Ministry for the Environment
Manatū Mō Te Taiao

Te Kāwanatanga o Aotearoa
New Zealand Government

Our environment, our lives: The stories behind the numbers

Tō tātou taiao, ō tātou ora: Ngā kōrero mō ngā tau

Our environment 2025 | Tō tātou taiao

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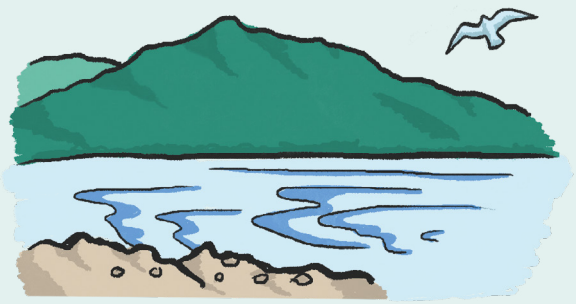
Our environment is changing
Kei te hurihuri tō tātou taiao

Our environment 2025

Aotearoa New Zealand's environment is continually changing due to natural events, human activities over time, and a changing climate.

People have shaped our natural and urban places as we've grown food and fibre, built homes and businesses, and strived to improve life for our families, communities and our future.

Our environment 2025 shows cause for concern. It indicates that the ways we choose to live are changing the built and natural environment, and affecting our health, quality of life, homes, livelihoods and connection to place in both positive and negative ways.



The three-yearly update on the state of the environment, produced by the Ministry for the Environment and Stats NZ, collates key findings and data across environmental domains – land, freshwater, marine, climate and atmosphere, and air.

Our environment, our lives: The stories behind the numbers is the Ministry's companion document to the *Our environment 2025* report. It highlights how we rely on the environment in many ways, whether we live in a city, rurally or along the coast. It outlines some of the risks the changing environment and climate pose to people and places, and what enables us to thrive.

This document also casts light on some of the many positive actions New Zealanders are taking to reverse some of the damage and build greater resilience, whether at community, iwi, business or government level.

This shows how, with access to comprehensive evidence and data today, we can make informed choices that drive better outcomes tomorrow. This way, New Zealand can reap the social, environmental and economic benefits of being as prepared as possible for the future.

Environmental data to support informed decisions

The Ministry for the Environment, in partnership with Stats NZ, reports on different aspects of our environment every six months and provides an overview of the whole environment every three years.

These reports draw on data from Crown research institutes, regional and district councils, mātauranga Māori (Māori knowledge), research literature, and government reports. This comprehensive body of evidence allows us to track human impacts, identify emerging challenges, and support informed decision-making for managing natural resources and adapting to environmental change.

This companion document to *Our environment 2025* delves into some of the stories behind the numbers.

How our environment is connected
He pēhea tō tātou taiao e honoa ai

Our environment is made up of many interconnected parts – air, water, soil, plants, animals and people. The decisions people make drive changes in these, which in turn shape our health, livelihoods and quality of life.

At a global level, decisions influence the political, social, economic and environmental forces that shape our country. On a personal level, the choices we make in our daily lives impact the environment, ecosystems and species, which in turn affect us and the world around us.

For example, how we use land impacts the plants and animals living there. From land, these effects spread to water — pollution and run-off can harm rivers, lakes and groundwater. The effects don't stop there; flowing to the sea, and putting marine life at risk. Air quality is also affected by activities such as transport, home heating, farming and industry which can harm people's health.

Climate change amplifies these pressures. Rising temperatures and extreme weather put even more strain on our ecosystems, species and the environment.

Because we are all part of the environment, it comes full circle. When the environment we depend on for our health, homes and livelihoods is changing, we feel these impacts too. Change is inevitable, even as we protect ourselves with sea walls, or build wind turbines for cleaner energy, we are altering our environment.

Evidence and data help us understand this connection, driving better decisions that grow resilient communities, and build prosperity that lasts into the future.

Preparing for a resilient future

Our environment 2025 shows how important it is to build resilience into how we plan, invest and make other decisions, so New Zealand can be best prepared for the future. Robust evidence and data about our changing environment helps New Zealanders make the most informed decisions.

Initiatives led by individuals or communities, by iwi, business or by central and local government, are providing examples of positive action which inspire hope for the future of people and the environment on which we depend.

Native forest project aims to protect drinking water

- Iwi, local government and central government are working together on a native forest project that will boost biodiversity in Tairāwhiti and help to protect Gisborne's water supply. **Read about this project on page 5**.

Using nature to protect homes

- Auckland Council is establishing a network of waterways and parks in Auckland to give stormwater a place to flow and to protect homes from flooding. **Read about this project on page 7**.

Driving technological progress to protect our livelihoods

- A company based in New Zealand has developed technology that will help to reduce methane emissions from livestock. **Read about this project on page 9**.

Iwi-led project aims for a thriving estuary

- Iwi, land owners, local government and central government are working together to restore one of the most degraded estuaries in New Zealand. **Read about this project on page 11**.

Our environment
Tō tātou taiao

All parts of the environment are connected to each other, and to people.

People

We are part of the environment. Our activities and decisions drive changes in the environment, and these changes shape our quality of life.

Land

How we use the land begins a cycle of environmental impacts and brings changes to our lives and livelihoods.

Freshwater

What happens on land flows into our lakes, rivers and groundwater, affecting ecosystems and biodiversity as well as our health.

Atmosphere and climate

Climate change amplifies changes to other parts of the environment. Warming temperatures and more extreme weather affect our lives in many ways.

Air

Transport, home heating, agriculture and industry can lower air quality, which impacts our health.

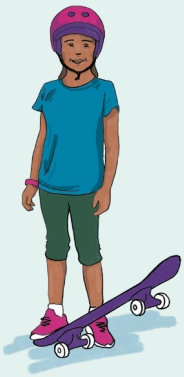
Marine

Rivers and streams affect water quality at our coasts. Combined with our fishing practices, this impacts marine habitats and the people who rely on them.

Our health and quality of life
Tō tātou hauora me te āhua o te noho

We depend on a healthy environment to thrive

We rely on the environment for access to nutritious food, clean air, and safe water. When ecosystems are healthy, they can support these needs. But when they are unhealthy, they are less able to provide the things we need to thrive.



Poor air quality, contaminated water, and the effects of climate change can threaten our lives and livelihoods. These consequences are not felt equally, with some population groups more at risk than others.

Climate change and extreme weather also impact our health, increasing the risks of disease, interrupted food supply, poor air quality, and water contamination, as well as causing mental health issues.

How we live will always have an impact on the environment. Even as we protect ourselves from natural hazards, we are changing our natural and urban places.

Depending on the choices we make, we can have a positive impact too. *Our environment 2025* shows how cleaner cars and heating have improved air quality.

What *Our environment 2025* tells us

Urban development and land fragmentation are decreasing the availability of highly productive land for fruit and vegetable growing.

Agriculture, forest harvesting, urban growth, and wastewater infrastructure failures can pollute our waterways, harming ecosystems and making water unsafe for drinking and recreation.

Events, such as extreme weather, can disrupt access to affordable and nutritious food and cause price changes.

Air pollution from motor vehicles is reducing due to stronger emission standards, more people choosing to use lower emission vehicles, and improvements to engines and fuel. However, road transport continues to be the main source of nitrogen oxides pollution.

In 2019, it was estimated that human-made air pollution in the form of $PM_{2.5}$ and NO_2 was a factor in 3,239 premature deaths, 13,237 hospitalisations, and 12,653 cases of childhood asthma. It is estimated that air pollution from motor vehicles was associated with 71 percent of these hospitalisations and 69 percent of premature deaths.

At least 49 drinking water illness outbreaks have been reported since 1980. These include the 2016 campylobacteriosis outbreak in Havelock North, which made an estimated 6,000–8,000 people ill, hospitalised 42 people, and led to at least four deaths.

Native forest project aims to protect drinking water

Local and central government, together with iwi, communities and business, have been the driving force behind a range of projects that benefit the environment, people and the regions.

Many of these projects aim to reduce the impacts we are having on our freshwater by how we use our land.

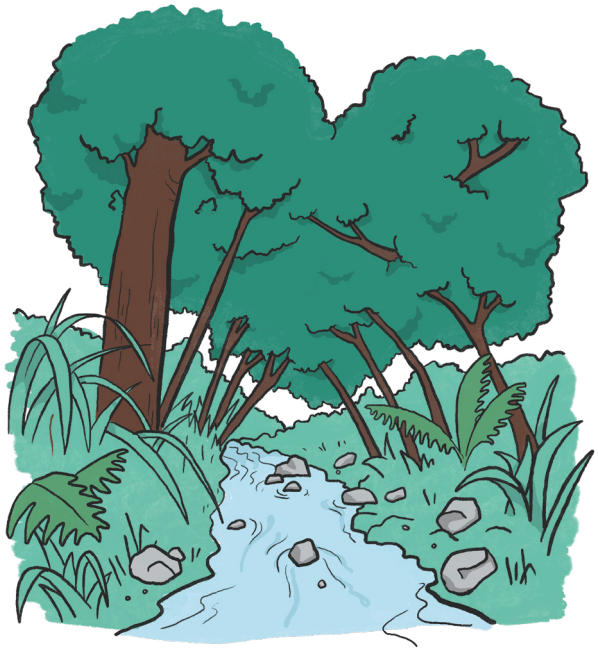
Case study: Te Ara Whakahou o Waingake

A native forest restoration project in Tairāwhiti will help to protect Gisborne's water supply, as well as boost biodiversity.

Gisborne District Council and mana whenua Maraetaha Incorporated (supported by Ngāi Tāmanuhiri) are converting 1,100 hectares of pine plantation at Waingake to indigenous forest, working together for the whenua, for whānau, and for the future.

Tairāwhiti has lost many of its original natural ecosystems, including native bush. The Waingake block currently consists of about 1,100 hectares of commercial pine forestry and 500 hectares of native vegetation in various stages of regeneration and maturity. Staged harvest of the pine plantation began in 2018. The last pine trees are likely to be harvested by 2027.

Plantation forestry activities in highly erodible hill country can impact drinking water if they occur in catchments where dams that supply drinking water are located. There is the potential for sediment to wash into streams, particularly if there are storms during harvesting and replanting.



Converting the Waingake block to native forest, and undertaking weed and pest control, will help to:

- protect highly erodible land against extreme weather
- stabilise land that a water supply pipeline crosses
- filter run-off to three dams that supply drinking water to Gisborne.

The regenerating forest will connect with Waingake Waterworks Bush, which is the largest and most significant coastal lowland forest in Tairāwhiti, as well as home to several rare and threatened flora and fauna.

Native species that will benefit from this programme include long-tailed bats, North Island rifleman, New Zealand falcon, *Hebe tairāwhiti* and two species of mistletoe (*Peraxilla tetrapetala* and *Tupeia antarctica*).

Our homes and property
Ō tātou kāinga me ō tātou papanoho

Environmental change creates risk to communities

Our homes are the places where we live, grow up and spend time with those we love. Often, they are also the biggest investment many of us will make in our lifetimes.

We should all feel safe and secure where we live. But often, where communities are located can put homes, businesses and infrastructure at risk of flooding or wave and storm damage. Climate change has increased the frequency and intensity of extreme weather events, making their effects worse. Meanwhile, sea-level rise is increasing risks to coastal communities.

Over the years more and more New Zealanders are living in towns and cities. These are intrinsically linked to natural places. Urban densification done well can take the pressure off the built and natural environment and contribute to quality of life.

Large numbers of us also live on or near coastlines. New Zealand will face tough decisions about how or whether to modify the natural landscape to protect communities from sea-level rise and climate disruption. How we respond to these challenges will also change the environment.

What *Our environment 2025* tells us

84%

84 percent of people in New Zealand live in cities and many people live on or near the coast.

Development in our towns and cities can displace or degrade 'natural infrastructure' that acts as a buffer against extreme weather. However, more innovative and nature-based infrastructure (eg, re-establishing floodplains and restoring streams and wetland sponges) can conserve and improve ecosystems.

Developing near rivers and on floodplains can increase the flood risk to homes and infrastructure during heavy rain.

In 2019, 2,273 kilometres of roads, 5,572 kilometres of water pipes, and buildings with a replacement value of $26.18 billion were assessed as vulnerable if sea levels rise by 0.6 metres.

$145b

About 750,000 people and 500,000 buildings worth more than $145 billion are near rivers and in coastal areas already exposed to extreme flooding.

Coastal communities are vulnerable to extreme wave and storm events, as well as erosion and flooding caused by sea-level rise.

Using nature to protect our homes

After the devastating storms in early 2023, Auckland Council launched a $760 million, 10-year flood mitigation programme.

The Making Space for Water programme extends the 'blue-green' network of waterways and parks that give stormwater space to flow and help to reduce flooding where people live. In dry weather, the community can enjoy these parks. During storms, the parks may flood, moving water away from people's homes. The network includes Te Auaunga Oakley Creek.

Case study: Te Auaunga – Making space for water in Auckland

Te Auaunga, also known as Oakley Creek, is Auckland's longest urban river, stretching 15 kilometres. Two hundred years ago, it was part of a wetland, Te Wai-inu-roa o Rakataura, which was rich in native flora and fauna. The wetland also played an important role in drainage and flood mitigation.

Settlers in the 19th century drained the wetland and cleared the forests for farmland which was later developed into a residential area. By the mid-1950s, Te Auaunga was confined in concrete pipes. These were unable to cope with stormwater when further houses were built in the 20th and 21st centuries. Also, the creek had been much reduced, and it was unable to support the rich ecosystems of the wetland.

Flooding in the area was managed with a fast-flowing culvert which often failed to protect nearby houses from flooding. The concrete flood management system was not only inadequate, but also unlikely to cope with increased volumes of stormwater caused by climate change.

Above: Te Auaunga, Oakley Creek.
Photo: Jolisa Gracewood.

In 2015/16, Healthy Waters Auckland and six iwi authority groups started a restoration project to reduce flooding in the area, restore ecological health, and improve community engagement. Works involved:

- widening Te Auaunga to increase water-carrying capacity
- removing basalt and realigning the stream
- replacing road culverts with bridges
- planting thousands of native shrubs and trees to absorb stormwater and provide natural water filtration
- developing cycle paths, walking trails and recreational spaces.

The project has helped to reduce flooding in the area. Also, more people now use the park and they report that the stream appears to be healthier.

Green-grey infrastructure projects like Te Auaunga can have economic benefits too. While sometimes having higher upfront costs than 'grey' infrastructure, they can be more cost-effective over time. The restoration of Te Auaunga employed 30 young people to construct and maintain the new infrastructure. It costs less to insure green than grey infrastructure and costs associated with damage from flooding are lower.

Our livelihoods
Ō tātou oranga

Our economy depends on the environment

The economy in New Zealand relies heavily on the natural environment, with our primary industries and tourism sector generating much of the revenue that sustains our way of life. In a world and environment that continues to change, it is critical we build our environmental, social and economic resilience, so we can be prepared for the future.

The sectors we most rely on in New Zealand, such as agriculture, depend on the environment to remain profitable. They are also highly vulnerable to environmental and climate change, including extreme weather events and rising sea levels, and can have significant impacts on the natural environment.

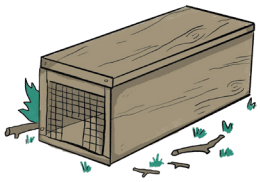
Our fisheries depend on resilient ecosystems and biodiversity. However, many commercial species are at risk due to threats that include climate change, sedimentation, diseases and invasive species.

To safeguard our livelihoods and maintain market access, industries must adapt to and prepare for disruptions caused by a changing climate. Additionally, reducing pollution and emissions is crucial, not only to protect the environment, but also to preserve our market access and global reputation.

What *Our environment 2025* tells us

57%

Hydroelectricity provided an average of 57 percent of our electricity each year between 2010 and 2021, but is vulnerable to changes in rainfall.



The total cost of pests to New Zealand was estimated at $9.2 billion in 2019/20, including primary sector losses of $4.3 billion.

Climate change, environmental degradation, biodiversity loss, and shorter snow seasons put our tourism industry at risk.

$700m

The cost for our food and fibre sectors to recover from Cyclone Gabrielle is estimated to be between $700 million and $1.1 billion.

Extreme weather and climate change affect the viability of food crops, make forest plantations vulnerable to wildfires, and increase the risk of pests and diseases.

Driving technological progress to protect our livelihoods

New Zealand farmers are among the most climate efficient producers in the world. Nevertheless, agriculture makes up more than half of the country's gross emissions.

The Government aims to reduce agricultural emissions in a way that does not compromise exports or reduce the sector's competitiveness. It is taking a technology-led approach to managing agricultural emissions and has invested more than $400 million to speed up the development and use of tools and technologies to reduce emissions.

Case study: Ruminant BioTech – New Zealand company develops world-leading methane inhibitor technology

New Zealand-based Ruminant BioTech has developed world-leading methane inhibitor technology that can reduce daily methane emissions in cattle by more than 70 percent for up to 100 days.

The long-duration bolus platform will be the first commercially viable product for beef and dairy producers in New Zealand. It is aimed at providing a simple, practical and effective methane reduction solution designed for grass-fed pastoral farming operations.

The technology involves giving a bolus by mouth with a special applicator. The bolus moves through the digestive tract and sits in the animal's rumen where it releases a dose of active ingredient over a prolonged period.

Farmers in New Zealand have used boluses safely for more than 50 years, most commonly to deliver medicines and trace elements or minerals. In recent years, Ruminant BioTech's research and development programme has focused on fine-tuning this technology and undertaking extensive testing to ensure it is safe for animals and has no adverse impact on the quality or safety of the food produced.

The company has concentrated on delivering a bolus for beef cattle weighing over 350 kilograms, with plans to expand this solution to all beef and dairy cattle. Broad adoption of the bolus platform will significantly reduce greenhouse gas emissions from the agriculture sector.

Projections released with the Government's second emissions reduction plan 2026–30, published in December 2024, suggest that New Zealand is on track to meet net zero emissions by 2050. The projections suggest the country can also achieve its 2030 and 2050 biogenic methane targets, through implementing the policies in the second emissions reduction plan. That means reducing biogenic methane emissions by 10 percent below 2017 levels in 2030 and by 24–47 percent below 2017 levels in 2050.

Key facts

- Agriculture makes up 81 percent of merchandise exports and provides nearly 13 percent of all our jobs.
- 78.2 percent of gross agricultural emissions in New Zealand are methane produced by the digestive process of ruminant animals such as cattle, sheep and goats.

Above: Cattle at Timaru, Canterbury.
Photo: Kathryn Taylor, truestock.

Our connection to place
Tō tātou toiwhenua

Our special places are at risk

New Zealand's natural landscapes and ecosystems are unique in the world and central to our culture and national identity. This is where we walk, swim, connect with nature and have fun, in ways that keep us happy and healthy and connected to each other. For some Māori, land, water and the environment are inseparable from identity as iwi, hapū and whānau.

Land-use activities have polluted many of our rivers and lakes, making some unsafe for swimming or collecting food. Introduced predators and pest plants are contributing to the loss of native species.

Many of our special places are in low-lying or coastal areas, putting them at risk of floods and sea-level rise. These include places important in te ao Māori, such as marae, mahinga kai (food gathering) sites, urupā (burial grounds), and kainga (settlements).

What *Our environment 2025* tells us

In some major cities (eg, Auckland and Hamilton), the availability of parks and reserves is not keeping pace with urban growth. Private green space is also declining, and this trend is accelerating.

78%

In 2021, 78 percent of indigenous terrestrial bird species were threatened with extinction or at risk of becoming threatened.

55%

Models based on communities of macroinvertebrates (eg, freshwater crayfish) indicate that, between 2016 and 2020, 55 percent of river length had moderate or severe organic pollution or nutrient enrichment. Trends at 56 percent of monitoring sites were worsening.

A survey of five mahinga kai (food gathering) sites in coastal North Canterbury in 2019–21 detected *E. coli* on watercress and in cockles at levels that exceeded health guidelines for human consumption.

191

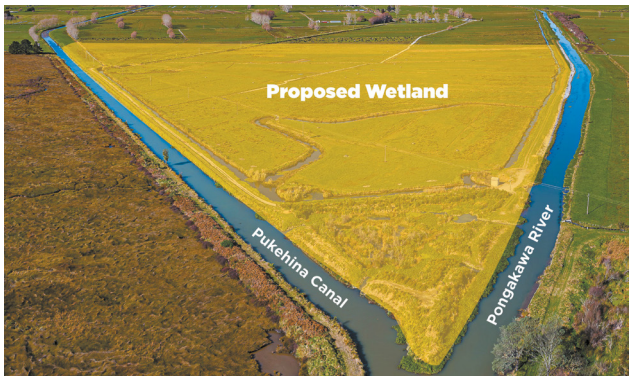
420 archaeological sites on public conservation land are at risk of coastal inundation with rising sea levels, while 191 marae in New Zealand are within one kilometre of the coast.

Iwi-led project aims for a thriving estuary

The way we use our land and water impacts our natural landscapes and continues to threaten our unique and fragile biodiversity. It also impacts places and taonga of historical and cultural value. While change to the environment is continual, people are showing how some of the damage can be prevented or reversed, by looking at the environment as a system.

Iwi collective Te Wahapū o Waihī and Toi Moana Bay of Plenty Regional Council have a shared vision of creating a 'korowai around the Waihī Estuary' – a protective buffer of wetlands designed to help restore the health of this highly degraded area.

Case study: Te Wahapū o Waihī



Wahapū o Waihī (Waihī Estuary) in the Bay of Plenty is a significant mahinga kai (food gathering) area.

It has been identified as one of the most degraded in the country, due to decades of wetland drainage, river channelisation, land-use change, and contaminated run-off throughout the 35,000-hectare catchment. Monitoring and modelling work shows that it needs 40–60 percent reductions of sediment, nutrients and pathogens (disease-causing organisms), as well as in-estuary interventions, to achieve a state of moderate health.

In June 2023, iwi Ngāti Whakahemo, Ngāti Whakaue ki Maketū, Ngāti Mākino, Ngāti Pikiao, and Tapuika joined forces on a restoration project supported by Toi Moana Bay of Plenty Regional Council, the Ministry for the Environment, Ministry for Primary Industries and local land owners.

At the end of 2024, the project had:

- planted 7.71 hectares of land for erosion control
- planted 83,893 trees and shrubs
- fenced 11.26 kilometres of land
- completed 22 farm environmental plans.

Restoration plan

This project aims to create a thriving Waihī Estuary, catchment and community by:

- converting at least 64 hectares of farmland into wetlands that will help to restore the health and mauri (life principle, life force, vital essence) of the estuary
- working with landowners in the catchment who share the same aspirations for the estuary
- using mātauranga Māori and data sciences to monitor and report on water quality and taonga species
- undertaking wānanga (meet and discuss, forum), haerenga (trip, journey), and education programmes for rangatahi, whānau and the community to build connection with the estuary.

He oranga te wahapū, he oranga te iwi.
The health of the estuary is a metaphor for the health of the people.

Above left: An aerial view of Wahapū o Waihī (Waihī Estuary) near Maketū in the western Bay of Plenty. Photo: Andy Belcher.
Above right: Construction of a wetland started in November 2024 and tuna (eel) in farm drains were relocated to the wetland site in February 2025. Photo: Toi Moana Bay of Plenty Regional Council.

Government advice and action
Ngā tohutohu me ngā mahi a te kāwanatanga

This document outlines only some of the issues raised in *Our environment 2025*. If you want a fuller picture of how environmental change is impacting people and nature, head to the report on our website.

The resources below provide information about issues raised in *Our environment 2025*, and highlight some of the ways the Government is addressing them.

How are we limiting warming?

The **second emissions reduction plan**, released in December 2024, has actions for sectors that produce the most emissions: agriculture, transport, energy and waste. **Read this plan on the Ministry for the Environment's website.**

How are we measuring progress?

The Ministry for the Environment publishes a **New Zealand Greenhouse Gas Inventory** each year. This is the official annual report of all human-induced emissions and removals in New Zealand. **Read the latest inventory on the Ministry for the Environment's website.**

How are we building resilience?

The first **national adaptation plan**, adopted in 2022, sets out how New Zealand will build resilience for an uncertain future. **Read this plan on the Ministry for the Environment's website.**

How are we improving freshwater?

The Ministry for the Environment provides updates on its website about projects it has funded to improve the health of rivers, lakes and estuaries in New Zealand under the **Freshwater Improvement Fund**. **Find out more on the Ministry for the Environment website.**

How are we fixing infrastructure?

The **Rautaki Hanganga o Aotearoa New Zealand Infrastructure Strategy** sets a pathway to transform our infrastructure over the next 30 years. **Read the strategy on the Infrastructure Commission's website.**

How are we are protecting exports?

The Ministry for Primary Industries has developed an **MPI action plan 2025–26** that aims to double exports, help farmers to reduce emissions, and protect New Zealand from harmful pests and diseases. **Read the action plan on MPI's website.**

How are we reducing waste?

Businesses and organisations based in New Zealand can **apply for funds to finance projects** that stop certain waste materials from going to landfill. **Get more information on the Ministry for the Environment's website.**

How are we helping biodiversity?

Te Mana o te Taiao – Aotearoa New Zealand Biodiversity Strategy 2020 outlines how we will protect, restore and sustainably use biodiversity in New Zealand between 2020 and 2050. **Read the strategy on Department of Conservation's website.**

How are we improving energy use?

The **Energy Efficiency and Conservation Authority** (EECA) subsidises Kiwi households to insulate their homes and install efficient heaters. **Go to EECA's website for information about the Warmer Kiwi Homes scheme.**