Treasury)</p> <p>3.3 By 2017, investigate the need and potential to produce New Zealand environmental-economic accounts (Stats NZ)</p> <p>3.4 By 2020, a ‘State of the Takiwā’ reporting framework using culturally-appropriate data will be developed to assist in the monitoring, management and enhancement of the environment through mātauranga Māori (traditional knowledge) (Te Rūnanga o Ngāi Tahu)</p> <p>3.5 New Zealand businesses will increasingly consider how natural capital and ecosystem services are measured and valued, and the associated risks and opportunities that they present, to ensure that business activities support enhanced ecosystem health (Sustainable Business Council)</p> <p>3.6 New Zealand will continue to incorporate biodiversity considerations into resource management plans and policies (local authorities)</p> <p>3.7 By 2020, regional plans are changing to give effect to the National Policy Statement for Freshwater Management’s objective to safeguard ecosystem health, including the range and diversity of indigenous flora and fauna (MfE, MPI)</p>
<p>GOAL B</p> <p>Reduce the direct pressures on biodiversity and promote sustainable use</p>	<p>4</p> <p>NATIONAL TARGET More of New Zealand’s natural ecosystems are benefiting from pest management</p> 	<p>4.1 By 2020, landscape-scale predator control will have been conducted across 1 million hectares to prevent population losses of selected threatened species (DOC, local authorities, partners)</p> <p>4.2 By 2020, the management of weeds that compromise the integrity of significant natural ecosystems or threatened native species will have increased from current levels and weed awareness and action by community groups will have increased as a result of the War on Weeds campaign (DOC, partners)</p> <p>4.3 By 2020, new tools or techniques, including a scientific breakthrough aimed at eradicating a mammalian predator, are being developed or are available to control the key pests and diseases that threaten biodiversity (MBIE, DOC)</p> <p>4.4 By 2020, the area of critical water supply catchment under sustained control for wilding conifers has doubled (DOC)</p> <p>4.5 By 2020, browsing herbivores will be effectively controlled over a greater extent of forested ecosystems to minimise their impact on indigenous tree populations (DOC, partners)</p> <p>4.6 By 2020, approximately 500,000 ha of existing scattered wilding conifer infestation will be removed and we will have transitioned to coordinated landscape-scale management across the most significantly affected regions (MPI, DOC, LINZ, partners)</p>




GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
		<p>4.7 New Zealand continues long-term pest response programmes and implementation of Kia Toitū He Kauri – Keep Kauri Standing, New Zealand’s strategy for managing kauri dieback disease (MPI, DOC)</p>
	<p>5</p> <p>NATIONAL TARGET Biodiversity is integrated into New Zealand’s fisheries management system</p>  	<p>5.1 By 2020, New Zealand will have moved towards an ecosystem approach to fisheries management that includes enhanced recording of bycatch from the sea and improved understanding of the rates of change in marine biodiversity (MPI)</p> <p>5.2 By 2017, implementation of the Fisheries Operational Review will begin, including a number of important initiatives that will contribute to the sustainability of fisheries and enhance biodiversity (MPI)</p> <p>5.3 By 2020, demonstrable progress will have been made towards managing the impacts of bottom trawling and dredging on the seabed (MPI)</p> <p>5.4 By 2020, research will support better understanding of the effects of fishing on the aquatic environment including through the Aquatic Environment Research Plan and the Marine Biodiversity Research Programme (MPI)</p> <p>5.5 By 2020, New Zealand will have improved the process for identifying priorities and information needs relating to biodiversity in the marine environment across government (MPI)</p> <p>5.6 By 2020, ID Guides will be developed or updated for all marine species (including fish) for use by the public, industry, researchers and official observers (MPI)</p>
	<p>6</p> <p>NATIONAL TARGET Improved understanding of the impacts of climate change on biodiversity informs better management of vulnerable ecosystems and indigenous species</p> 	<p>6.1 By 2020, improved understanding of climate processes is enabling better prediction of New Zealand’s future climate, and identification of impacts of a changing climate on natural resources (MBIE)</p> <p>6.2 By 2020, management of vulnerable ecosystems and species will increasingly consider the impacts of climate change (DOC)</p> <p>6.3 By 2020, New Zealand’s understanding of the compounding pressures of climate change and other anthropogenic pressures on indigenous biodiversity will have improved from current levels (DOC)</p> <p>6.4 New Zealand continues to support research on the effects of climate change and ocean acidification on productivity of our seas, on fish stocks and biodiversity distribution at a range of geographic and time scales (MPI)</p> <p>6.5 By 2020, the implementation of a New Zealand marine protected areas network will increasingly consider the impacts of future climate scenarios (DOC)</p>



NATIONAL BIODIVERSITY STRATEGY TARGETS AND ACTIONS




GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
	<p data-bbox="400 304 440 344">7</p> <p data-bbox="400 368 647 603">NATIONAL TARGET Sustainable use and protection of biodiversity is promoted through improved national guidance, information and industry practice</p> <div data-bbox="400 619 576 667"> </div>	<ul style="list-style-type: none"> <li data-bbox="703 304 1469 379">7.1 By 2020, a National Policy Statement on Indigenous Biodiversity will provide national direction to councils on managing biodiversity under the Resource Management Act 1991 (MfE) <li data-bbox="703 392 1469 496">7.2 New Zealand will continue work to improve the efficiency of agricultural production systems by improving decisions around land use, maintaining soil and water health, and enhancing flexibility in land management and farming practices (MPI) <li data-bbox="703 509 1469 584">7.3 By 2018, a National Environmental Standard for Plantation Forestry will be implemented to improve consistency and reduce negative impacts in the management of plantation forestry (MPI, MfE) <li data-bbox="703 596 1469 644">7.4 By 2018, a National Regulation will be in place to exclude dairy cattle from water bodies (MfE, MPI) <li data-bbox="703 657 1469 705">7.5 By 2020, new data and information enables the primary sector to maintain and improve land and freshwater ecosystems in production ecosystems (MBIE) <li data-bbox="703 718 1469 766">7.6 By 2020, government and industry will be pursuing shared goals that promote sustainable use of New Zealand’s natural resources by tourists (MBIE) <li data-bbox="703 778 1469 853">7.7 By 2017, regional authorities in New Zealand are accounting for water taken out of lakes, rivers, wetlands, groundwater and aquifers, and the sources and amounts of contaminants going into them (MfE) <li data-bbox="703 866 1469 970">7.8 By 2020, nutrient management on agricultural land will have been improved through coordinating industry / government research, contributing to applied research programmes, developing user friendly tools, and supporting uptake and adoption (MPI) <li data-bbox="703 983 1469 1058">7.9 New Zealand will invest in targeted programmes that promote afforestation and reduce erosion and sedimentation while improving river and coastal health (MPI) <li data-bbox="703 1070 1469 1145">7.10 Ngāi Tahu Farming will apply agricultural ‘best practice’ approaches in North Canterbury, including retiring riparian strips and planting over 1 million native trees (Te Rūnanga o Ngāi Tahu)

GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
	<p>8</p> <p>NATIONAL TARGET Invasive alien species and pathways are identified and prioritised, priority species are controlled or eradicated, and measures are in place to manage pathways to minimise likelihood of their introduction and establishment</p> 	<p>8.1 New Zealand's Biosecurity 2025 Direction Statement will ensure that the biosecurity system remains strong and resilient to meet challenges to biodiversity (MPI)</p> <p>8.2 By 2020, island biosecurity measures will be implemented to protect all significant island sanctuaries from predator reinvasion (DOC)</p> <p>8.3 By 2020, fast and efficient response programmes and management strategies are in place and recognised between government agencies and industry leaders for implementation during incursions so that introduction of priority species (such as brown marmorated stink bug, foot and mouth disease, myrtle rust and <i>Ceratocystis fimbriata</i>) is prevented (MPI)</p> <p>8.4 New Zealand implements the National Policy Direction for Pest Management, which will improve the alignment and consistency of pest management plans and programmes across New Zealand (MPI)</p> <p>8.5 New Zealand continues to implement partnerships between industry groups and the government to improve biosecurity in New Zealand (MPI)</p>
<p>GOAL C</p> <p>Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity</p>	<p>9</p> <p>NATIONAL TARGET Improved terrestrial and freshwater ecosystem protection and integrity</p> 	<p>9.1 By 2020, 1.3 million hectares of New Zealand's terrestrial areas and inland waters will be managed to achieve a high level of ecological integrity and a further 3.9 million hectares will be managed to maintain ecological integrity (located, where possible, to ensure buffering and connectivity) (DOC)</p> <p>9.2 By 2020, a multi-year programme to re-categorise the protection status of stewardship lands with high conservation values will have begun (DOC)</p>
	<p>10</p> <p>NATIONAL TARGET Landowners are supported to protect more rare and threatened habitats and ecosystems</p> 	<p>10.1 By 2020, collaboration and information sharing with landowners, communities and whānau, hapū and iwi will have increased the protection of naturally rare and uncommon and formerly widespread, but now significantly reduced, ecosystems not on public conservation lands (DOC)</p> <p>10.2 New Zealand will expand partnerships with whānau, hapū and private landowners by continuing to grow the network of kawenata (covenants) over private and Māori land to secure and support the stewardship of naturally rare and uncommon, and formerly widespread, but now significantly reduced, ecosystems and habitats (QEII National Trust, Ngā Whenua Rāhui)</p>

NATIONAL BIODIVERSITY STRATEGY TARGETS AND ACTIONS


GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
	<p>11</p> <p>NATIONAL TARGET Priority freshwater ecosystems are restored from 'mountains to the sea'</p> 	<p>11.1 By 2017, New Zealand will have identified significant freshwater systems for restoration (DOC, MfE, local authorities, iwi, partners)</p> <p>11.2 By 2020, New Zealand will be working to restore priority freshwater ecosystems from 'mountains to sea' to improve biodiversity outcomes (DOC, MfE, local authorities, iwi, partners)</p>
	<p>12</p> <p>NATIONAL TARGET More Threatened, At Risk, or Declining species are managed to the extent necessary to minimise extinction risk and ensure genetic diversity is maintained</p> 	<p>12.1 By 2020, 407 native New Zealand species classified as Threatened, At Risk or Declining will be managed to the degree necessary to minimise extinction risk and selected populations of a subset of threatened species known to be not at current risk of decline will continue to be monitored nationally (DOC)</p> <p>12.2 By 2020, demonstrable progress will have been made in managing key threats to the most at-risk marine species (DOC, MPI)</p> <p>12.3 By 2018, New Zealand will have introduced new legislation to more effectively protect native plant species, particularly threatened species, and to control exports (DOC)</p> <p>12.4 By 2020, New Zealand will have increased the involvement of others in building knowledge about Data Deficient species (DOC)</p> <p>12.5 From 2017, genomic research is supported by strategic science investment (MBIE)</p> <p>12.6 By 2020, New Zealand will have improved understanding of the genetic connectivity within keystone species in the marine environment (MPI)</p>
	<p>13</p> <p>NATIONAL TARGET A growing nationwide network of marine protected areas, representing more of New Zealand's marine ecosystems</p> 	<p>13.1 By 2018, New Zealand will have new marine protection legislation that provides a framework for the establishment of a representative network of marine protected areas (MfE, MPI, DOC)</p> <p>13.2 By 2020, a wider range of marine ecosystems will be in protected areas (DOC, MfE, MPI)</p> <p>13.3 New Zealand will work towards establishing the Kermadec/Rangitahua Ocean Sanctuary (MfE, DOC, MPI, EPA)</p>

GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
<p>GOAL D</p> <p>Enhance the benefits to all from biodiversity and ecosystem services</p>	<p>14</p> <p>NATIONAL TARGET</p> <p>Benefits of biodiversity and ecosystems for people's health and economic, social and cultural wellbeing are understood and received</p> 	<p>14.1 By 2020, people are aware of the value of nature to their health and wellbeing and regularly seek out natural environments as part of maintaining and improving health and wellbeing (Healthy Nature Healthy People) (DOC)</p> <p>14.2 By 2020, there will be an increase in the number of businesses that recognise the connection between restoring our biodiversity and New Zealand's business success (DOC, Sustainable Business Council)</p> <p>14.3 New Zealand will continue to provide opportunities for biodiversity-related businesses to support increased economic benefits from domestic and international tourism (DOC)</p> <p>14.4 By 2020, there will be 50+ health and wellbeing providers supporting Healthy Nature Healthy People (DOC)</p> <p>14.5 New Zealand will continue to improve understanding of how New Zealand's marine environment delivers ecosystem benefits, which will inform its management (DOC)</p> <p>14.6 By 2020, more regions across New Zealand are attracting visitors to experience local natural environments (MBIE)</p> <p>14.7 By 2020, natural environments will be more readily recognised as an important mechanism for improving and maintaining social outcomes (DOC, regional councils, community groups)</p> <p>14.8 By 2020, there will be improved indicators of ecosystem health and a better understanding of the role of biodiversity in the ecological health of the oceans and in increasing its resilience to multiple stressors (MPI)</p>
	<p>15</p> <p>NATIONAL TARGET</p> <p>Achieve multiple benefits and greater biodiversity and ecosystem services outcomes through greater coordination, integration and collaboration, particularly at the regional level</p> 	<p>15.1 By 2020, New Zealand's first large-scale ecological restoration programme will be delivering outcomes in Northland (Reconnecting Northland)</p> <p>15.2 By 2020, New Zealand will have completed a partnership project involving landscape-scale predator control and ecological restoration (Cape to City) to deliver economic and social gains, as well as environmental benefits (Hawke's Bay Regional Council, DOC, partners)</p> <p>15.3 By 2020, marine spatial planning of the Hauraki Gulf/Tikapa Moana will be completed, representing the first time this approach has been used in New Zealand (DOC, MPI, Waikato Regional Council, Auckland Council, Hauraki Gulf Forum)</p> <p>15.4 New Zealand will continue to support partnerships focused on landscape-scale conservation on public and private land (e.g. Project Taranaki Mouna, Mahu Whenua) (DOC, NEXT, partners)</p> <p>15.5 New Zealand's Natural Resources Sector will continue to work together in a coordinated way to collaborate with iwi, councils and business to improve the environment for New Zealanders while creating a more productive economy (Natural Resources Sector)</p>

GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
	<p>16</p> <p>NATIONAL TARGET Enhance understanding of the contribution of indigenous biodiversity to carbon stocks</p> 	<p>16.1 By 2020, the ongoing monitoring of carbon stock status and trends in indigenous forest and non-forest habitats will enable the contribution of indigenous biodiversity to carbon stocks to be quantified (MfE, DOC)</p> <p>16.2 By 2020, New Zealanders will have an increased understanding of how natural habitats that support the country’s biodiversity are contributing to climate change mitigation (including resilience) (DOC)</p> <p>16.3 By 2020, New Zealand will have improved coordination and cooperation between government agencies and community groups to restore biodiversity and enhance carbon stocks (DOC, partners)</p> <p>16.4 By 2020, more than 10,000 hectares of land for carbon sequestration in indigenous ecosystems has been identified (Te Rūnanga o Ngāi Tahu)</p>
<p>GOAL E</p> <p>Enhance implementation through participatory planning, knowledge management and capacity building</p>	<p>17</p> <p>NATIONAL TARGET Whānau, hapū and iwi are better able to practise their responsibilities as kaitiaki</p>  	<p>17.1 New Zealand will work with whānau, hapū and iwi, through a combination of Treaty of Waitangi settlements, existing commitments, and new work, to enable Māori-led conservation work, sustainable customary use of biological resources and indigenous biodiversity protection across a range of services and levels (DOC, MPI, TPK)</p> <p>17.2 New Zealand will continue to support projects relating to the revival, use or retention of tikanga (i.e. traditional knowledge and practices in the management of biodiversity or natural resources) through the Mātauranga Kura Taiao fund for the benefit of future generations (Ngā Whenua Rāhui)</p> <p>17.3 By 2020, there will be an increase in the number of gazetted customary fisheries management areas, such as mātaimai and taiāpure. These fishing areas are managed by tangata whenua, ensuring sustainable customary access for these resources and supporting the capacity of tangata whenua to manage the fisheries and effects on biodiversity (MPI, iwi)</p> <p>17.4 Waikato-Tainui fisheries bylaws will continue to support sustainable fishing practices and native eel migration while recognising traditional management practices, potentially creating a model for freshwater co-management across the country (Waikato-Tainui)</p> <p>17.5 Te Rūnanga o Ngāi Tahu’s Mahinga Kai Enhancement Fund will continue to support mahinga kai enhancement species and place-related projects (Te Rūnanga o Ngāi Tahu)</p> <p>17.6 By 2020, there will be an increased number of gazetted rohe moana that will enable appointed tangata kaitiaki to actively manage their customary fisheries, apply for mātaimai reserves and make bylaws within those mātaimai reserves (MPI)</p> <p>17.7 By 2017, whānau, hapū and iwi will be enabled (within existing conservation legislation), to make decisions about the collection of materials, managed by DOC, to enable the preservation and practice of customary activities (DOC)</p>

GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
		<p>17.8 By 2017, DOC will have implemented (within existing conservation legislation) a mechanism to enable the ownership of dead protected wildlife that has been transformed to speak in a new way (for example feathers that have been crafted into korowai) by Māori for non-commercial purposes (DOC)</p> <p>17.9 Iwi actively contribute to the management of public conservation lands, freshwater and protected species via participation on the New Zealand Conservation Authority, Conservation Boards, advisory groups, management boards and Iwi Leaders Groups (Iwi, DOC)</p> <p>17.10 New Zealand will continue to actively engage whānau, hapū and iwi in the establishment, governance and management of Marine Protected Areas and other protection tools (DOC)</p> <p>17.11 By 2020, there will be further Iwi Fisheries Forums and Iwi Fisheries Plans providing for the input and participation of tangata whenua into fisheries sustainability decisions (MPI)</p>

NATIONAL BIODIVERSITY STRATEGY TARGETS AND ACTIONS

GLOBAL STRATEGIC GOALS	NATIONAL TARGET	ACTIONS
	<p data-bbox="400 304 437 341">18</p> <p data-bbox="400 368 655 722">NATIONAL TARGET Knowledge, the science base and technologies relating to biodiversity, its values, function, status and trends, and the consequences of its loss, are improved, widely shared and transferred and applied</p> 	<p data-bbox="703 304 1485 432">18.1 By 2020, research that incorporates Māori knowledge, values and aspirations is delivering new information on ways to protect and manage our native biodiversity and utilise our marine resources within environmental limits, and is informing management of land, freshwater and marine ecosystems (MBIE, DOC, MPI, MfE)</p> <p data-bbox="703 448 1461 576">18.2 By 2017, New Zealand will have an agreed 20-year Conservation and Environmental Science roadmap of the research and data needed by government to develop and evaluate policies and actions that maintain and restore our natural systems and optimise the benefits derived from them (DOC, MfE)</p> <p data-bbox="703 592 1469 663">18.3 By 2020, the collection, collation, publication and reuse of biodiversity data across local and central government agencies will be improved (MfE, DOC, LINZ, regional councils)</p> <p data-bbox="703 679 1493 751">18.4 New Zealand will improve access to, and enhance quality of, nationally significant biodiversity-related data held by Crown research institutes through increased Government support (MBIE)</p> <p data-bbox="703 767 1453 871">18.5 By 2020, the New Zealand Threat Classification System will enable regional councils to lead processes to categorise the threat status of species at the regional scale (and help improve the national threat classification) (DOC, regional councils)</p> <p data-bbox="703 887 1493 983">18.6 By 2017, New Zealand will have a Primary Sector Science Direction which will take a long-term view in identifying critical science needs and enabling technologies to sustainably grow the primary industries without further losses to biodiversity (soil, land, water) (MPI)</p> <p data-bbox="703 999 1493 1046">18.7 By 2020, New Zealand's science system is successfully focusing and enhancing stakeholder engagement with biodiversity research (MBIE)</p> <p data-bbox="703 1062 1445 1110">18.8 New Zealand will continue to monitor and report on biodiversity state and trends at national and regional scales (MfE, DOC, regional councils)</p>

CBD Strategic Goals and Aichi Biodiversity Targets

STRATEGIC GOAL A

Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society



TARGET 1

By 2020, at the latest, people are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.



TARGET 2

By 2020, at the latest, biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.



TARGET 3

By 2020, at the latest, incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.



TARGET 4

By 2020, at the latest, Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.

STRATEGIC GOAL B

Reduce the direct pressures on biodiversity and promote sustainable use



TARGET 5

By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.



TARGET 6

By 2020 all fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.



TARGET 7

By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.



TARGET 8

By 2020, pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.



TARGET 9

By 2020, invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.



TARGET 10

By 2015, the multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.

STRATEGIC GOAL C

To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity



TARGET 11

By 2020, at least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.



TARGET 12

By 2020 the extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.



TARGET 13

By 2020, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

STRATEGIC GOAL D

Enhance the benefits to all from biodiversity and ecosystem services



TARGET 14

By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.



TARGET 15

By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.



TARGET 16

By 2015, the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.

STRATEGIC GOAL E

Enhance implementation through participatory planning, knowledge management and capacity building



TARGET 17

By 2015 each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.



TARGET 18

By 2020, the traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.



TARGET 19

By 2020, knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.



TARGET 20

By 2020, at the latest, the mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization, should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.

Photos

COVER

Tūi. Photo: Sabine Bernert

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Mountain daisy, Crucible Lake, Siberia Valley, Otago.

Photo: Jess Simson

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Striped gecko.

Photo: Sabine Bernert

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(left-right)

Stoat. Photo: David Hallett

Rat eating Powelliphanta snail.

Photo: Nga Manu Images

Possum. Photo: DOC

Hamiora Stretch checking a stoat trap.

Photo: Sabine Bernert

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Kākā.

Photo: Kapiti Island Nature Tours,

www.kapitiisland.com

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Members of the Chinese Conservation Education Trust planting at Omaha.

Photo: DOC

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Kids Greening Taupō launch day with DOC Threatened Species Ambassador Nicola Toki.

Photo: DOC

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(main photo)

View across Castlepoint lighthouse and lagoon, Wairarapa.

Photo: One Shot/© Corin Walker Bain

(inset)

Bushwalking in Karangahake Gorge.

Photo: One Shot/Peter Christensen

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DOC ranger Les Judd photographing skinks.

Photo: Sabine Bernert

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Seaweed, Poor Knights Islands Marine Reserve.

Photo: DOC

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Visitor inspecting diseased kauri.

Photo: Rob Suisted/naturespic.com

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(main photo)

Released Haast tokoeka.

Photo: Barry Harcourt

(inset)

Kiwi chick.

Photo: Kylie Day

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The QEII National Trust/Weedbusters NZ's 'Conifer Cavalry' project enlisted volunteer horseback riders to seek and destroy wilding conifers in a remote area of the South Island high country.

Photo: Jesse Bythell

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(main photo)

Pūkoro/Miranda catchment.

Photo: Lance Lawson Photography

(inset)

Photo: Lance Lawson Photography

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Rangi Raki volunteering with Kiwis for kiwi in Te Teko, Bay of Plenty.

Photo: Sabine Bernert

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Te Hākari wetland which is being restored to ecological health.

Photo: Rob Suisted

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Kākāpō.

Photo: Stephen Jaquiere

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(main photo)

Proposed Kermadec/Rangitahua Ocean Sanctuary.

Photo: Danica Stent

(inset)

Anemone, Ulva Island - Te Wharawhara Marine Reserve.

Photo: Vincent Zintzen

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Key Summit, Routeburn Track, Fiordland.

Photo: Miles Holden

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Bellbird/korimako.

Photo: Sabine Bernert

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(left-right)

Volunteers pitch in at a Poutiri Ao ō Tāne planting day.

Photo: Barbara Curtis

Andrew 'Max' Smart and Conservation Dog Téa.

Photo: E. Loe

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We have a deep-rooted love for our land and our people. Kaitiakitanga, or guardianship, is the all-important value we hold dear, to ensure the success of our future generations.

Photo: Chris Williams/Blackbox

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Forest light, Lake Waikaremoana.

Photo: Stefan Marks

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Mount Honey from Col Lyall saddle, Campbell Island.

Photo: KA Bodmin/NIWA

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